Captain A. B. Thomas R.N.
Naval Commandant
"

H.M.V.S. Cerberus
1884 &c.

1931

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Dimensions

H.M.V.S. "Cerberus"

Four Guns, 250 Nominal Horse Power 1369 Indicated H.P Length 225 Feet Beam 45 Feet Depth of Hold 16½ Feet Draught 15½ Feet. Weight 3375 Tons Displacement 3413 Tons. Armour Plate 6 to 10 inches.

Engines Twin Screw Surface Condensing Horizontal, return Connecting Rods by Maudsley Son & Field

Indicated HP 1369 Maximum Speed 9 Knots Economical Speed 6 Knots Bunker Capacity 240 Tons, Consumption per day Full Speed 50 Tons Economical Speed 2¼ Tons. Distance can be steamed without re-coaling Full Speed 1036 Knots Economical Speed 1440 Knots. Boilers V.G. Rew 1884

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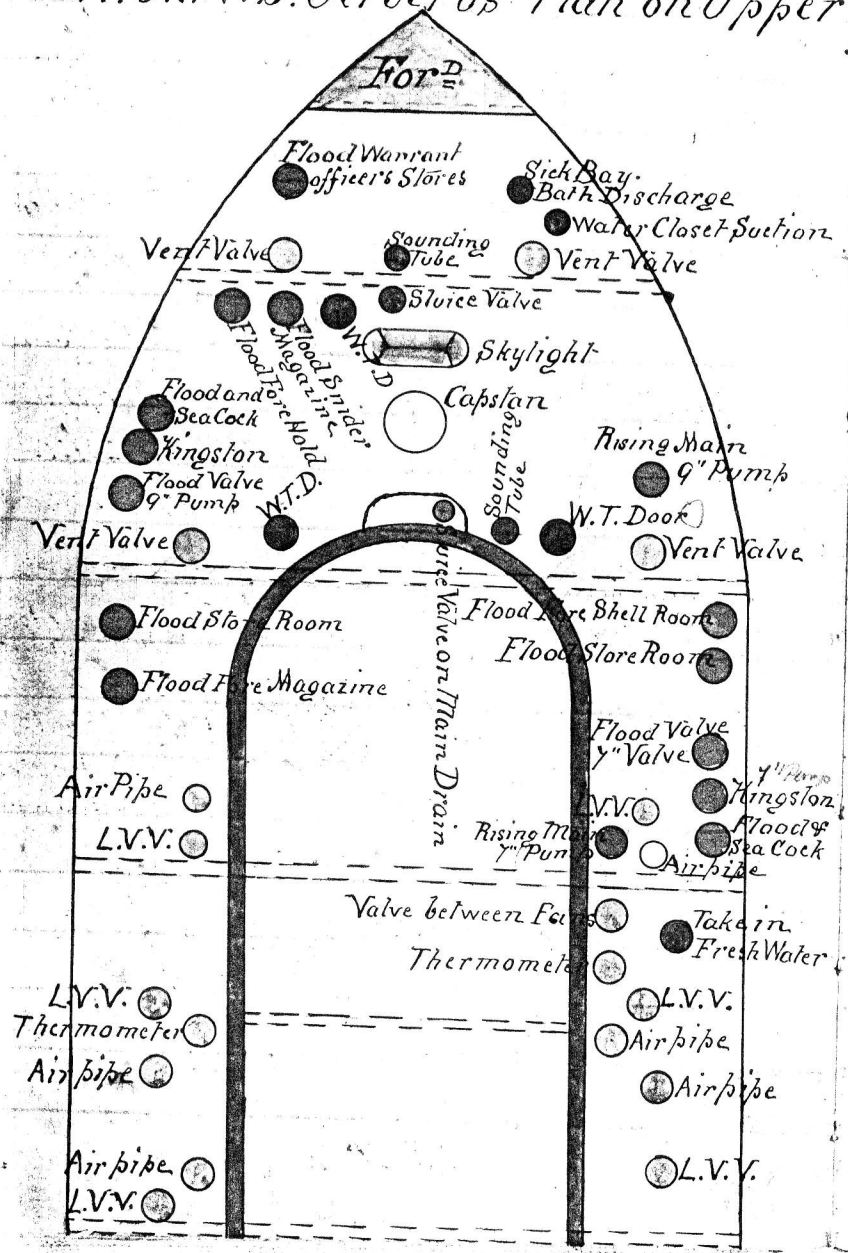
H. M. V. S. "Cerberus" Plan on Upper Deck Shewing Valves opening thereon



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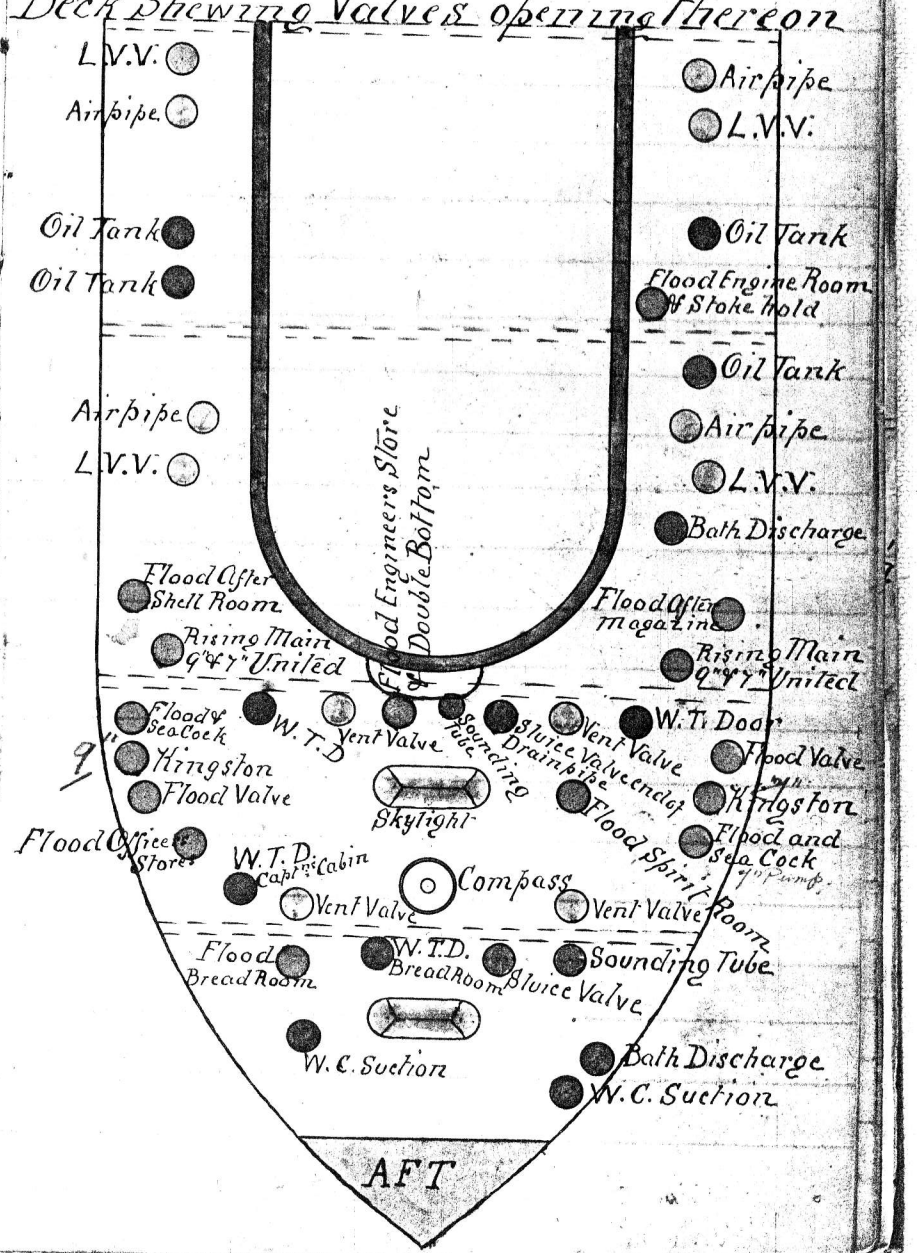


