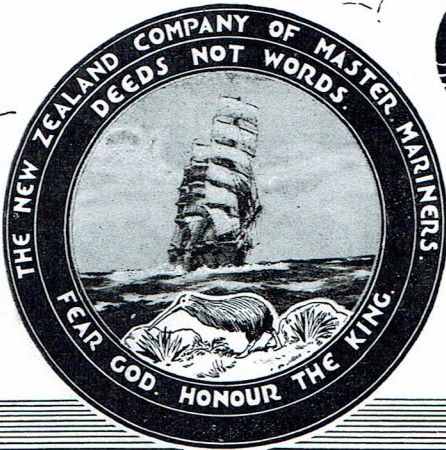


NATIONAL LIBRARY OF
30 JAN 2014
NEW ZEALAND



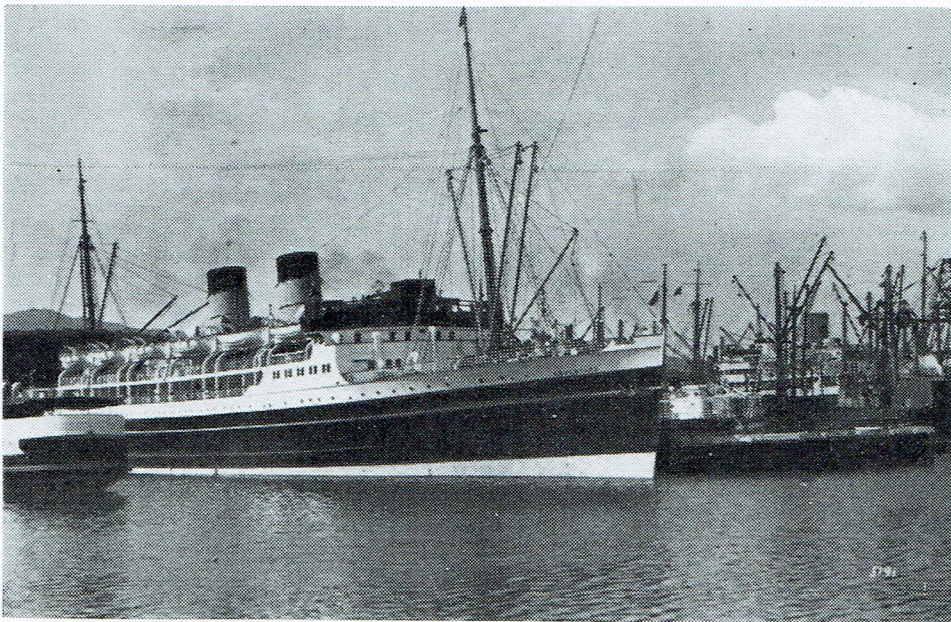
ON DECK

Official Journal of the N.Z. Company of Master Mariners

VOL. 2. No. 1.

WELLINGTON, N.Z. SEPTEMBER, 1938.

QUARTERLY.



THE UNION STEAM SHIP COMPANY'S INTER-ISLAND EXPRESS
STEAMER "RANGATIRA."

HARLAND & WOLFF LTD.

One of the World's Largest
Builders of Internal
Combustion
Engines



ENGINES CAN BE SUPPLIED IN POWERS RANGING FROM
75 B.H.P. TO 30,000 B.H.P. (or over).



2-STROKE CYCLE SINGLE & DOUBLE ACTING UNITS.
4-STROKE CYCLE TRUNK AND CROSSHEAD UNITS WITH
OR WITHOUT SUPERCHARGING.



New Zealand Representatives:

A. & T. BURT LTD.

Auckland, Wellington, Christchurch, Dunedin, Invercargill.

ON DECK

Official Journal of the N.Z. Company of Master Mariners.

P.O. BOX 1090, WELLINGTON.

Registered at the G.P.O., Wellington, N.Z., for transmission through the Post as a Newspaper.

VOL. 2. No. 1.

WELLINGTON, N.Z., SEPTEMBER, 1938.

QUARTERLY.

MASTER MARINERS

SMOKE CONCERT

NEW ZEALAND SHIPPING

Rollicking chanties, interspersed with sea yarns, gave the required "salty" atmosphere to the annual smoke concert of "the men who go down to the sea in ships," the New Zealand Company of Master Mariners, on August 27th. The gathering, which was presided over by Captain S. Holm, was well attended. The Minister of Marine (the Hon. P. Fraser) was present. An apology for absence was received from the Hon. D. G. Sullivan.

Mr. L. B. Campbell (Secretary of Marine), who proposed the toast of "The Mercantile Marine," said that it was commonplace that the British Mercantile Marine was the lifeblood of the Empire. There had been an idea established that the British Mercantile Marine was slipping, but British tonnage had been set back to a large extent by the substitution of oil for coal. In 1914 the British Mercantile Marine had comprised some 20,000,000 tons, and the world's total had been 44,000,000 tons. To-day the British tonnage was the same approximately, but the world's total had risen to 64,000,000 tons. This gave the impression that Britain had stood still while the rest of the world had advanced, and was due to the fact that in 1914 there had been a tremendous traffic in coal, which had almost wholly been in British hands, but which had now practically disappeared. Owing to the decline in this trade the position of British shipping appeared to be worse than it was. In peace time the Mercantile Marine was the great sheet anchor of the British Empire, but in time of trouble it was necessary to look beyond this aspect. It behoved all in times of trouble to see that anything that could possibly be done to strengthen the Navy was carried out, and it was there that the Mercantile Marine played an important part. The best thing that could be done in this direction in New Zealand was to see that the sea traditions of this country were fostered and shipping given a real chance to flourish.

Mr. Campbell said he thought that shipping had not really had a chance in New Zealand. It was in competition with other means of transport, and as the country developed, the land transport became unduly favoured. There was no doubt of the efficiency of sea transport, but it had to care for itself while for road transport good roads were provided by the community, and rail transport had the whole of the Consolidated Fund behind it. It was easier for coastal shipping to be managed in New Zealand than in England, as transport around New Zealand was in New Zealand hands and the Government was in a position to see that justice was done to one form of transport as against another.

Replying to the toast, Captain P. S. Peterson said that he considered that a good deal of the world tonnage referred to by Mr. Campbell was that of tankers in foreign hands. He thought that the coastal trade of New Zealand had a good deal of competition. Captain D. R. Paterson also replied.

Seafarers in Parliament.

The toast of "Parliament" was proposed by Captain W. Stuart, who said that there was one matter of a political nature in which mariners were interested. They were looking forward to the day when they would see a seafaring man represented in one of the legislative chambers. There was a tendency nowadays not to think a great deal of freedom and action. This might be due to the fact that people were living in an age of speed, but he thought they should stop and think of those things deserving consideration. One of those things was Parliament, which a century ago had been a rich man's plaything, and had met just to levy taxes and keep the coffers of the king well filled. In contrast to-day the voice of the people was heard, and representatives were now elected on their ability. All were prone to blame Parliament for everything that went wrong, but they were not

so ready to blame Parliament when everything went right.

They were living in a time when every standard of international relationship seemed to be in a state of disruption, continued Captain Stuart. The present power of dictators was a challenge to democracy, a challenge with which all were concerned as individuals. "Master mariners are always eager to render service to the State, and our knowledge and experience can always be placed at the disposal of the State," he said.

