DISCHARGED SECTION 6

-2 DEC 1932

No. 1520.

Index. No. 21597

(For London Office only.)

Rpt. C.11.

# Lloyd's Register of Shipping.

# SURVEYS FOR FREEBOARD.

NO 361

Computation of Freeboard for Steamer, ~~Sailing Ship, Tanker~~

having Poop, Bridge and Forecastle.

(Type of Superstructures.)

Port of Survey Wellington.

Date of Survey 25th October, 1932.

Name of Surveyor [signature]

Particulars of Classification ✠ 100 A.1.
S.S. Auk. No.3. 1.28.
S. S. Auk. No.1. 32

| Ship's Name | Nationality and Port of Registry | Official Number | Gross Tonnage | Date of Build |
|---|---|---|---|---|
| SEIAN MARU 4 | ~~British~~ Japanese ~~Wellington.~~ Osaka | 127809 | 1948.23 | 6/1911 |
| "K A N N A" | | | | |

Moulded Dimensions: Length 272'0" Breadth 41'0" Depth 19'11"

Moulded displacement at moulded draught = 85 per cent. of moulded depth ..... tons

Coefficient of fineness for use with Tables .....

## Depth for Freeboard (D)

Moulded depth ... ... ... ...

Stringer plate ... ... ... ...

Sheathing on exposed deck

$T\left(\frac{L-S}{L}\right)$ =

Depth for Freeboard (D) =

## Depth correction

(a) Where D is greater than Table depth
(D—Table depth) R =

(b) Where D is less than Table depth (if allowed)
(Table depth—D) R =

If restricted by superstructures

## Round of Beam correction

Moulded Breadth (B)

Standard Round of Beam = $\frac{B \times 12}{50}$ = 23.

Ship's Round of Beam =

Difference

Restricted to

Correction = $\frac{\text{Diff}^e}{4} \times \left(1-\frac{S_1}{L}\right)$ =

## DEDUCTION FOR SUPERSTRUCTURES.

| | Mean Covered Length (S) | Equivalent Enclosed Length ($S_1$) | Height | Height Correction | Effective Length (E) |
|---|---|---|---|---|---|
| Poop enclosed ... ... | | | | | |
| „ overhang ... ... | | | | | |
| R.Q.D. enclosed ... | | | | | |
| „ overhang ... | | | | | |
| Bridge enclosed... ... | | | | | |
| „ overhang aft ... | | | | | |
| „ overhang forward | | | | | |
| F'cle enclosed ... ... | | | | | |
| „ overhang ... ... | | | | | |
| Trunk aft ... ... | | | | | |
| „ forward ... ... | | | | | |
| Tonnage opening aft ... | | | | | |
| „ „ forward | | | | | |
| Total ... ... | | | | | |

Standard Height of Superstructure .....

„ „ R.Q.D. .....

Deduction for complete superstructure .....

Percentage covered $\frac{S}{L}$ =

„ „ $\frac{S_1}{L}$ =

„ „ $\frac{E}{L}$ =

Percentage from Table, Line A.
(corrected for absence of forecastle (if required))

Percentage from Table, Line B.
(corrected for absence of forecastle (if required))

Interpolation for bridge less than ·2L (if required)

Deduction =

## SHEER CORRECTION.

| Station | Standard Ordinate | S M | Product | Actual Ordinate | Effective Ordinate | S M | Product |
|---|---|---|---|---|---|---|---|
| A.P. ... ... | | 1 | | | | 1 | |
| $\frac{1}{6}$L from A.P. ... | | 4 | | | | 4 | |
| $\frac{2}{6}$L „ ... | | 2 | | | | 2 | |
| Amidships ... | | 4 | | | | 4 | |
| $\frac{2}{6}$L from F.P. ... | | 2 | | | | 2 | |
| $\frac{1}{6}$L „ ... | | 4 | | | | 4 | |
| F.P. ... ... | | 1 | | | | 1 | |
| Total ... | | | | | | | |

Mean actual sheer aft / Mean standard sheer aft =

Mean actual sheer forward / Mean standard sheer forward =

Length of enclosed superstructure / L forward of amidships =

„ „ aft of „ =

Correction = $\frac{\text{Difference between sums of products}}{18}\left(\cdot75-\frac{S}{2L}\right)$ =

If limited on account of midship superstructure.

If limited to maximum allowance of 1½ ins. per 100 ft.