Suction Box marked A belongs to Forward 9 inch Pump and contains 6 Suctions marked 1. 2. 3 4. 5. and 6 No 1 leads to Sea Cock No 2 to Bilge fore side of No 2 Bulkhead No 3 to Bilge fore side of No 1 Bulkhead No 4 to Drain pipe No 5 to Port Pocket fore side of No 3 Bulkhead and No 6 to Dale pipe.

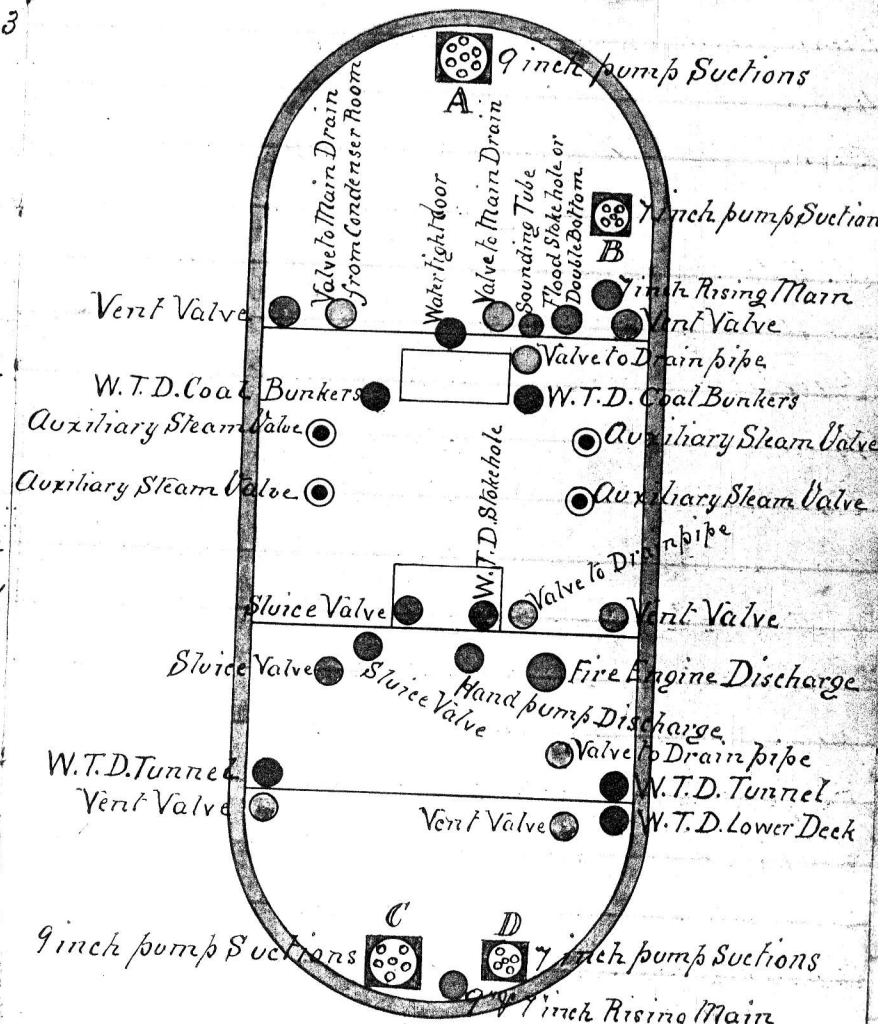
Suction Box marked B belongs to Forward 7 inch Pump and contains 4 Suctions No 1 leads to Sea Cock No 2 to Starbd Pocket fore side of No 3 Bulkhead No 3 to Stokehold or D. Bottom and No 4 to Starbd Pocket Aft side of No 3 Bulkhead

Suction Box marked C belongs to After 9 inch pump and contains 5 Suctions No 1 leads to Sea Cock No 2 to Drain pipe No 3 to Port Pocket fore side of No 4 Bulkhead No 4 to Engr Store or D. Bottom and No 5 to Bilge Aft side of No 6 Bulkhead

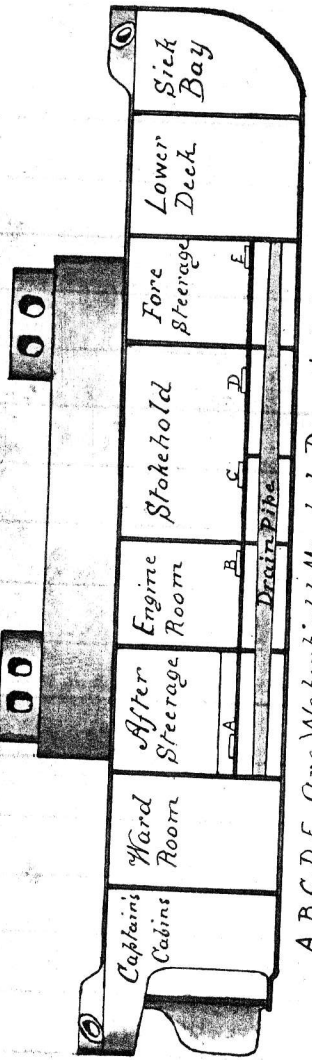
Suction Box marked D belongs to After 7 inch pump and contains 4 Suctions No 1 leads to Sea Cock No 2 to Bilge aft side of No 7 Bulkhead No 3 to Port Pocket fore side of No 5 Bulkhd and No 4 to Engine Room, Stokehold or Double Bottom

"Cerberus"