The Hon. P. Fraser, in reply, said that he had listened with interest to what Captain Stuart had said about seafaring representatives in Parliament. He agreed with the idea, and considered that some part of the legislative machinery should be composed of representatives of industries and economic processes, upon which the success of the country existed. This would tap all walks of life. He had had great pleasure, he said, in associating with seafaring men. He only had a layman's knowledge, and as a layman he had looked on every occasion to those whose life and training had qualified them, and given them experience. He had been privileged to be the ministerial instrument for certain improvements to navigation which had been felt by every seafaring man. They had not gone as far as he wanted, but the institution of the radio beacon at Baring Head, and a similar one at Stephen's Island and Cape Campbell, would render navigation into Wellington as safe as any port in the world.

"I am pleased and proud to have the privilege of taking the important step of installing radio beacons," said Mr. Fraser, "and soon they will be extended to other parts of New Zealand." Proper charting of the coastline was important, and this was being done thoroughly at present by H.M.S. Endeavour.

He wanted the seamen of New Zealand to feel that the Marine Department was alive to their interests and wanted to render their occupation as safe as science could make it.

Protection for New Zealand Shipping.

Legislation had been moulded, he added to give protection to the livelihood of New Zealand seamen and New Zealand ships, and to prevent the danger of New Zealand ships being run off the coast by outside competition. The Pacific navigation negotiations had proceeded for a long period, but things had been rendered difficult by the cost of building the two proposed modern liners.

The question of firmly establishing British shipping in the Pacific had not been lost sight of or abandoned, Mr. Fraser said. As far as the Government was concerned, it wanted to see British liners on the Pacific as good as any in the world.

Other toasts honoured were: "The Harbour Board," proposed by Captain G. Knowles and replied to by Mr. A. G. Barnett; "Absent Friends," proposed by Captain J. Mawson; "The Press," proposed by Captain F. A. Macindoe.

Items were given by Captain P. S. Petersen (recitation) and Captain J. Spence (chanty). Singing was led by Captain A. Boardman. The accompanist was Captain Sawyers.

Chemists and Social Security.

It is understood that the Government's social secur-

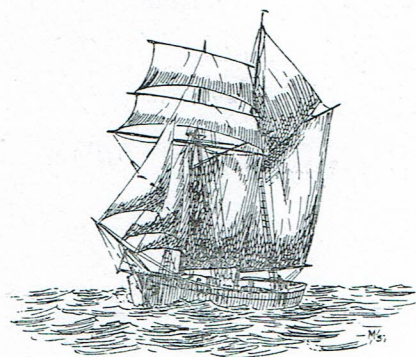
ity plan, as it affects the pharmaceutical industry, was discussed at a meeting held in Wellington recently. There is a possibility that, following an exploratory discussion of the scheme, a conference representative of chemists in all parts of the Dominion will be held to ascertain the feeling of the industry generally. It is felt that the effect of the social security medical proposals upon chemists will be considerable, and that the implications of the scheme, so far as it is likely to effect chemists, deserve the most careful consideration.

Yachtsmen as Naval Trainees.

"I think there is a great reservoir to be obtained from the recruitment of trainees for the Royal Navy, if sport is exploited," said Mr. L. B. Campbell, Secretary of Marine, at the annual smoke concert of the New Zealand Company of Master Mariners recently. It seemed to him, he said, that yachting and sea scouting were in the front rank of national sport, and should receive attention from the National Council of Sport. If a man had a real love of the sea, and if he were given the opportunity of training, he would have the foundation for a really good seaman. It was not difficult to give real encouragement to yachting, and harbour boards could provide facilities for which yachtsmen now had to fight. A scheme to help a yachtman train in the technical aspect of seamanship could be easily worked out. "This should be developed in order to have a reservoir of men to go into the mercantile marine and the Royal Navy if the need arose," he said.

Dredge's Arrival.

Disappointment that the Wellington Harbour Board's new dredge, Kerimoana, had not arrived in Wellington on Saturday, as expected, was expressed at the annual smoke concert of the New Zealand Company of Master Mariners on Saturday night. The Chairman, Captain S. Holm, said that the function had partly been arranged for the purpose of welcoming the master, officers and engineers of the dredge at the conclusion of the voyage, but the vessel had unfortunately not put in an appearance. "I think we can blame Mr. Barnett, General Manager of the Harbour Board, and Dr. Kidson, Dominion meteorologist, for the delay of the dredge," he jocularly remarked. Mr. Barnett later read a "telegram" from the commander of the vessel, Captain A. Adamson, stating "Have heard of Mr. Semple's speeding regulations, and am frightened of breaking them."



Personnel Of The New Zealand Company Of Master Mariners

For 1937-1938

PATRON: The Governor General, Viscount Galway.
 PRESIDENT: The Hon. Sir Charles Statham, M.L.C.
 VICE-PRESIDENT: Captain Coll, McDonald.
 CHAIRMAN: Captain S. Holm.
 SECRETARY: Captain P. S. Peterson.
 EXECUTIVE: Dunedin: Captain MacLean; Auckland:
 Captain W. J. Keane; Wellington: Captains Holm,
 Mawson, Jessup, Paterson, Holden.
 ASSOCIATE MEMBERS: Colonel N. S. Falla, Dr. E.
 Kidson, Mr. S. Waters.
 MEMBERS: Captains All.

LIST OF MEMBERS.

"A."

W. D. Archibald, S.S. "JAMES Cook."
 S. J. Atkins, 12 Jesmond Terrace, Mt. Albert, Auckland.
 F. K. Allen, 245 Ponsonby Road, Auckland.
 A. B. Anderson, "Foxton," c/o Canterbury Company.

"B."

T. Bowling, U.S.S. Co., Wellington.
 J. Bruce, U.S.S. Co., Wellington.
 B. Burk.
 L. C. Boulton, "Maui Pomare."
 P. Ballard, Gannaway & Co., Wellington.
 J. W. Burgess, S.S. "MATAI."
 A. Black, Shaw Savill & Albion, Wellington.
 F. W. Baron, Waipapa Road, Hataitai, Wellington.
 A. G. Baggett, 162 Coutts Street, Kilbirnie, Wellington.
 J. W. Bell, 26 Kellman Avenue, Auckland W.1.
 W. A. Beswick, 1 Takarunga Road, Devonport, Auckland.
 D. Burgess, Auckland Harbour Board, Auckland.
 J. Brindle, Northcote, Auckland.

"C."

A. J. Charman, Shaw, Savill, Christchurch.
 H. S. Collier, U.S.S. Co., Wellington.
 B. Corby, U.S.S. Co., Wellington.
 A. Chrisp, Lyttelton Harbour Board, Lyttelton.
 A. Copeland, 52 Overtoun Terrace, Wellington.
 R. McK. Cliffe, 13 Beckenham Ave., Epsom, Auckland.
 W. D. Cameron, 334 The Terrace, Wellington.

"D."

F. J. Duncan, PORT CHALMERS.
 H. Donald, Marine Department, Dunedin.
 A. S. Dalgleish, U.S.S. Co., Wellington.
 H. Dilner, Marine Department, Dunedin.
 A. T. Dowell, T. J. Gardner, Wellington.
 J. E. Dawson, 16 Caroline Street, Wellington.
 A. H. Davey, "Awatea," Wellington.
 H. L. Dryden, Saltarn Road, Milford, Takapuna, Auckland.
 A. Davies, 8 Seymour Street, Herne Bay, Auckland.