## Deduction for Tropical Freeboard.
## Addition for Winter and Winter North Atlantic Freeboard.

Ft.

Depth to Freeboard Deck =

Summer freeboard =

Moulded draught (d) =

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches =

Addition for Winter North Atlantic Freeboard (if required) =

## Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta$ =

Tons per inch immersion at summer load water line

T =

Deduction = $\frac{\Delta}{40\,T}$ inches

=

## TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

| | + | − |
|---|---|---|
| Depth Correction ... ... ... ... ... | | − |
| Deduction for superstructures ... ... ... | | − |
| Sheer correction ... ... ... ... ... | | − |
| Round of Beam correction ... ... ... ... | | |
| Correction for Thickness of Deck amidships ... | | |
| Other corrections, scantlings, etc. ... ... ... | | |

Summer Freeboard =

## SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck :—

| | | | | | |
|---|---|---|---|---|---|
| Tropical Fresh Water Line above Centre of Disc ... ... | | | | Tropical Fresh Water Freeboard ... ... | |
| Fresh Water Line | „ | „ ... ... | | Fresh Water „ ... ... | |
| Tropical Line | „ | „ ... ... | | Tropical „ ... ... | |
| Winter Line | below | „ ... ... | | Winter „ ... ... | |
| Winter North Atlantic Line | „ | „ ... ... | | Winter North Atlantic „ ... ... | |

6 DEC 1932

10m.2,31

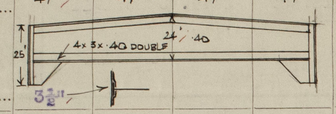
007506 - 007517 - 0306 ½

1906 Fleetwood assigned

# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

007506-007517-03062/2

## HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS

| | No.1 Cargo. | No.2 Cargo. | No.3 Cargo. | No.4 Cargo. | BUNKER ON BRIDGE DECK | TRIMMING ON BRIDGE DECK. | BUNKER ON DECK | Escape on After Dk. | Store Hat. on Poop | Fore Peak inside Forecastle |
|---|---|---|---|---|---|---|---|---|---|---|
| Description of Hatchway ... ... ... | | | | | | | | | | |
| Dimensions of Hatchway ... ... ... | 23'-4" x 18'-0" | 23'-4" x 18'-0" | 23'-4" x 18'-0" | 23'-4" x 18'-0" | 7'-0" x 5'-10" | 4'-0" x 2'-11" | 3'-10" x 16'- | 3'-4" x 1'-11½" | 3'-0" x 3'-0" | 2'-3" x 2'-7" |
| COAMINGS — Height above Deck ... | 34" | 34" | 34" | 34" | 18" | 18" | 3 | 30" | 15" | 7" |
| COAMINGS — Thickness — Sides ... | .46 | .46 | .46 | .46 | .40 | .37 | 3x | .37 | .31 | Bulb angle |
| COAMINGS — Thickness — Ends ... | .40 | .40 | .40 | .40 | Casings | .37 | | .37 | .31 | |
| COAMINGS — Stiffeners ... ... | 5"x3½"x⅝" L 10" BELOW TOP 2@24" EA. SIDE | 5"x3½"x⅝" L 10" BELOW TOP 2@24" EA SIDE | 5"x3½"x⅝" L 10" BELOW TOP 2@24" EA SIDE | 5"x3½"x⅝" L 10" BELOW TOP 2@24" EA. SIDE | — | — | | — | — | — |
| COAMINGS — Brackets, Stays ... | | | | | — | — | | — | — | — |
| HATCH BEAMS — Number ... ... ... | 5 | 5 | 5 | 5 | Nil | Nil | N | Nil | Nil | Nil |
| HATCH BEAMS — Spacing ... ... ... | 47" | 47" | 47" | 47" | | | | | | |
| HATCH BEAMS — Scantling and Sketch ... |   | | | | | | | | | |
| HATCH BEAMS — Bearing Surface ... ... | 3½" | | | | — | — | | | | |
| FORE AND AFTERS — Number ... ... ... | Nil | Nil | Nil | Nil | Nil | Nil | N | Nil | Nil | Nil |
| FORE AND AFTERS — Spacing ... ... ... | | | | | | | | | | |
| FORE AND AFTERS — Unsupported Lengths ... | | | | | | | | | | |
| FORE AND AFTERS — Scantling* and Sketch ... | | | | | | | | | | |
| FORE AND AFTERS — Bearing Surface ... ... | | | | | | | | | | |
| HATCH COVERS — Material ... ... ... | Wood | Wood | Wood | Wood | Wood | Wood | W | Wood | Wood | Wood |
| HATCH COVERS — Thickness ... ... ... | 2½" | 2½" | 2½" | 2½" | 2½" | 2½" | 2 | 2½" | 2½" | 2½" |
| HATCH COVERS — How fitted ... ... | F&A | F&A | F&A | F&A | F&A | Thwart | F | F&A | Thwart | Thwart |
| HATCH COVERS — Bearing Surface ... ... | 2⅜ COAMINGS 4" BEAMS. | 2⅜ COAMINGS 4" BEAMS | 2⅜ COAMINGS 4" BEAMS | 2⅜ COAMINGS 4" BEAMS. | 2½" | 2½" | 2 | 2½" | 1¾" | 2½" |
| Spacing of Cleats ... ... ... ... | 24" | 24" | 24" | 24" | 20 AT SIDES CONTIN. BAR ENDS | 18" SIDES 25" ENDS. | | 14" sides 12" ends | 24" | - |
| Number of Tarpaulins ... ... ... ... | 3 | 3 | 3 | 3 | 2 | 3 | | 3 | 3 | - |