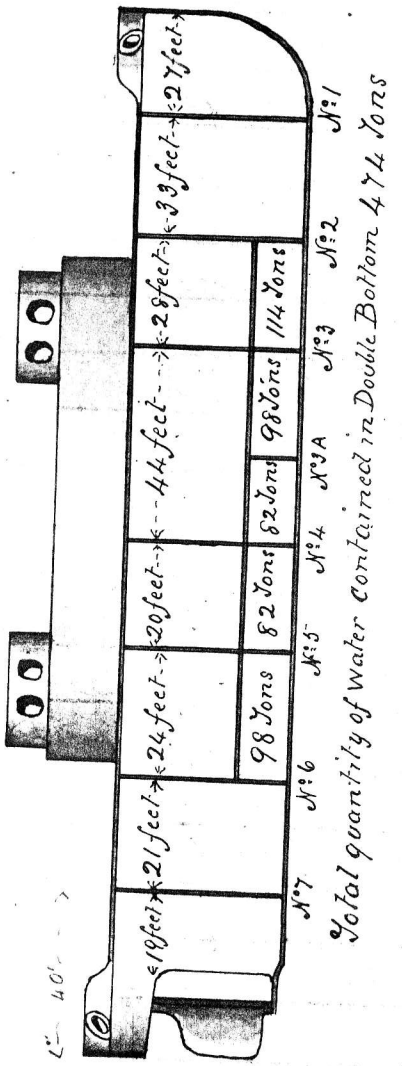
Shewing Valves opening on Shield Deck



H.M.V.S "Cerberus"



A.B.C.D.E. Are Watertight Manhole Doors into Double Bottom



Total quantity of water contained in Double Bottom 474 Tons

Detailed Statement of the pumping Flooding and Draining arrangements as fitted in "Cerberus"

Position of Pumps, Suctions, &c

One 9 inch Pumps on the Starb^d side of Lower Deck at fore side of N^o 2 Bulk^d with gearing to work on the same Deck in time of Action and also with gearing to work on the Upper Deck should the Compartment below be filled with water. The Sea Cock for same is fitted on Port side in Hold at fore side of N^o 2 Bulk^d with two branches for flooding The Suctions lead as follows

To the Bilge at fore side of N^o 1 Bulk^d
To the Bilge at fore side of N^o 2 Bulk^d
To the Drain pipe at Aft side of N^o 2 Bulk^d
To Pocket in inner bottom on Port side in front of N^o 3 Bulk^d. And to Sea Cock

One 7 inch Pump on the Starbd side of Lower Deck in front of No 3 Bulkd with gearing to work on the same deck and also with gearing to work within the Breastwork should the compartment where Pump stands be uninhabitable

Sea Cock for same on Starbd side of Hold at fore side of No 3 Bulkd with two branches the foremost one being used for flooding.

The Suctions lead as follows

To Pocket on Starbd side before No 3 Bulkd

To Pocket on Starbd side abaft No 3 Bulkd

And to Sea Cock

To Stand pipes at fore end of Boiler Room

The permanent Suction pipe terminates at No 3 Bulkd in a screw cap and from it a connexion is made with either Stand pipe by a flexible hose

these Stand pipes lead into the compartment at the fore side of No 3 Bulkhead. by a longer hose a connexion may also be made with either of the Stand pipes leading into double bottom at fore side of No 3 Bulkhead.

One 9 inch Pump at fore side of No 6 Bulkhead on Port side of Lower Deck. the gearing may be worked on both Lower and Upper Decks for the reasons previously given

Sea Cock fitted in Hold on Port side immediately abaft No 6 Bulkd with two branches for flooding

The Suctions lead as follows

To Pocket in inner bottom at fore side of No 4 Bulkhead.

To Drain pipe at fore side of No 5 Bulkd

To Sea Cock and to either Stand pipe in Engineers Store Room which are connected to the permanent suction pipe by means of a fixed pipe, these Stand pipes drain the double bottom between 5 & 6 Bulkheads and the Bilge abaft No 6 Bulkd

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One 7 inch Pump on Lower Deck Starbd side immediately opposite the Pump last referred to with gearing to work on the Lower & Upper Decks.
Sea Cock on Starbd side of Hold immediately abaft No 6 Bulkhead with two branches for flooding
The suctions lead as follows
To Sea Cock
To Pocket in inner bottom fore side No 5 Bulkd
To Bilge on Aft side of No 7 Bulkhead

To either Stand pipe leading into double bottom at fore side of No 4 Bulkd by connecting a flexible hose to the permanent suction pipe which terminates at fore side of No 4 Bulkd near middle line, or to either of the Stand pipes at fore side of No 5 Bulkd by connecting a flexible hose to the same permanent suction pipe, just before No 5 Bulkd on Starbd side.

One 4½ inch Downton Pump fitted on Lower Deck between the Chain Lockers and has the deck plate fitted upon brackets attached to No 2 Bulkd 2 feet below the Upper Deck this pump has 2 suctions one off the Sea cock suction to foremost 9 inch pump to supply the Officers

and Seamens Galley with sea water the other suction leads from the tank room to supply both Galleys with fresh water in the event of the fresh water pump being disabled.

One 4½ inch Downton Pump used for fresh water and fitted on Upper Deck within the Breastwork in recess of Funnel Casing on Starbd fore side this pump has two sections one from a vessel alongside to fill the tanks in Hold and one through the same pipe from these tanks to fill both Galleys, the after daily supply tank in the breastwork, and Captains bath

The 2½ inch Lift Pumps fitted in Sick Bay, the after one fills the daily supply tank there, from the tanks

in Hold, the foremost pump has a suction from each bath to empty either of them through the same outlet on the upper deck and over the ships side by a short length of hose

The two baths in the Sick Bay are supplied with fresh water from the supply tank overhead with salt water from the flooding pipe below the Lower Deck and with steam from the Main Boilers.

One 2½ inch Lift Pump is fitted in the Compartment abaft the Captains Cabin for the purpose of emptying his bath through the upper deck and over the ships side by a short length of hose. this bath is supplied with fresh water

by the 4½ inch Downton Pump within the Breastwork with salt water from the Port flooding pipe below the Lower Deck and with steam from the Main Boilers

One 2½ inch Lift Pump is fitted in the Engineers Bath Room and one in the Stokers Bath Room opposite for emptying the baths. these baths are supplied with fresh water from the supply tank in the Sick Bay with sea water from the flooding pipe below the Lower Deck and with steam from the Main Boilers

A 4½ inch Force Pump is fitted in each B.C. at the extremity of the Breastwork and takes its suction off the sea cock suction to the 9 inch

Pump, and discharges into the soil pipes for flushing purposes also fills the cisterns washes the flats &c

The foremost and after Water closets may also be flushed from the rising main of the fore and after 9 inch pumps by using a flexible hose to connect it with the main upon the soil pipes

Flooding Arrangements

The foremost 4 inch Kingston on Port side supplies sea water into the baths in Sick Bay the Engineers bath and the forward 9 inch and 4½ inch Dobonton Pumps as well as the 4½ inch force pumps in B.C. at the fore side of Breastwork, and also floods the following

Warrant Officers Store Room
Fore Hold
Snider Magazine
Fore Magazine
And Store Room on Port side between Nos 2 and 3 Bulkhead.