"E."

G. P. Evans, Marine Department, Lyttelton.
 F. Edge, U.S.S. Co., Lyttelton.
 E. A. Eden, 38 Garfield Road, Brooklyn, Wellington.
 G. Edwards, c/o S. Wood & Sons, Wellington.

"F."

C. F. Fox, 6 Patey Street, Remuera, Auckland.

H. Falconer, P.O. Box 531, Auckland.
 R. Fraser, Dunedin, P.O. Box 399.
 L. P. Fox, Miramar Wharf, Wellington.
 J. Forbes, 3 Takarunga Road, Devonport, Auckland.

"G."

W. L. Goddard, 21 Hauraki Road, Takapuna, Auckland.
 W. A. Gray, 30 Puru Crescent, Lyall Bay.
 A. S. Gibson, Shipping Office, Wellington.
 J. Gill, 70 Bridge Street, Kilbirnie.
 S. E. A. Gregory, 8 Central Terrace, Kelburn.
 G. H. George, 33 Ferry Buildings, Auckland.

"H."

S. Holm, Box 1090, Wellington.
 G. P. Hall, Marine Department, Wellington.
 W. Harmes, 158 Clyde Street, Island Bay, Wellington.
 A. Howie, U.S.S. Co., Wellington.
 T. V. Hill, "Aorangi," Auckland.
 W. J. Hill, U.S.S. Co., Wellington.
 A. D. Holden, Tirohanga Road, Melling, Lower Hutt.
 A. J. Henry, Poynters Crescent, Port Nelson.
 W. Hartman, "Mataroa," S.S. & A.
 J. W. H. Holmes, "Port Waikato."
 A. O. Horler, 26 Marama Crescent, Wellington.
 W. W. Hender, S.S. "NARBADA."
 S. Hewitt, U.S.S. Co.
 M. T. Holm, Box 1602, Auckland.
 R. Hogan, Auckland Harbour Board, Auckland.
 J. A. A. Hamblyn, 3 King Edward Parade, Devonport,
 Auckland.
 E. Harris, Dunedin.
 R. J. Hamilton, Box 46, Bluff.
 H. W. Hargraves, Pukerua Bay.
 H. G. Hatchwell, 36 Rewa Road, Hataitai.
 D. Henderson, c/o Blue Star Line, Wellington.

"I."

A. F. Inman U.S.S. Co., Auckland.

"J."

G. W. Jinman, c/o Auckland Stevedoring Co., 16 Custom
 Street, Auckland.
 F. S. G. Jaunay, 22 Waiaatarua Rd., Remuera, Auckland.
 A. W. Jenkyns, c/o Auckland Stevedoring Co., 16 Custom
 Street, Auckland.
 W. E. Jones, U.S.S. Co., Wellington.
 V. E. Johansen, Perth Street, Ngāio.
 W. H. Jessup, 25 Ira Street, Miramar (25).
 W. Johnson, Carlton Flats, 243 The Terrace, Wellington.
 P. A. Johnson, S.S. "TOA," Northern S.S. Co., Auckland.

"K."

G. Knowles, 36 Bentnick Ave., Strathmore Park, E.5.
 G. H. Kime, 66 Eastwood Ave., Eastwood, N.S.W.
 W. G. Kelsey, 16 Cheltenham Road, Devonport.
 W. J. Keane.
 W. J. King, U.S.S. Co., Dunedin.

"L."

"M."

- P. H. Miles, 13A Adams Terrace, Wellington.
 B. C. D'Arcy Maxwell, "Moana," Rocks Rd., Nelson.
 D. R. Munro, "Holmlea."
 J. Mawson, 33 Oban Street, Wadestown.
 W. Martin, "Niagara," Auckland.
 D. P. Malcolm, 8 Tui Road, Mt. Eden, Auckland.
 A. Matheson, c/o J. Mill & Co., Dunedin.
 C. McDonald, 61 Nairn Street, Wellington.
 J. E. McClellan, 152 Moxham Avenue, Hataitai.
 D. McLeish, 98 Moxham Avenue, Hataitai.
 W. McLeod, 79 Kelburn Parade.
 D. McDonald, U.S.S. Co., Wellington.
 Donald, McDonald, U.S.S. Co., Port Chalmers.
 L. McDonald, N.S.S. Co., Box 43, Auckland.
 F. G. McDonald, Otago Harbour Board, Dunedin.
 F. McKenzie, Otago Harbour Board, Dunedin.
 J. McLean, Harbour Master, Dunedin.
 D. McCrone, "Livingstonia," Remuera Road, Auckland.
 A. McIntosh, Shaw, Savill Co., Wellington.

"N."

- F. W. Ness, Dominion Farmers' Building.

"O"

- C. W. Ostefeld, 27 Lucy Street, Ashfield, N.S.W.

"P."

- M. Pierotti, Northern S.S. Co., Box 43, Auckland.
 D. R. Probert, 20 Huntly Ave., Grafton, Auckland.
 D. R. Paterson, 16 Newcombe Cres., Karori, Wellington.
 P. S. Peterson, 82 Upland Road, Kelburn.
 J. E. Page, Otago Harbour Board, Port Chalmers.
 A. H. Prosser, "Matua," U.S.S. Co.
 J. Plowman, Harbour Master, Lyttelton.
 C. C. Plunkett, Box 531, Auckland.

"R."

- R. T. Roberts, 17 Rosina Terrace, Wellington.
 J. Ritchie, 73 Rodrigo Road, Kilbirnie.
 T. Rowlands, Canopus, Westport Coal Co., Westport.
 J. Rankine, 19 Ellice Avenue, Wellington.

- A. Reed, U.S.S. Co., Auckland.
 H. Ruegg, U.S.S. Co., Wellington.
 J. W. Richmond, Ferry Bldgs., Auckland (Academy)?
 L. Robertson, Marine Department, Auckland.
 W. Raynes, Northern Co., Box 43, Auckland.
 A. Rathbone, c/o J. Mills & Co., Dunedin.
 F. Roberts, Otago Harbour Board, Dunedin.

"S."

- A. B. Sizer, U.S.S. Co., Westport.
 W. Stuart, Marine Department, Wellington.
 J. Spence, McIntyre Avenue, Wellington.
 C. Sharpe, 5 Everton Terrace, Wellington.
 H. H. Sergeant, Harbour Master, Auckland.
 C. Sundstrum, Moray Place, Dunedin.
 A. Shelton, 55 Harrington Street, Dunedin.
 E. Sutherland, Days Road, Lyttelton.
 G. W. Simpson, Marine Department, Wellington.

"T."

- H. Treurn, c/o J. Mills & Co., Dunedin.
 H. Tindle, 185 Sutherland Road, Wellington.
 W. B. Todd, U.S.S. Co., Wellington.
 F. E. Tether, N.Z. Shipping Co. Ltd., Wellington.

"U."

- H. L. Upton, "Rangitane," N.Z. Shipping Co.
 C. VandenBergh, Waterside Labour Bureau, Wellington.

"W."