*Are wood fore and afters steel shod at all bearing surfaces? No Fore and Afters fitted.
Are battens and wedges efficient and in good condition? Yes.
Are tarpaulins in good condition and in accordance with rule requirements? Yes.
Are lashings provided in accordance with rule requirements? Yes.

Particulars of fiddley, funnel and ventilator coamings:— Fiddley opening 8'11" x 24". Hinged steel covers fitted.
Funnel and ventilators riveted to casing top 7'4" above Bridge Deck.

Particulars of Flush Bunker Scuttles:—

Particulars of Companionways:—

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:— Forecastle Head:- 1 - 8" vent to peak 21" coaming.
Fore Deck:- 6-18" vents. 36" coamings, .31" thick, riveted to deck with 2½x2½ angle.
After Deck:- 8- " " " " " " " " " " " " .
1-8" vent to tunnel.
Bridge Deck:- 2-18" vents. 18" coamings, .31" thick, riveted to deck with 2½x2½ angle.
All fitted with plugs and covers.

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:— Forecastle Head:- 1-3" with orifice 12" above deck.
Fore Deck:- 4 (2p and 2s) 3" diameter with orifice 12" above deck (s) and 19" above deck (p).
After Deck:- 2 (1p and 1s) 3" diameter with orifice 12" above deck.
Bridge Deck:-2 (1p and 1s) 3" diameter with orifice 12" above deck.
All fitted with plugs and covers.

Particulars of Gangway Cargo and Coaling Ports:—

Particulars of Scuppers and Sanitary Discharge Pipes — All W.C. and Lavatory discharges pass through ship's side above Freeboard Deck and are all fitted with storm valves.

Particulars of Side Scuttles: Forecastle:- Port side 5 - 10" lights.
Star side 4 - 10" " .
Poop:- Port side 4 - 10" lights.
Star Side 5 - 10" " .
ALL FITTED WITH HINGED DEADLIGHTS.

Particulars of Guard Rails:— Forecastle and Poop:- Open rails 45" high, 2-⅞" rods, stanchions 1⅛" top to 1⅜" bottom 4'6" apart.
Bridge Deck:- Bulwarks 3'6" high, 5½x3" B.A. top rail, stiffeners 3½x3" angle 5'9" apart.
Fore and After Decks:- Bulwarks 4'2" high, 6x3" B.A. top rail. Plating .25", stiffeners 5½X3" B.A. 6'0" apart.

Particulars of Gangways, Lifelines, etc.:— Ample provision for rigging lifelines.

## Particulars of Freeing Arrangements.

| | Length of Bulwark | Height of Bulwark | Size of Freeing Ports | Number each side | Area each side | Rule area each side |
|---|---|---|---|---|---|---|
| After Well ... ... ... | 74'0" | 4'2" | 2'6" x 1'9" | 4 | 17.5sq ft | 15 sq ft. |
| Forward Well ... ... | 73'0" | 4'2" | 2'6" x 1'9" | 4 | 17.5 sq.ft. | 15 sq.ft. |

State position of each freeing port ... ... (After Well:— 11'0",30'0",48'0" and 64'0" from Poop bulkhead.) 9" above
(F. and A. position and height above deck edge) (Forward Well:—10'0",24'0",44'0",59'0" from Bridge front.) deck.
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— 2 horizontal bars ⅝" diameter.