The foremost 2½ inch Kingston on Starbd side supplies the Stokers Bath room, and floods
The Fore Shell Room

The Store Room on Starbd side between Nos 2 and 3 Bulkhead, and by opening a cock on the Starbd fore side of No 3 Bulkd and removing the cap from the Stand pipe Suction on Starbd fore part of Stokehold the same might be flooded, or by connecting this suction by a flexible hose with either of the Stand pipes any of the compartments of Double Bottom in Stokehold or at fore side of Stokehold may be flooded

The After 4 inch Kingston on Port side supplies the Captain's Bath Room and floods
The After Magazine
The Compartment between Nos 6 and 7 Bulkheads by discharging into Engineers Dress. Store Room, in

Bread Room, or After Compartment and by opening a Cock at the Port Aft side of No 6 Bulkhead removing the pipe from the Stand pipe Suction in Engineers Store Room, that room may be flooded, or if the same Suction be connected to the Stand pipes there, the compartments of Double Bottom between No 5 and 6 Bulkheads may be flooded

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The After 2½ inch Kingston on Starbd side floods the Spirit Room.
The After Shell Room
And by opening a Valve on Starbd side of Engine Room before No 5 Bulkhead and also removing the Cap from the Stand pipe Suction at middle of same Bulkhead and joining this Suction by a flexible

hose with either of the Stand pipes in Engine Room the compartments of Double Bottom into which they lead may be flooded, or again if the same Valve on Starbd side of Engine Room be opened in another direction and the Cap be removed from the Stand pipe Suction at Port fore side of No 4 Bulkhead, a length of flexible hose joined to the Suction and connected with either of the Stand pipes in Stokehold the compartments of Double Bottom into which they lead may be flooded, observing that the Stokehold may be flooded from the same Suction, and the Engine Room from the Stand pipe Suction before referred to in that compartment

To flood the Double Bottom above the 3rd Longitudinal which is watertight it is necessary to open the Valve fitted in each compartment on each side of the ship through this Longitudinal. the water will then rise to the 4th Longitudinal or Armor Recess if the Air pipe leading therefrom be opened on the Upper Deck

The Vertical Keel being watertight entirely separates the Port from the Starb'd side of the Double Bottom

For Fire and wash deck purposes all the Downton Pumps have caps fitted on their rising mains for delivery between decks also the rising mains from the foremost 7 and 9 inch pumps each discharge

outside of Breastwork but the rising mains of after 7 and 9 inch pumps are connected so that either or both of these pumps may discharge on either of Upper Decks without the Breastwork or from one cap within the Breastwork at its after part.

The 4 1/2 inch Bilge pumps in each Shaft Tunnel may be worked either by hand or by the Propellor shafts and have one suction into a Pocket at the bottom of the Tunnel which discharges through the main discharge pipe at after end of Engine Room on Port & Starb'd sides respectively.

The steam Fire Engine at fore part of Engine room has two suctions one from the adjacent Kingston to discharge within the Breastwork in case of Fire, and one from the drain pipe to discharge through the main discharge pipe on the Starbd side of fore part of Engine room. The Steam Fire Engine is also available for pumping out the double bottom by attaching flexible hose to the suction and connecting it to the Stand pipes. The Engine room hand pumps also discharge into the Breastwork for fire purposes

The double Bottom extends longitudinally from No 2 to 6 Bulkhs and transversely from 4 longitudinal on the one side to the fourth longitudinal or Armour

addition to their non return Valves screwed down valves worked from the Upper Deck "with two exceptions" and fitted with indicators denoting when they are open or shut

The position of the Valves are as follows

2 Foreside of No 3 Bulkhead one in Condenser the other in Store room

1 { At aft side of No 3 Bulkhs against Starbd front of Coal Bunker

1 { At fore side of No 4 Bulkhs against starbd front of Coal Bunker

1 { At fore side of No 5 Bulkhs on Starbd side of Engine room

2 At fore side of No 6 Bulkhs one being on the middle of the Starbd and the other in the middle of the Port Shaft Tunnel and in these two cases the Valves are not worked from the Upper Deck.

Watertight Doors

All work from the Upper Deck and are fitted with indicators to shew whether they are open or closed. They can also be worked from the Lower Deck.

Their positions are as follows

1 On Port side of No. 1 Bulkhead on Lower Deck

2 On Port and Starbd. sides of No. 2 Bulkd. on Lower Deck

1 On Port side of No. 3 Bulkhead on Lower Deck

2 Port and Starbd. coal Bunkers in Hold abaft No. 3 Bulkhead

2 Port and Starbd. coal Bunkers in Hold at fore side of No. 4 Bulkhead

1 Starbd. side near middle of No. 4 Bulkhead in Hold

2 Port and Starbd. side of No. 5 Bulkd. in Hold leading to Shaft Tunnels

1 At midships part of No. 5 Bulkd. on Lower Deck

2 On Port and Starbd. sides of No. 6 Bulkd. on Lower Deck

1 On Port side of No. 7 Bulkhead on Lower Deck

1 On midships part of No. 7 Bulkd. in Hold

Total number of Watertight Doors 16

Watertight Manholes

Their positions are as follows

2 At midships Bulkd. of Port & Starbd. Chain Lockers on Lower Deck

2 On Port and Starbd. sides of No. 2 Bulkd. between 3 and 4 Longitudinals

2 On Port and Starbd. sides of No. 3 Bulkd. between 3 and 4 Longitudinals

2 On Port and Starbd. sides of No. 3 A Bulkd. between 3 and 4 Longitudinals

2 { On Port and Starb.d sides of N.o 4 Bulk.d between 3 and 4 Longitudinals

2 { On Port and Starb.d sides of N.o 5 Bulk.d between 3 and 4 Longitudinals

2 { On Port and Starb.d sides of N.o 6 Bulk.d between 3 and 4 Longitudinals

2 { On Port side leading from Condenser room to compartments above 3 longitudinal

2 { In Light rooms abaft N.o 2 Bulk.d leading into Port & Starb.d compartments of double bottom

2 { In Boiler room fore side of N.o 3 A Bulk.d leading into Port & Starb.d compartments of double bottom

2 { In Boiler room fore side of N.o 4 Bulk.d leading into Port & Starb.d compartments of double bottom