- A. St. Clair-Whyte, "Linwood" Portland Rd., Remuera, Auckland.
 W. R. Wright, Auckland Harbour Board, Auckland.
 F. S. Wainhouse, Auckland Harbour Board, Auckland.
 A. F. Watchlin, "Port Tauranga."
 F. Warren, U.S.S. Co., Auckland.
 W. Whiteford, Marine Department, Wellington (154 The Parade, Island Bay).
 G. Wilkinson, Master Eastbourne Ferry, Wellington.
 S. Ward, U.S.S. Co., Wellington.
 W. R. Webling, "MATAI" (39 Kano Street, Karori).

AUCKLAND NOTES

The Annual Meeting of the Auckland Section is to be held on Saturday, September 3rd. at 8 p.m. and in view of the greatly increased strength of this section, it is hoped that a more active policy will be formulated and put into effect during the ensuing year.

In connection with annual meetings the fact should be stressed that the responsibility of members does not end with paying their annual subscriptions and electing a committee. The committee must, however, give a lead, but without the support of members to any activities proposed, little headway can be made.

In this age of breaking records, it may be mentioned that the New Zealand Company of Master Mariners hold at least one record and that is for the shortest annual meeting. The writer has recollection of one annual meeting opening at 7.38 p.m. and closing at 7.41 p.m., the business transacted included the election of officers for

the next year. Such a happening may be construed as a tribute to the extreme efficiency of the outgoing committee or on the other hand, to the abject apathy of the members.

It is with regret that we have to record a serious accident to an Auckland member, Captain A. Smith, Superintendent Stevedore to the New Zealand Shipping Company. Captain Smith's general personality has been missed around the wharves but it is gratifying to learn that he is now making a good recovery. His many friends in Auckland will be pleased when he is again able to assume his duties on the waterfront.

The Auckland Branch of the Navy League have recently started a training scheme for yachtmen. The syllabus outlined is of the same as that required for a H.T. Master's Certificate.

Our members will, no doubt, generally agree that this is a step in the right direction. The proper seamen, of all those who take to the sea either, for pleasure or for profit is worthy of every support. The majority of young men and boys have had or will have the desire at some time to partake of the sport of yachting and their proper education in the knowledge of the rule of the road and small boat handling may at times save those who go to sea for a living, much trouble.

In addition to this, the fact that the continuance of these classes will ensure that a supply of semi-trained men will be available in times of any national emergency is of vital national importance and the Navy League are to be commended on the efforts they are making.

Sympathy is extended to one of our members, Captain D. R. Probert, owing to the recent mishap to the Tug "TE AWHINA" under his command. Fortunately such mishaps, as far as this port is concerned are comparatively rare and such a happening tends to focus attention on the difficulties attending the handling of large modern ships in the Auckland Harbour.

Such a mishap as this, is by no means uncommon in other parts of the world and the fact that the vessel foundered has made it in this case, more serious than it really is. It would be thought that the watertight subdivision of this type of vessel would be such that she should withstand damage, laying any one compartment

open to the sea, without foundering, especially in vessels which may be called upon to work in places where danger to hull damage exists.

The well known Navigation School, known as the Richmond Nautical (Technical) School conducted by Capt. J. W. R. Richmond, has recently changed hands. Capt. Richmond has achieved a high measure of success in the period over which he has conducted the school. He is leaving New Zealand for Sydney, in which city he proposes to open a Navigation School.

As Captain Richmond's ability as a coach is well known, there is, no doubt, success will quickly follow his new venture in Australia, and his fellow members of the Company in Auckland extend to him every good wish for his future.

The Richmond Nautical (Technical) School has been taken over by Captain Keane who recently resigned from the Marine Department.

Captain Keane has had 14 years' experience as a Surveyor of Ships in the Marine Department, five years of which he acted on the Chief Surveyor of ship's staff as Senior Nautical Surveyor. As the necessity for a navigation school is very often not realised until it ceases to exist it is gratifying to know that the Auckland School will continue to cater for the needs of New Zealand Seamen.

WELLINGTON NOTES

The Annual Meeting of the Company was held in Wellington on the evening of Saturday, 27th August. There was a good attendance of members. Captain S. Holm occupied the chair.

The Annual Report and the Statement of Receipts and Expenditure were presented to the Meeting and after being fully discussed were unanimously adopted.

New Members.—Seven new members were elected.

Resignation.—Owing to his leaving New Zealand to enter business in Australia Captain Richmond tendered his resignation. This was accepted with regret.

A discussion took place on the Company having its own room in Wellington and it was decided not to proceed further with this matter as the cost would be excessive compared with the income of the Company.

Alteration of Rules.—In conformity with notice given at the last Annual Meeting Captain S. Holm moved that the subscription of each member be increased to one pound annually and Rule 4 be altered by the elimination of "10/-" on the last line and the substitution of "20/-". This motion was seconded by Captain Fox and after a full discussion was carried unanimously.

The following were elected as Wellington Committee and members of the Executive:—Captains Holm, Jessup, Knowles, Mawson, and Peterson.

After the business meeting had been concluded

members adjourned to Scott's Tea Rooms where a pleasant evening was spent. Reports of this follow; also annual report and financial statement for the last year.

ANNUAL REPORT.

Your Executive Committee has pleasure in submitting for your approval the Tenth Annual Report and Statement of Accounts of the New Zealand Company of Master Mariners for the year ending July 31st, 1938.

During the year under review trading conditions in this part of the world maintained the improvement of the previous year and we are pleased to record many new vessels on the New Zealand Register and trust that the steady decline which has been apparent in locally registered tonnage during the last two decades has been arrested and that our Mercantile Marine will shortly begin to show an annual increase.

It is with pleasure that we also report an increase of membership, which now numbers one hundred and forty-four, each one of which has been duly vouched for and together we work for the good of the Cloth.

During the year there were two successful social functions held at Wellington and Auckland, and one at Dunedin. Particulars of these appear elsewhere.

As forecasted in the last Annual Report "ON DECK" was duly launched and has weathered its first year of

It is with regret that we have to record the passing across the Bar of two of our members and the Company is the poorer for the loss of Captain J. Geere

For and on behalf of the Executive,
S. HOLM, Chairman.

FOR TWELVE MONTHS ENDED 31st JULY, 1938.