Additional area where sheer is less than standard.

## Particulars of Superstructures, Trunks, Casings, Deckhouses.

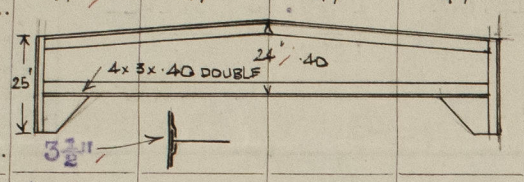
| | Coaming | Plating | Stiffeners | Spacing | End Attachments of Stiffeners | Size of Openings | Height of Sills | Height of Casings |
|---|---|---|---|---|---|---|---|---|
| Poop Bulkhead ... ... ... | - | .31" | 4½x3x.31 | 30" | - | 2 @ 5'0"x2'0" | 18" | 7'3" |
| Raised Quarter Deck Bulkhead ... | - | - | - | - | - | - | - | - |
| Bridge, After Bulkhead ... ... | - | .25" | 3x2½x.25 | 3'6" | - | 2@4'0"x3'6" | 24" | 7'3" |
| Bridge, Forward Bulkhead ... ... | 18"x.37" | .34" | 7x3x.3 BA | 2'6" | 17" BKT. TOP & BOT. 4 RIV. EA. ARM | 2@4'0"x3'3" | 26" | 7'3" |
| Forecastle Bulkhead ... ... ... | - | .25" | 2½x2½x.25 | 30" to 42" | - | 2@5'6"x2'0" OPEN PASSAGE WAY INCS WITH 5 DOORWAYS | 12" 10" | 7'3" |
| Trunk, Aft ... ... ... ... | - | - | - | - | - | - | - | - |
| Trunk, Forward ... ... ... | - | - | - | - | - | - | - | - |
| Exposed Machinery Casings on Freeboard or Raised Quarter Decks ... | - | - | - | - | - | - | - | - |
| Exposed Machinery Casings on Superstructure Decks ... ... ... | .30" | .25" | 2½x2½x.25 | 24" to 30" | TOP 12" BKT. 3 R. BOTTOM. NIL | 5'6"x2'1" ENG. R. 5'6"x1'11" FIDDLEY | 12" | 7'3" |
| Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... ... ... ... | .40" | .30" | 2½x2½x.25 | 24" to 30" | STIFF AS CONTINUOUS FROM F.B. DECK TO TOP OF CASING. | - | - | 7'3" |
| Deckhouses on Flush Deck Ships ... | - | - | - | - | - | - | - | - |

## Particulars of Closing Appliances (state if capable of being manipulated from both sides).

| | |
|---|---|
| Poop Bulkhead ... ... ... | Teakwood Doors 1½" thick. Opens from both sides. |
| Raised Quarter Deck Bulkhead ... | ---- |
| Bridge, After Bulkhead ... ... | 3" boards in channels. 1906 |
| Bridge, Forward Bulkhead ... ... | Hinged watertight doors. 10 dogs and wedges. |
| Forecastle Bulkhead ... ... ... | Teakwood Doors 1½" thick. Opening form both sides. |
| Exposed Machinery Casings on Freeboard or Raised Quarter Decks ... | ---- |
| Exposed Machinery Casings on Superstructure Decks ... ... ... | Engine Room Doors teak 1½" thick. Opens from both sides. |
| Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... ... ... ... | Fiddley Doors steel ½" thick in halves. Upper half lock & handles, lower half slip bolts inside. |
| Deckhouses on Flush Deck Ships ... | ---- |

# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

## HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS

| Description of Hatchway | | No.1 Cargo. | No.2 Cargo. | No.3 Cargo. | No.4 Cargo. | BUNKER ON BRIDGE DECK | TRIMMING ON BRIDGE DECK. | BUNKER ON BOAT DECK. | BUNKER IN BRIDGE SPACE | TRIMMING IN BRIDGE SPACE | ESCAPE ON FORE DECK |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dimensions of Hatchway | | 23'-4" x 18'-0" | 23'-4" x 18'-0" | 23'-4" x 18'-0" | 23'-4" x 18'-0" | 7'-0" x 5'-10" | 4'-0" x 2'-11" | 3'-10" x 16'-0" | 7'-1" x 6'-0" | 3'-11" x 3'-0" | 3'-4" x 1'-9½" |
| COAMINGS | Height above Deck | 34" | 34" | 34" | 34" | 18" | 18" | 3" | 9" | 9" | 30" |
| | Thickness Sides | .46 | .46 | .46 | .46 | .40 | .37 | 3x3x⅝ on 9" B.A. | 9" B.A. | 9" B.A. | .37 |
| | Thickness Ends | .40 | .40 | .40 | .40 | Casings | .37 | - | - | - | - |
| | Stiffeners | 11"x3½"x⅝" L 10" BELOW TOP 2@24" EA. SIDE. | 11"x3½"x⅝" L 10" BELOW TOP 2@24" EA. SIDE | 11"x3½"x⅝" L 10" BELOW TOP 2@24" EA. SIDE | 11"x3½"x⅝" L 10" BELOW TOP 2@24" EA. SIDE | — | — | — | — | — | — |
| | Brackets, Stays | — | — | — | — | — | — | — | — | — | — |
| HATCH BEAMS | Number | 5 | 5 | 5 | 5 | Nil | Nil | Nil | Nil | Nil | Nil |
| | Spacing | 47" | 47" | 47" | 47" | | | | | | |
| | Scantling and Sketch |   | | | | | | | | | |
| | Bearing Surface | 3½" | | | | — | — | — | — | — | — |
| FORE AND AFTERS | Number | Nil | Nil | Nil | Nil | Nil | Nil | Nil | Nil | Nil | Nil |
| | Spacing | | | | | | | | | | |
| | Unsupported Lengths | | | | | | | | | | |
| | Scantling* and Sketch | | | | | | | | | | |
| | Bearing Surface | | | | | | | | | | |
| HATCH COVERS | Material | Wood | Wood | Wood | Wood | Wood | Wood | Wood | Wood | Wood | Wood |
| | Thickness | 2½" | 2½" | 2½" | 2½" | 2½" | 2½" Thwart 2½" | 2½" | 2½" | 2½" Thwart 2¼" | 2½" |
| | How fitted | F&A 2⅜" COAMINGS 4" BEAMS. | F&A 2⅜" COAMINGS 4" BEAMS. | F&A 2⅜" COAMINGS 4" BEAMS | F&A 2⅜" COAMINGS 4" BEAMS. | F&A 2½" 20" AT SIDES CONTIN. BAR ENDS | F&A 2½" 18" SIDES 25" ENDS. | F&A 2½" | F&A 3" | F&A 2¼" | F&A 2¼" 15" SIDES 10" ENDS. |
| | Bearing Surface | | | | | | | | | | |
| Spacing of Cleats | | 24" | 24" | 24" | 24" | | 42" | 20" | 18" | | |
| Number of Tarpaulins | | 3 | 3 | 3 | 3 | 2 | 3 | 2 | 2 | 2 | 3 |

*Are wood fore and afters steel shod at all bearing surfaces? No Fore and Afters fitted.

Are battens and wedges efficient and in good condition? Yes.

Are tarpaulins in good condition and in accordance with rule requirements? Yes.

Are lashings provided in accordance with rule requirements? Yes.

Particulars of fiddley, funnel and ventilator coamings:— Fiddley opening 8'11" x 24". Hinged steel covers fitted. Funnel and ventilators riveted to casing top 7'4" above Bridge Deck.

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Particulars of Flush Bunker Scuttles:—

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Particulars of Companionways:—

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Particulars of Ventilators in exposed positions on freeboard and superstructure decks:— Forecastle Head:- 1 - 8" vent to peak 21" coaming.

Fore Deck:- 6-18" vents. 36" coamings, .31" thick, riveted to deck with 2½x2½ angle.

After Deck:- 8- " " " " " " " " " " " " " .

1-8" vent to tunnel.

Bridge Deck:- 2-18" vents. 18" coamings, .31" thick, riveted to deck with 2½x2½ angle.

All fitted with plugs and covers.

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Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:— Forecastle Head:- 1-3" with orifice 12" above deck.

Fore Deck:- 4 (2p and 2s) 3" diameter with orifice 12" above deck.

After Deck:- 2 (1p and 1s) 3" diameter with orifice 12" above deck (s) and 19" above deck (p).

Bridge Deck:-2 (1p and 1s) 3" diameter with orifice 12" above deck.

All fitted with plugs and covers.