2 { In Engine room at Aft side of N.o 4 Bulk.d and leading into double bottom

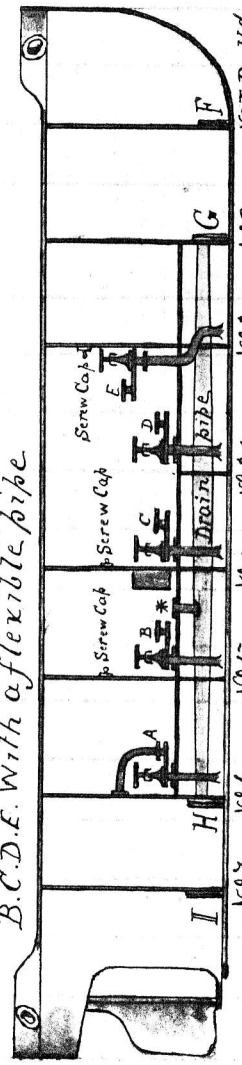
2 { One through the bottom of each Shaft Tunnel at Fore side of N.o 6 Bulk.d and leading into double bottom

Total Number 26

Flooding Arrangements

H.M.V.S. "Cerberus"

Shewing how Compartments of Double Bottom can be flooded or pumped out by connecting Screw Cap on Bulk.d N.o B.C.D.E. with a flexible pipe



F. G. H. I are Sluice Valves on Bulk.d for draining waterfrom N.os 1. 2. 3. & 4 Compartments into Main Drain Pipe which can be pumped out either by Downtons pumps or Steam Fire Engine. Valves are worked from Deck. The red square in Engine Room shews position of Fire Engine which can also pump out the Double Bottom by means of flexible hose, also Fore and Aft Compartments through Drain pipe by connecting it to Suction Marked *

To ascertain quantity of water that would flow into a ship through a hole in her bottom

Formula $\frac{A \times \sqrt{H}}{18}$ = Cubic feet of water per second.

A = Area of hole in square inches

H = Depth of hole below water line in feet, from centre of hole

18 = Constant

"Example" A hole 12 inches in diameter is made through the bottom of a ship 16 feet below water line how much water will enter per hour

$12 \times 12 \times .7854$ = Area of hole in square inches = 113 sq in

$\sqrt{16} = 4$ then $\frac{113 \times 4}{18} = \frac{452}{18} = 25^{-}$ Cubic ft. per second

$25^{-} \times 60 \times 60 = 90{,}000$ Cubic feet per hour

$\frac{90{,}000}{35^{-}}$ Cubic feet of water = 1 Ton $= 25^{-}70$ Tons per hour **Answer**

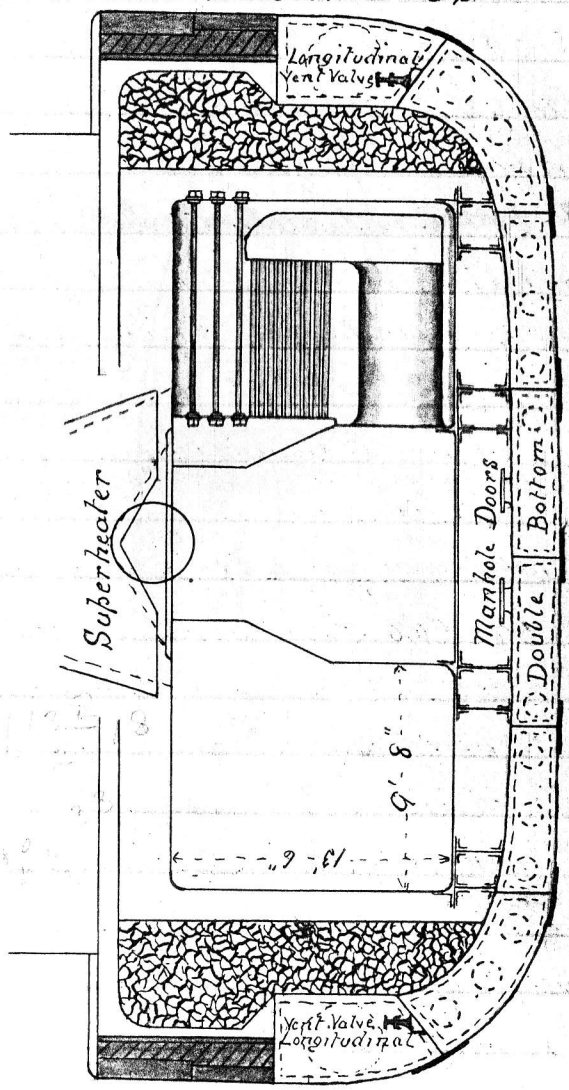
Capability of Pumps

Fire Engine @ 80 Revolutions per minute will Discharge 63 Tons of Water per hour

Two 9 inch Pumps @ 30 Revolutions per minute will Discharge 50 Tons per hour. (25 Tons each)

Two 7 inch Pumps @ 30 Revolutions per minute will Discharge 25^{-} Tons per hour. (12·5 Tons each)

H. M. V. S. "Cerberus"



Transverse Sectional View

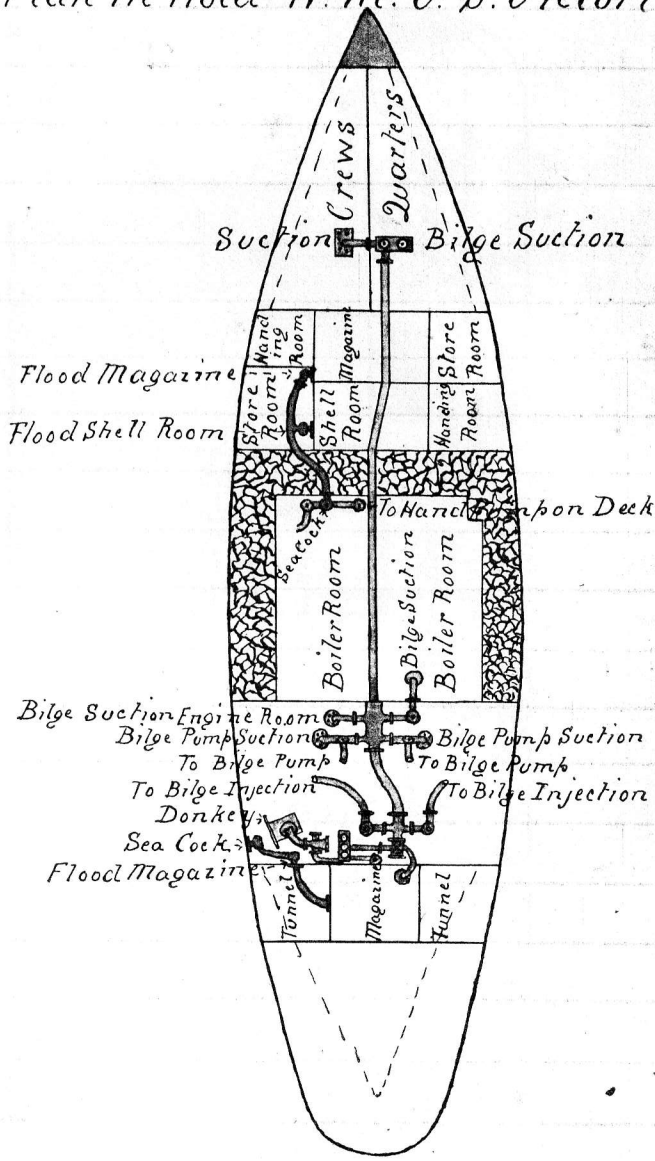
H. M. V. S. "Nelson"