RECEIPTS.						PAYMENTS.							
	£	s	d	£	s	d		£	s	d	£	s	d
1937, August 1st.—													
To Balance 31st July, 1937.							By Magazine Expenses:						
Balance at National							Printing Magazine ...	68	18	5			
Bank	56	4	10				Typing	1	10	3			
Balance at Post Office							General (Postages)						
Savings Bank ...	237	19	7				(Envelopes) ...	4	3	0			
				294	4	5	Block	1	1	0			
1938, July 31st.—													
To Subscriptions (Members).							Postage Accounts						
Arrears	17	1	0				Outstanding	2	8	8			
Current	66	2	0								78	1	4
Advance	2	16	6				By Printing and Sta-						
				85	9	6	tionery				6	9	8
To Subscriptions							By Expenses Annual						
(Magazine).							Dinner and Enter-						
Subscriptions ...	12	5	0				tainments:						
Advertising	1	5	0				Wellington and						
				13	10	0	Auckland				46	4	5
To Interest.—							By General Expenses:						
Post Office Savings							Wreaths	2	2	0			
Bank				4	14	0	Bank Charges ...	0	10	0			
To Accounts Outstand-							Exchange	0	1	0			
ing				2	8	8	Petty Cash 4 10 0						
(Including in Contra							Less Over-						
£78/1/4)							Banked 0 10 0						
								4	0	0			
							Secretary's Hon-						
							orarium	5	5	0			
											11	18	0

	By Balance	National	
	Bank	....	14 19 7
	Balance P.O. Savings		
	Bank	....	242 13 7
	Cash in hand	....	0 10 0
			<hr/> £400 16 7
	1938, August 1st.—		
	To Balance	National	
	Bank	....	14 19 7
	To Balance Post Office		
	Savings Bank	....	242 13 7
	To Cash in Hand	....	0 10 0
<hr/>	£400 16 7		

I have examined the Books, Papers, Vouchers, and Records of the New Zealand Company of Master Mariners and find same to be in order. The above Statement is correct and records the true position of the Company as disclosed by the Books of the Company. All my requirements as Auditor have been complied with.

Wellington, August 24th, 1938.

H. H. MILLER, A.P.A.N.Z., Hon. Auditor.

DUNEDIN NOTES

Farewell to Captain Karlsson

END OF PENANG'S VISIT.

DUNEDIN'S HOSPITALITY APPRECIATED.

With the visit of the barque Penang drawing to a close, the opportunity was taken on August 11th by the Dunedin Company of Master Mariners to bid farewell to Captain Karlsson and the crew of the vessel, the function taking the form of a dinner in the Somerset Lounge of the Savoy. The importance of a visit from a sailing vessel was stressed by speakers during the evening, and Captain Karlsson in reply to a toast in his honour, expressed the thanks of the crew of his ship for the hospitality which had been extended by the people of Dunedin during their stay. The President of the Company (Captain Fraser) occupied the chair, and entertainment was supplied by Mr. Bert Rawlinson and Mr. A. Pettitt, who provided several rousing sea shanties during the evening.

On behalf of the Dunedin section of the New Zealand Company of Master Mariners, the chairman extended a welcome to Captain Karlsson. They were all aware he said, of the circumstances which brought their guest to Dunedin. In the early days ships generally found their troubles occurring in the hurricanes and typhoons of tropical climes, where calm weather followed quickly, enabling repairs to be carried out, but in this case Captain Karlsson had cold weather and rough seas to contend with, with his vessel badly disabled. It was a great feat of seamanship for him to make port and drop his anchor in an anchorage that could not have been bettered by a local pilot. They all hoped that Captain Karlsson and his crew would have good luck on their voyage, with

favourable northeast trades and westerlies until they reached Falmouth.

Proposing the toast of "Our Guest," Captain Duncan said they had felt sorry when they heard of the mishap which had forced the Penang to come to Dunedin, but if it had not been for the accident they would not have met Captain Karlsson. He had been shipmate of some of Captain Karlsson's countrymen in the past, Captain Duncan said, and he had never met a bad sailor among them. Sailors were all sons of the sea, and comprised one great brotherhood. It was many years since they had had a deep-sea sailing vessel in Otago Harbour, but Captain Karlsson was keeping up the old traditions and had the best wishes of the Company of Master Mariners. They hoped that when he was pacing the deck of his ship he would remember the evening they had spent together before he left Dunedin.

There was nothing like beating through dangerous channels and reefs in a good wind, said Captain Karlsson, in reply, but if one always had a good leading breeze one was apt to forget the dangers. One became too confident, and thought that sailing was too easy; this was dangerous, because now he realised that behind the dangerous reefs there lay good inlets and anchorages where he could obtain rest and help when he was tired of beating against strong gales. "And so when I struck this last blow I came in here," Captain Karlsson said. "I was naturally worried when I saw the whole starboard side of the Penang under water, with a tangle of

masts, wires, and spars, and my first thought was that the mast had gone into the hold. Later I saw that there was no danger of losing the ship. The nearest port was Hobart, but we had no chance of reaching there against the wind, and as it was doubtful if full repairs could be carried out at Bluff I decided to come to the port of Otago. Then began the long task of bringing the vessel into port. Those days were not easy, and the nights were made difficult by the tasks of making things fast with blocks and stays. During that time I could not have had a better team of officers and men; they did not have to be told what to do, as they did it without any instructions. Even after we reached our anchorage the worst was not passed, for we experienced a strong gale outside the heads. We could not have chosen a better place than Dunedin for, apart from the manner in which repairs have been carried out, we have been most hospitably entertained and we have made many friends. Never have I been treated better and I feel now that I am related to the people of Dunedin. Perhaps that is because most of you had grandparents who came out to New Zealand in sailing vessels, and therefore all belong to the great league of nations created by the sea. If we could send the members of our Governments out to sea I feel that they would understand each other better and that there would not be so much international trouble." —(Laughter.)

Mr. A. Thomas, who proposed the toast of "Otago Harbour Board," said that of all the places he had seen from the air, Otago Harbour and the Picton Sounds must be placed first for beauty. When it came to navigation, however, he believed that they had a rare type of sea captain for it was something of a feat to navigate the channel and dodge the sand banks. Nevertheless they were proud of their harbour, and particularly those who left Dunedin to rise to the top in their profession as sea captains.

In reply, Mr. W. Begg, chairman of the Otago Harbour Board, said he would like to thank Captain Karlsson for his remarks regarding their harbour. To his knowledge, they had been trying to make a harbour out

of Otago Harbour for the past 50 years, and had not succeeded yet. However, they were endeavouring to get the Government to pass an Empowering Bill authorising the expenditure of £400,000 on the harbour. The harbour was still inadequate for such vessels as the Queen Mary and the Dominion Monarch, but they were still hoping.—(Laughter.) Captain Karlsson's visit was in its way unique, but it had been a wonderful opportunity for the younger generation to see what their forefathers had had to encounter when they travelled on the sea. In contrast to the visit of the Penang, they had recently received a visit from the Centaurus on its pioneer flight to the Dominion, the plane, he was proud to say, being commanded by an old Otago boy. The Viking blood still ran strong in their veins, Mr. Begg said, and it was a wonderful privilege to be able to entertain a son of the sea in Captain Karlsson during his stay.

Mr. J. Duncan also briefly replied to the toast.

The toast of "The Officers and Crew of the Penang" was proposed by Captain King, who said that the officers and crew of the vessel had worked particularly well under Captain Karlsson, and with their assistance he should have no difficulty in getting round Cape Horn.

The toast was replied to by the chief officer of the vessel, Mr. A. Jensen, who briefly thanked the people of Dunedin for their hospitality to the crew of the Penang during their stay in Dunedin.

The toast of "Members Afloat" was proposed by Captain F. G. MacDonald, who said that those present that evening who belonged to the Company of Master Mariners were the trustees of those afloat. The Company had had its origin in Dunedin, although headquarters were now situated in Wellington. "We wish that the landlubbers associated with the sea," he said, "would become more acquainted with our life so that they could be of more assistance to us in our difficult job." —(Laughter.) Absent members afloat would ask me to convey to Captain Karlsson and his crew the very best wishes for a speedy voyage to their home country," he concluded.

Sea Training For Our Young

FROM A NATIONAL POINT OF VIEW.