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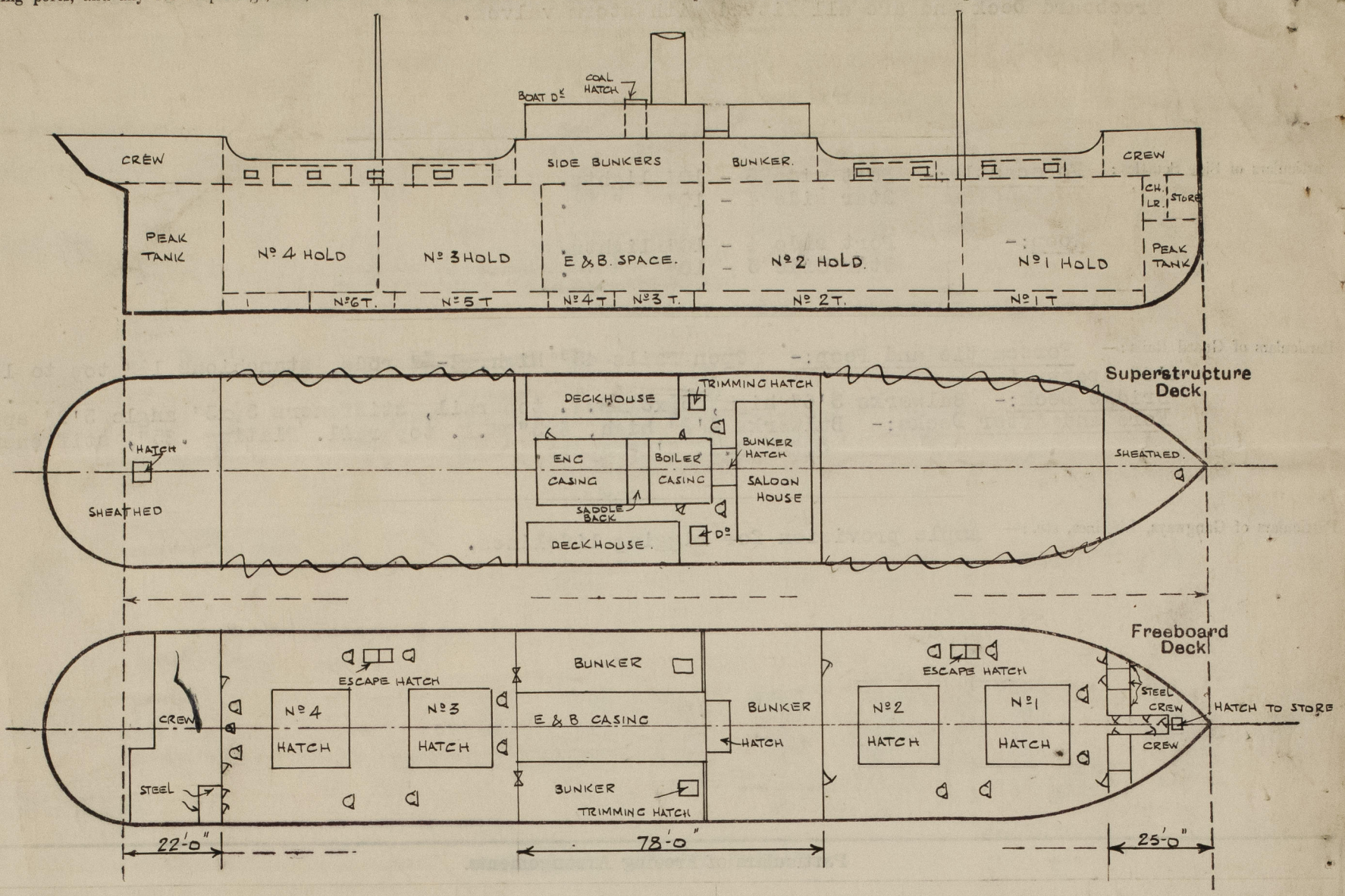
Particulars of Gangway Cargo and Coaling Ports:—

Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo and coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship are to be shewn on the following sketches :—




State any special features in the construction of the ship :— Engine Room Skylight:- Steel, 3 flaps each side with 2 Bulls-eyes in each flap.

Survey carried out afloat at Miramar Wharf, Wellington.

Builder's name and yard number Ramage and Ferguson Limited, Leith. No. 225.

Names of sister ships ----

Owners Union Steam Ship Company of New Zealand, Limited, Wellington.

Fee £ 9. : 7. : -. Received by me



SURVEYOR TO LLOYD'S REGISTER
WELLINGTON · N.Z.