Length 224 feet over all. 220 feet on Keel. Breadth 56 feet Draught 22'-4"
Displacement 2730 Tons
N. H. P. 500 Indicated about 1500
Bunker Capacity 330 Tons
Maximum Speed 10 Knots
Economical Speed 6 Knots
Consumption Economical Speed 1 Ton per hour

Flooding and Fire Arrangements

Two 12 inch Downton Pumps on Lower Deck
One 7 inch on Starbd side Forward
One 5½ inch on Port side Forward
One 7 inch amidships on Main Deck Aft

Plan in Hold H. M. V. S. "Victoria"



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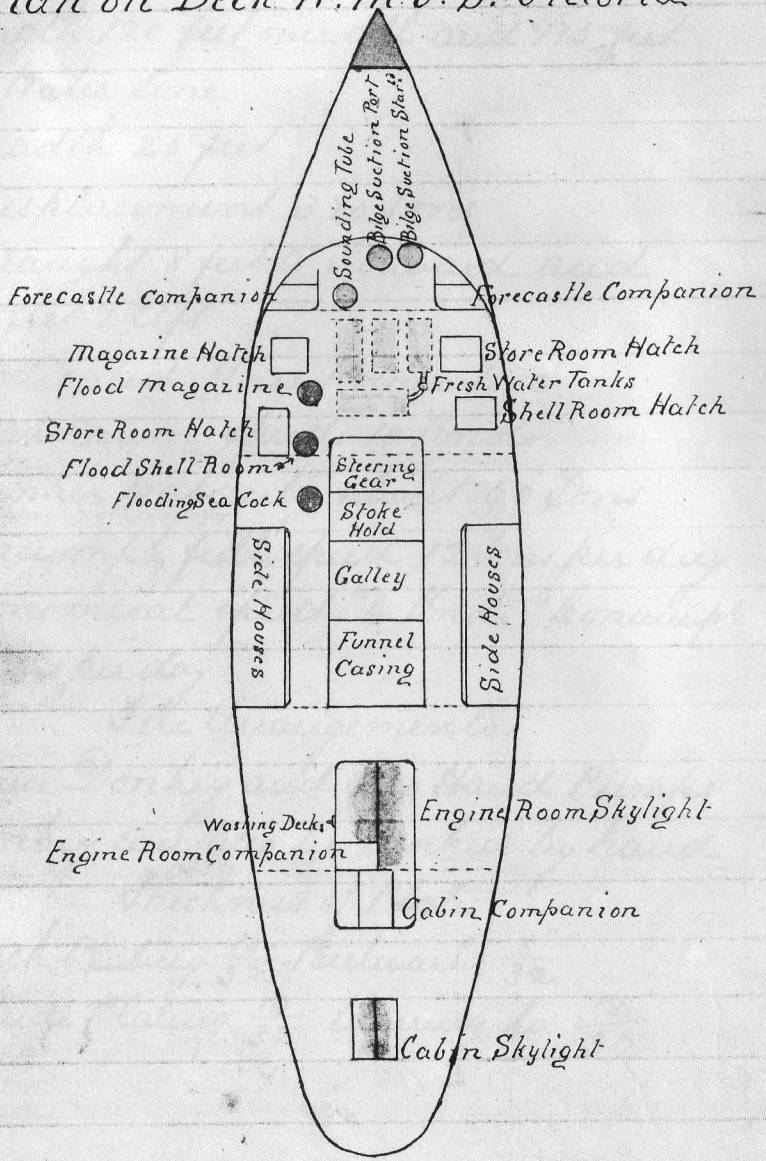
Plan on Deck H.M.V.S. "Victoria"



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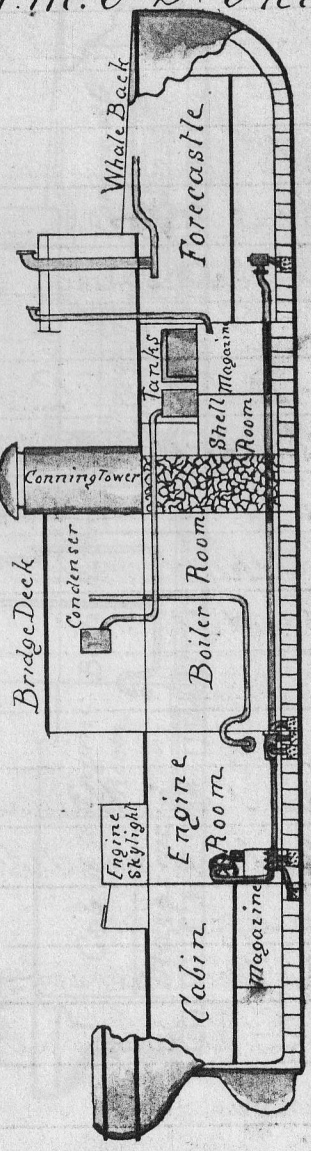
H.M.V.S. "Victoria"



Longitudinal Sectional View

H. M. V. S. "Albert"

Length 120 feet over all and 115 feet at Water Line

Breadth 25 feet

Displacement 370 Tons

Draught 8 feet 9" Forward and 10 feet 7 Aft

Indicated Horse Power 400

Maximum Speed 10 Knots

Bunker Capacity about 60 Tons

Consumpt. full speed 12 Tons per day

Economical Speed "6 Knots" Consumpt. 5 Tons per day

Fire Arrangements

Steam Donkey and Two Hand Pumps

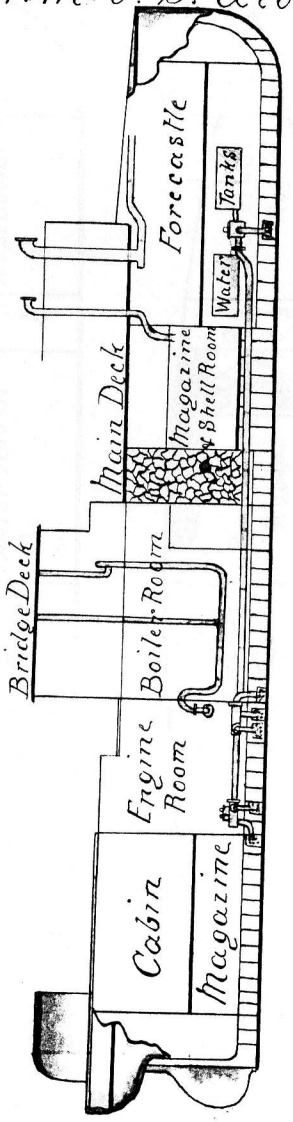
Donkey can also be worked by hand

Thickness of Plate

Deck Plating $\frac{13}{32}$" Bulwarks $\frac{8}{32}$"