(By CAPTAIN COLL. McDONALD.)

This subject has been placed before the public by various writers for many years, and, as usual, difference of opinion arises as to whether boys should be trained in vessels moved about the ocean by wind or power only, or in vessels having combination machinery for wind power and the two artificial powers available in the present age, steam and Diesel.

As one who has served in all sorts of sailing ships and steam vessels I feel this difference of opinion should be analysed for what it is worth before going further. Therefore, by looking back, we find that 7000 to 8000

years ago man found that the atmosphere surrounding our planet, or in other words, wind, was a power, and man then set himself the task of finding machinery for this wind-power. He built floating vessels of wood and manufactured the gift of our earth to make sails that could be spread on masts in such a manner as to harness sufficient wind-power to move his vessel along the surface of water. But let it be clearly understood that wind-power was never satisfactory to man and his thoughts for the reason that wind power could not be regulated as a constant to the machinery provided. This

drawback made all that went to sea and traversed the oceans by wind power very alert in regard to weather conditions—in fact—the intelligent masters and officers of sailing ships in their palmy days were the greatest engineers the world has ever known. I say this for the reason that they had to know the breaking strain of yards, masts, rigging stays, sails, ropes, blocks aloft and aloft. To such knowledge they had to apply by common sense and sound reasoning the amount of unconstant wind power their machinery would stand, otherwise trouble followed. However, man had to make the best of wind power and he did because there was no other power available until poor James Watt discovered steam power by watching the kettle boiling, after which man got busy to make a new form of machinery to suit this new power, and this man did in the shape of making kettles which we in our time, call boilers, having what is called engines attached to work the oar that the man of the past used, and is called in our time propellers. From this new invention a more regular or constant speed through water could be maintained than could ever be hoped for from wind power.

When this steam power was well established Dr. Diesel produced a similar power by exploding oil for which a new form of machinery had to be adopted. But with man's great desire for very large and very fast ships requiring enormous horse-power, the Diesel power has to take so far second place to steam which goes to prove that the great unknown law always holds good—the one supreme power only.

From all said above, it can be clearly seen that the machinery of a sailing vessel had and has to be operated by natural power (wind) and the method of applying it can only be learned and taught on board a sailing ship at sea in actual services.

We now come to steam and Diesel vessels operated by artificial power, and the method of producing same by machinery is not learned at sea, but on land. Nearly all vessels afloat on the surface of this planet are operated by artificial power. This goes to prove that natural power became too slow for man and his commercial and exchange system, which compels him to hurry, and he does not know what he is in a hurry for. But the fact remains that under the condition that we live, we are in a hurry—this being the case, with my experience, I say boldly that it would be waste of time to train our young under natural power, while artificial power is adopted by all nations for ocean transport all over the world and likely to be so. All the same, sea training under the conditions existing is an urgent national requirement.

A very large slice of the British nation's wealth is controlled by large shipping combines. Surely they should, as a body, advocate for having a system of training the young of our mercantile marine in an efficient manner, seeing that our responsible Governments only take real interest in naval training. We did learn in the last War how valuable the men of the merchant service were to the nation, but we do not appear to make much use of the lesson gained, taking into consideration

the conditions at the present stage and likely to continue for generations to come.

All the large shipping companies should have a large up-to-date cargo ship fitted out for housing and training cadets and the Government of the country that such ships belong, should subsidise the company for an agreed sum that would cover all extra expense incurred by the company in the way of providing accommodation and wages of training staff. Although in a haphazard manner it was the merchant marine that made our nation great before the Royal Navy was thought of and every true citizen of our Empire must regret that the merchant service man of to-day has as a general rule, to find a haphazard training for himself. The training of cadets should include first aid in ships and machinery construction, also how to be faithful to his trust.

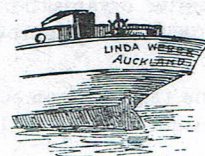
Another matter requiring attention is that in these enlightened times a more up-to-date system should be adopted by the Board of Trade for issuing certificates for the merchant service.

In the meantime, the Company of Master Mariners is on the right track in advocating for the young of this Island Territory to have the opportunity of going to sea.

We always did and will have the die-hards with us who wish to hold to past methods. But in this respect the human race of the world has a wonderful example in the way China hung on to conservative ideas which could not stand up against an up-to-date trained nation. But perhaps the saying of wise men of the past may apply in our case, who said that he or she who educates himself above the standard of his generation in the practical ways of life's journey, makes a rod for his own back.

In final conclusion, the total value of a man's life is the Service that he gives to humanity and by such service he is carrying out the duties imposed upon him by the great unknown law of creation.

I trust that all who may read the above will be satisfied with the explanation given and that advocated for is underlined with a fair amount of common sense and sound reasoning.



Barometric Inches (Mercury) Into Millibars

1 inch equals 33.86395 mb.

Ins.	.00 mb.	.01 mb.	.02 mb.	.03 mb.	.04 mb.	.05 mb.	.06 mb.	.07 mb.	.08 mb.	.09 mb.
28.5	965.1	965.5	965.8	966.1	966.5	966.8	967.2	967.5	967.8	968.2
28.6	968.5	968.8	969.2	969.5	969.9	970.2	970.5	970.9	971.2	971.6
28.7	971.9	972.2	972.6	972.9	973.2	973.6	973.9	974.3	974.6	974.9
28.8	975.3	975.6	976.0	976.3	976.6	977.0	977.3	977.7	978.0	978.3
28.9	978.7	979.0	979.3	979.7	980.0	980.4	980.7	981.0	981.4	981.7
29.0	982.1	982.4	982.7	983.1	983.4	983.7	984.1	984.4	984.8	985.1
29.1	985.4	985.8	986.1	986.5	986.8	987.1	987.5	987.8	988.2	988.5
29.2	988.8	989.2	989.5	989.8	990.2	990.5	990.9	991.2	991.5	991.9
29.3	992.2	992.6	992.9	993.2	993.6	993.9	994.2	994.6	994.9	995.3
29.4	995.6	995.9	996.3	996.6	997.0	997.3	997.6	998.0	998.3	998.6
29.5	999.0	999.3	999.7	1000.0	1000.4	1000.7	1001.0	1001.4	1001.7	1002.0
29.6	1002.4	1002.7	1003.1	1003.4	1003.7	1004.1	1004.4	1004.7	1005.1	1005.4
29.7	1005.8	1006.1	1006.4	1006.8	1007.1	1007.5	1007.8	1008.1	1008.5	1008.8
29.8	1009.1	1009.5	1009.8	1010.2	1010.5	1010.8	1011.2	1011.5	1011.9	1012.2
29.9	1012.5	1012.9	1013.2	1013.5	1013.9	1014.2	1014.6	1014.9	1015.2	1015.6
30.0	1015.9	1016.3	1016.6	1016.9	1017.3	1017.6	1018.0	1018.3	1018.6	1019.0
30.1	1019.3	1019.6	1020.0	1020.3	1020.7	1021.0	1021.3	1021.7	1022.0	1022.4
30.2	1022.7	1023.0	1023.4	1023.7	1024.0	1024.4	1024.7	1025.1	1025.4	1025.7
30.3	1026.1	1026.4	1026.8	1027.1	1027.4	1027.8	1028.1	1028.4	1028.8	1029.1
30.4	1029.5	1029.8	1030.1	1030.5	1030.8	1031.2	1031.5	1031.8	1032.2	1032.5
30.5	1032.9	1033.2	1033.5	1033.9	1034.2	1034.5	1034.9	1035.2	1035.6	1035.9
30.6	1036.2	1036.6	1036.9	1037.3	1037.6	1037.9	1038.3	1038.6	1038.9	1039.3
30.7	1039.6	1040.0	1040.3	1040.6	1041.0	1041.3	1041.7	1042.0	1042.3	1042.7
30.8	1043.0	1043.3	1043.7	1044.0	1044.4	1044.7	1045.0	1045.4	1045.7	1046.1
30.9	1046.4	1046.7	1047.1	1047.4	1047.8	1048.1	1048.4	1048.8	1049.1	1049.5

Notes on the Meteorological Conference for the Southwest Pacific Held at Wellington on the 29th November to the 3rd December, 1937

(By DR. E. KIDSON.)