Outside Plating $\frac{10}{32}$" tapering to $\frac{12}{32}$"

H. M. V. S. "Albert"



Longitudinal Sectional View

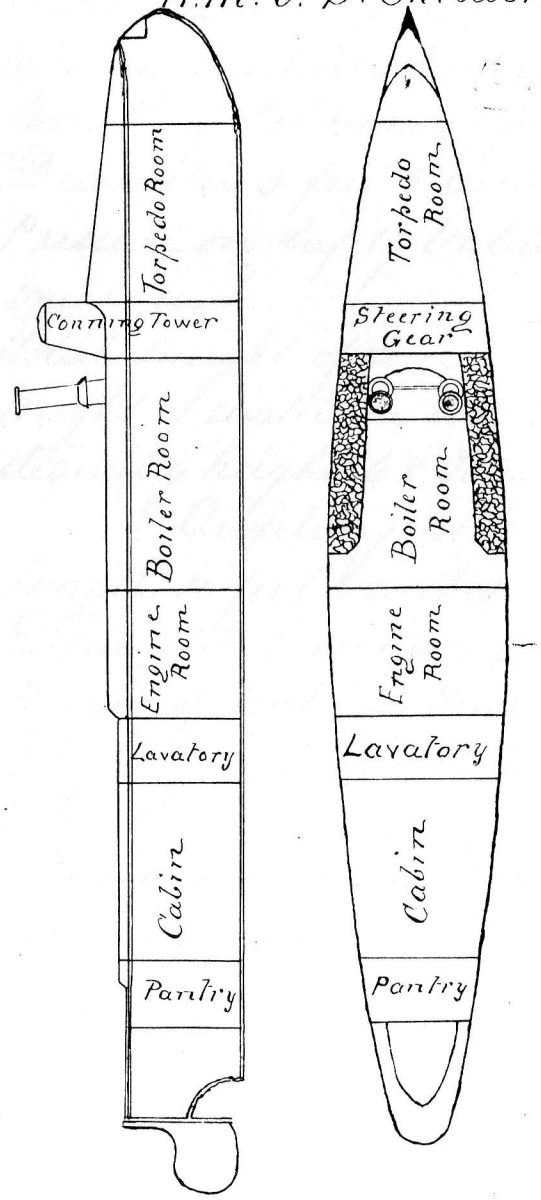
Torpedo Boat "Childers"

Length between perpendiculars 113'-8"
Length over all 118 feet 2½ inches
Breadth extreme 12 feet 2 inches
Weight fully equipped 60 Tons
Weight when lightened as much as possible 46 Tons
Thickness of Plate 3/16 of an inch
Belt about Engine Room ¼ inch thick
Draught 2 feet 7 for'd and 5 feet 8 Aft
Indicated Horse Power 700
Maximum Speed 19 Knots Economical speed 11 Knots
Bunker Capacity 10 Tons
Consumption full speed 21 cwts per hour
Economical speed 2¼ cwts per hour

Pumping Arrangements

One Steam Donkey and six Bilge Ejectors each discharge 40 Tons per hour

H.M.V.S. "Childers"



Shewing different Compartments

2nd Class Torpedo Boats "Nepean" and "Lonsdale"

Length between perpendiculars 63 feet
Length over all 67 feet
Breadth extreme 7 feet 6 inches
Height fully equipped 12½ Tons
Height in slings about 8½ Tons
Thickness of Plate
Draught 1 foot 1 for^{d} and 3 feet 3 Aft
Indicated Horse Power about 150
Maximum speed 17 Knots
Economical speed 10 Knots
Bunker Capacity 15 tons
Consumption Full speed 4½ cwts per hour
Economical speed 1 cwt per hour

Nov 1884

Total number of Furnaces Twelve and One in auxiliary Boiler
Length of Furnace 7 feet 6 inches
Diameter 3 feet 5 inches
Pressure on Safety Valve 30 lbs per square inch.
Total weight of four Boilers 80 Tons
Height of water in all Boilers at steaming height 68 Tons

Auxiliary Boiler

Length 10 feet 6 inches
Diameter 5 feet 6½ inches
Height of Boiler 4 Tons 15 cwts
Height of Water at steaming height 2 Tons.
Pressure on Safety Valve 55 lbs per square inch.

Auxiliary Engines
"Cerberus"

Two Turret Engines 16 Horse Power each
One Fire Engine 12 Horse Power
Four Ventilating Engines 9 Horse Power each
One Capstan Engine 24 Horse Power
Steering Engine 20 Horse Power
One Donkey Engine 10 Horse Power
One Electric Light Engine about 9 HP

Details of Machinery
"Nelson"

Engines Set Condensing Horizontal Return Connecting Rods by Ravenhill Hodgson & Co
Diameter of Cylinders 71 inches
Number of Cylinders Two
Length of Stroke three Feet
Maximum Revolutions 60 per minute
Nominal Horse Power 500
Indicated Horse Power about 1500

Propellor -

Two Bladed Diameter 18 feet Pitch 20 feet

Boilers Four in Number

Length 10 feet 3 inches & 11 feet 3 inches
Breadth 15 feet 6 inches Height 11 feet 2 inches

Furnaces 20 in Number

Length 7 feet 6 inches Breadth 2 feet 6 inches
Height 3 feet 4 inches

Details of Machinery
"Victoria"

Engines Compound Surface Condensing
Diagonals. Twin Screw. by Sir Wm
Armstrong Mitchell & Co
Diameter of Cylinders High Pressure two
each 21 inches Low Pressure two each 36 inches
Length of Stroke 18 inches
Maximum Revolutions 138 per minute
Indicated Horse Power 800

Propellors Two 3 Bladed
Diameter 8 feet Pitch 9 feet

Boilers two in number
Length 17 feet 4 inches
Diameter 8 feet 4 1/2 inches
Furnaces two in each Boiler
Length of Furnace 6 feet 9 inches
Diameter 3 feet 4 inches
Pressure on Safety Valve 70 lbs per sq inch

Details of Machinery
"Albert"

Engines, Compound Surface Condensing
Diagonals Twin Screws, by Sir Wm
Armstrong Mitchell & Co
Diameter of Cylinders High Pressure Two
each 15 inches Low Pressure Two each 26 inches
Length of Stroke 15 inches
Maximum Revolutions 160 per minute
Indicated Horse Power 4 00

Propellors Two 3 Bladed
Diameter 6 feet 6 Pitch 7 feet 6 inches

Boilers two in number
Length 11 feet 9 inches
Diameter 7 feet 3 inches
Furnaces two in each Boiler
Length of Furnace 4 feet 6 inches
Diameter 2 feet 8 inches
Pressure on Safety Valve 70 lbs per sq inch

Details of Machinery
"Childers"

Engines Compound Vertical by Thorneycroft

Diameter of Cylinders

High Pressure 14 1/2 inches

Low Pressure 24 1/2 inches

Length of Stroke 15 inches

Maximum Revolutions 439 per minute

Indicated Horse Power 700

Propellor

One, three Bladed

Diameter 5 feet 7 inches

Pitch 5 feet 9 inches

Boiler

Diameter 5 feet 10 inches

Length 6 feet 10 inches

Pressure on Safety Valve 130 lbs per square inch

Details of Machinery
"Nepean" & "Lonsdale"

Engines Compound Vertical by Thorneycroft

Diameter of Cylinders

High Pressure 8 1/4 inches

Low Pressure 13 1/2 inches

Length of Stroke 8 inches

Maximum Revolutions 650 per minute

Indicated Horse Power 150

Propellor

One, three Bladed

Diameter 2 feet 10 inches

Pitch 3 feet 9 inches

Boiler

Diameter 3 feet 3 inches

Length over all 8 feet 4 inches

Pressure on Safety Valve 130 lbs per sq inch.

Details of Machinery

"Spray"

Engines Vertical. High Pressure by
Buchannan & Rodium. Melbourne
Diameter of Cylinders 14 inches
Length of Stroke 12 inches
Maximum Revolutions 140 per minute
Indicated Horse Power 60

Propellor

One 4 Bladed Diameter 5 feet 6 inches
Pitch 8 feet

Boiler

Diameter 6 feet 6 inches
Length 8 feet 5 inches
Furnaces Two in number
Length 6 feet Diameter 2 feet 6 inches
Pressure on Safety Valve 76 lbs per sq inch

Customs Launch

Length 59 feet 6 inches Breadth 12 feet
Displacement 30 Tons
Draught 4 feet For. & 6 feet 6 inches Aft
Bunker Capacity 4 Tons
Speed 10 Knots
Indicated Horse Power 100

Spray

Length 69 feet Breadth 14 feet
Displacement 50 Tons
Draught 4 feet 6 inches For. & 7 feet 6 Aft
Bunker Capacity 8 Tons
Speed 9 1/2 Knots
Indicated Horse Power 60

Lion

Length 62 feet Breadth 12 feet 9 inches
Displacement 35 Tons
Draught 4 feet 4 For. & 6 feet 6 Aft
Bunker Capacity 4 Tons Speed 8 1/2 Knots
Indicated Horse Power 40

20 Boilers in Fleet
88 Engines " " } 5543 I.H.P

Abstract Statement

Shewing Indicated H.P. Speed &c. &c of the Ships & Boats of the Victorian Navy

Name of Ship	Indicated Horse Power	Speed in Knots Full	Economical	Capacity of Bunkers	Consumption per Full Speed	Economical Day	Distance can be Steamed at Full Speed	Economical	Boilers Condition	Time	Steam pressure
				Tons - Cwts	Tons - Cwts	Tons - Cwts	Knots	Knots			
"Nelson"	1500	10	6	330 - 0	70 - 0	24 - 0	1130	1980	Fair	New 1860	
"Cerberus"	1369	9	6	240 - 0	50 - 0	24 - 0	1036	1440	G	New 1884	30
"Victoria"	800	12½	7	90 - 0	20 - 0	6 - 0	1350	2520	V. G	New 1884	70
"Albert"	400	10	6	60 - 0	12 - 0	5 - 0	1200	1728	"	New 1884	70
"Childers"	700	19	11	10 - 0	25 - 6	2 - 12	180	1015	"	New 1884	130
"Nepean"	150	17	10	" - 15	5 - 8	1 - 4	57	150		New 1884	130
"Lonsdale"	150	17	10	" - 15	5 - 8	1 - 4	57	150	V. G	New 1884	130
~~Sprag~~	~~60~~	~~19~~		8 - 0	2 - 0		960		~~G~~		
~~Lion~~	~~40~~	~~9~~		4 - 0	1 - 10		576		~~V. G~~		
"Launch"	14 NHP	5		2 - 10	1 - 0		300		G		
"Cutter"	8 NHP	6		— " 7	— " 12		84		G		
Batman	350	9½	5	60 - 0	9. 15	6					
Fawkner	350	9½	5	60 - 0	9. 15	6	} The economical				
Gannet	450	11½	7	80 - 0							
Commiss[illegible]	50	9½		4 - 0							
Customs Launch	50	10		4 - 0							
Countess	1156	22	12	14 - 0	30.8	3 · 12	250	1200	V.G.	New 1891	
Pickett	40	11.5	6	4 - 10					V.G.	" 1891	130
Gordon	150?	14									

Gordon.

H.P. Cylinders 9½" diam IHP 95
L.P. Cylinders 15" diam Speed 12.
Stroke 9½ Built 1884.
Revolutions.

Picket boat

H.P Cylr 9" IHP 40.
L.P. " 20" Speed 10
Built 1890

Childers

H.P. Cylr ~~11½~~ dia 14½" 130lb.
L.P. " ~~20~~ 24½" IHP 700.
Stroke 12" 15" Speed 19
Built 1883

Nepean & Lonsdale

H.P Cylr. 8¾" dia Built 1884
L.P. 13¾"
Stroke 8"
130lb.

Customs No 4.

H.P. Cylinder 10" diam

L.P. " 18" "

Stroke 12 inches

Revolutions 300 —.

outside condenser about 24 sq ft of 3" tube.

Countess Old boiler 36 sq ft grate area.

Cyls 14½, 21, 32" × 16" 170 lbs

New boiler.

Grate area 47.25 Heating Surface 2525 sq ft

No of tubes 1278. Dia of tube 1½".

Weight with water 13 tons 13 cwt. Pres ~~175 lb~~

Vulcan.

Cyls 14", 22" × 16". 110 lbs.

Length 100 ft

Breadth 17 "

Depth 11 '

1889

Protector.

Dia of cylrs 23" and 46" × 24" Stroke

R. H P. 1700

I H P 1500 (?)

Gresswell 5.1.16.

Boiler Yarrow water tube

Dia Steam drum 3'.8" ins.

" Water pockets 1'.9" × 12".

Length 8'.6".

No of furnaces 1.

Size " " 5'.6⅛" × 5'.

Tubes No 570.

Dia. 1¾": ex.

Distance between tube plates 3'.7½".

Tube Surface. 985 ☐'.

Grate " 27½".

When built 1915.

By whom Cockatoo

Hrs. per day. 10 Knots 12 tons per day

8 " 6 " " "

Pressure 130 lbs