This Conference was of interest to mariners in the first place because the need for it arose principally from the fact that schemes for regular Air Services across the Pacific Ocean and the Tasman Sea had been approved.

The inauguration of trans-ocean air services requires, of course, increased study of weather conditions over the ocean, more numerous and more frequent observations and a better organisation generally. Mariners must benefit from this improved meteorological service.

At the same time the development of this improved organisation will depend largely on increased co-operation from shipping.

Coming to more detailed considerations, there were many points on the agenda with which the maritime services are directly concerned. The first resolution of the Conference recommended the universal adoption of the millibar in meteorological broadcasts and urged meteorological authorities in the region to take all pos-

sible steps with a view to the early elimination of the inch of mercury as a unit of pressure.

The practise of measuring air pressure by the height of the column of mercury it would support is as old as the barometer itself. Its advantages are that the height of the column is convenient, the liquid mercury responds readily and accurately to changes of pressure, and the variations associated with changes in the weather are readily measurable. This being the case it was natural that a scale should be put alongside the mercury column and its length be measured in whatever units were current in the country where the instrument was used. But it must not be forgotten that what really is required is the air pressure. The length of the column of mercury which a given air pressure can support will depend on the temperature of the mercury. So if one day's reading is to be compared with another's, a "temperature correction" must be applied to the height of the mercury. The standard temperature selected is freezing point. But that is not all. The force of

Gravity is not constant over the earth's surface but varies with the latitude. The pressure produced by a certain column of mercury at freezing point would be less at the Equator than at the Pole, or the length of the column would not be the same for the same pressure in whatever part of the earth it might be. The reading of a mercury barometer therefore has to be corrected also to the standard latitude or 45 degrees. To define what we mean by a pressure of so many inches of mercury we, therefore, have to add "at 0 degrees centigrade and Standard latitude." It would obviously be more logical to express the pressure in real pressure units. Steam pressure in boilers is never given in inches of mercury but in pounds per square inch or similar units. But meteorology is an international science. One has to get one's pressure readings from countries and ships of different nationalities. It is, therefore, almost imperative in these days when aircraft are passing continually and rapidly from one country to another to choose an international unit for the measurement of air pressure. Now, the units used by most countries and in all scientific work are based on the centimetre, gram, and second, so that there is no doubt that the international pressure unit should be based on this system. The unit of pressure or force in the C.G.S. system is the dyne, a force which will produce an acceleration of one centimetre per second in a mass of one gram. The dyne is, however, too small a unit for practical use in measuring air pressure. 1,000,000 dynes per square centimetre is equivalent to 29.53 inches of mercury or a pressure of the same order as that of the air at sea level. A mega-dyne or 1,000,000 dynes per square centimetre is, therefore, called a bar and one thousandth of this or a millibar was chosen as a suitable unit in which to measure air pressure. The millibar was adopted many years ago as the international unit and it is gradually replacing all others. In Great Britain, it was introduced by the Meteorological Office before the war. It is used in almost all official broadcasts of weather reports and in all ships' reports. It must become the universal unit. Consequently, the sooner everyone takes it up and becomes familiar with it the better. It is particularly important that the older units should be dropped just now because so many people, owing to the development of aviation and the spread of weather reports by wireless, are learning meteorology. It will be a tremendous saving to these beginners if they have to think only in terms of one unit. There are several advantages in using the millibar scale for mercury barometers. It is easier to read a barometer to tenths of a millibar, which is all the accuracy required, than to thousands of an inch. The graduations can be so placed that the corrections are small, and the correcting can be made much simpler than for inch graduations. This subject has been treated at some length because it is of considerable importance and because it is very much before the public just now owing to the use of millibars in some of the wireless broadcasts. A conversion table of inches to millibars follows.

Another unit discussed was that of wind speed. That used mainly by meteorologists in theoretical work is the metre per second. But obviously airmen do not con-

sider the distance they will cover in a second but that traversed in a much longer time, such as an hour. The International Commission for Air Navigation therefore adopted the kilometre per hour. This was satisfactory for services over land, where the distance between aerodromes is generally comparatively short, but for long flights over the ocean, the methods of navigation are very different. In this case the advantages of the nautical mile and the knot are overwhelming and their use is universal. The Conference, therefore, while accepting the kilometre per hour as the unit of wind speed, emphasised the suitability of the knot for trans-ocean flights. Possibly, some future international conference will make provision for the use of the knot.

The next resolution with which we are concerned expressed the view that an increase in the number of reports from ships in this region was essential to the preparation of adequate meteorological reports to meet the needs of shipping and aviation.

The following resolution recommended that observation for synoptic purposes be made on ships in the region, wherever possible, at 00.00, 06.00, 12.00, and 18.00 hours G.M.T., and that reports should be transmitted in accordance with the international arrangements for ships' reports. It was recommended that all ships' reports received at any collecting centre in the region should be broadcast in the collective report from that centre. The adoption of this practice should be of considerable value to anyone, including ships' officers, drawing synoptic charts in the region.

A later resolution referred to the difficulties experienced by ships with only one operator in reporting at the standard international hours, and a continuance of the local arrangement whereby these ships report between 21.0 and 22.00 hours G.M.T. was recommended.

It was further recommended that when ships were out of touch with collecting centres on the normal calling wave (500 kc/s.), they should, where possible, make use of short wave transmission. Ships are asked also to act as links between collecting stations and vessels not directly in touch with them.

The various administrations concerned are asked to ensure that an efficient standard of meteorological equipment and observational technique be maintained on ships under their control. This is a point which will require serious consideration in New Zealand.

Perhaps the most interesting resolutions to mariners were two which recommended,—first, that the weather bulletins intended for reception by shipping should include sufficient land station reports to give a clear indication of developments in adjacent areas and as many reports as possible from ships in the area; the second, that after the introduction of the synoptic broadcasts intended for aviation the various administrations should give attention to the desirability of revising their system of reports and forecasts intended for shipping, both as regards the time of the broadcasts and the matter to be included. In other words, it was desired that shipping should receive some of the benefits of the improved service made available for aviation. Since the provision of this service depends to quite a considerable

extent on the co-operation of shipping, the return suggested is no more than reasonable.

The only other resolution of special interest in the present connection was one which aimed at the prevention of a break in meteorological services at week-ends and on holidays. A good deal has already been accomplished in this direction.

"The Sailor's Hymn"

(By "Old Wire Whiskers," R. McK. Cliffe.)

Accepted by and Dedicated to the New Zealand Company of Master Mariners."

Tune, "Sun of My Soul."

Father of love, Whose mercies range
The Land, the Air, the mighty Deep.
Oh take us "Thy Loving Care"
As we at sea our watches keep.

We use the Glorious Sun by Day
To guide us o'er the trackless deep,
So may the "Sun of Righteousness"
Protect and guide us whilst we sleep.

When darkness comes the stars above
Help us to make our course aright,
So may our Saviour be to us
A "Star of Hope; a Beacon Light."

The voyage of Life will soon be done,
Then we'll receive the call to go;
"Oh, let us put our trust in Him,"
"Who washed our souls as white as snow."

So when we come to Death's Dark Sea,
Still trusting in "Thy Blessed Grace,"
Through billows rage, we'll make our port
And meet our Pilot "Face to Face."

Gazette Notice

[Extract from N.Z. Gazette No. 20, 24th March, 1938.]

NOTICE TO MARINERS, No. 14 of 1938.

Marine Department,
Wellington, N.Z., 22nd March, 1938.
NEW ZEALAND—NORTH ISLAND—PORT NICHOLSON

Fog-signal established permanently.

Previous Notice: No. 26 of 1937.

Position: High-water mark 184½deg. from Jerningham Point Beacon. Lat., 41deg. 17'.15 S.; long., 174deg. 48'.2 E. (approx.).

Details: The fog-siren has been established permanently.

Charts affected: Nos. 803—1423.

Publications: Admiralty List of Lights, Part VI.; New Zealand Pilot, 1930, page 102.

Authority: Wellington Harbour Board, 22/3/38.

L. B. CAMPBELL, Secretary.

(M. 3/3/258).

Correspondence

TO MEMBERS.

The New Zealand Company of Master Mariners was promoted in your interests and as it was realised that many members could seldom attend the meetings the Executive, after much consideration, decided to publish a quarterly magazine in which you could give voice to your opinions in your own way.

"ON DECK" has been well received—many are the plaudits received from persons and Institutions ashore. The Librarians of three prominent libraries in the country, in congratulating the Company, have asked that they be supplied regularly with copies. Representatives of other professions have stated that our Company has set them an example that they would be pleased to follow. BUT, is the Magazine fulfilling the purpose for which it was intended? As a means by which Master Mariners express their views is it a success or a failure? After one year's trial we cannot claim it to be an outstanding success.

The future of the Magazine lies in your hands; if you have an idea for the improvement or alteration of it why not write and let us know? You are an intelligent member of Society or you could not be a Master Mariner, and you have schemes and proposals which you would dearly like to impress on your fraternity could you button-hole them during the Second Dog Watch. Why not write them to the Editor?

It is a surprising fact that only six of our members took advantage of the correspondence column and eight members contributed articles during the last twelve months—fourteen active members from a Company of one hundred and forty-four! What's wrong with the one hundred and thirty?

You have been through experiences which others would like to hear of; you have ideas and knowledge of technical matters which will help the Cloth; you have plans which should assist the profession; you have practical opinions upon nautical matters. YOU can make the Magazine a success. Don't procrastinate—send in an article or some contribution to the correspondence column.

IT'S UP TO YOU.

Yours in the Master Mariners' interest,

THE EDITOR.

THE COMPLETED JOB.

It isn't the job we intended to do,
Or the labour we've just begun;
That puts it right on the balance sheet,
It's work we really have done.
Our credit is built upon things we do,
Our debits on things we shirk;
The man who totals the biggest plus
Is the man who completes his work.
Good intentions do not pay our bills,
It is easy enough to plan:
To wish is the play of an office boy,
To do is the work of a man.

To the Editor

Sir,—In answer to "Tom Pepper's" letter appearing in the correspondence column of a previous issue we wish to advise that the Executive is still working on the idea of a Training Ship for boys, but unfortunately the authorities are very hard to move. The Executive has been busy on this matter and will continue to press for some avenue for our boys to get to sea.

Regarding the question of membership, this is open to all holders of a Master Mariner's certificate. Apparently "Tom Pepper" has not read the Rule Book or he would see the matter is set out under Rule 4, but for the sake of those members who cannot find them we herewith quote Rule 4:—

"Every holder of a Master's Certificate of Competency issued by the Imperial Board of Trade or any British Dependency, upon the payment of £1/1/-, shall become a member upon application; saving the right of any financial member to demand a ballot, when the casting of two black balls shall disqualify such applicant; members deemed to continue members during subsequent years subject to the pay of the subscription of 20/- in each year until he resigns."

It will be noticed that the subscription is now 20/- per annum, this having been altered from 10/- at the last Annual Meeting.

Yours faithfully,
THE EDITOR.

To the Editor:

Sir,—In your last issue of "ON DECK" you published an effusion by "Longshoreman" on the Training Ship problem, in which he suggested that the Government should invite foreigners to man our vessels while our own boys were to be encouraged to go on the land to be ready to defend this country in time of war. Shades of Nelson, where are we drifting to? Does "Longshoreman" imagine that in the coming world conflagration this little country will be defended by a trained force of hefty young farmers stationed at Taumarunui or elsewhere in the backblocks?

This country's destiny is irrevocably bound up with the Mother Country and our first and only line of defence lies on the high seas. I think "Longshoreman" must have been a long time away from salt water to have imbued the philosophy which he voices in his letter.

By all means let us have a greater population in this land but do not prevent our boys from sailing in our own vessels if they wish to follow in our footsteps.

Yours in the cause,
"THE SKY PILOT."

To the Editor:

Sir,—There seems to be a good deal of misunderstanding in these days about the respective merits of titles in the Navy, Army, and Air Force. My idea of the ranks is as follows:—

NAVY	ARMY.	AIR FORCE.
Captain	General.	Group Commander.
Commander.	Colonel.	Wing Commander.
Lieutenant	Major.	Squadron Leader.
Commander.	1st Lieutenant.	Flight Officer.
Lieutenant.	2nd Lieutenant.	Pilot.
Sub Lieutenant		

Will some member correct me if these are not the correct ratings?

Yours faithfully,
"TOM PEPPER."

Dear Captain Holm,—

Thanks for your note of the 20th inst. I enclose a clipping which I think may be of interest to readers of "ON DECK" in connection with the article on page 15, "Half a Century at Sea."

Captain McKellar is the last of the New Zealand Shipping Company's sail-trained apprentices to take off his shore moorings and, with his retirement comes the end of New Zealand boys trained in the splendid wool clipper ships of the New Zealand Shipping Company.

When finished with I would like this clipping returned, if not too much trouble.

Trusting that you have a successful meeting.

Faithfully yours,
ROBT. FRASER.

EXTRACT FROM "NEW ZEALAND HERALD." 9th OCTOBER, 1891.

A well-known visitor to this port, in the shape of the New Zealand Shipping Company's clipper ship Waitangi, is again in the Waitemata, having arrived this morning from London with a full cargo valued at about £22,000. The Waitangi was for many years commanded by Captain Thos. Leeman, but that officer has left the Company's service, and his place is taken by Captain John Sinclair, formerly of the barque Waimea and ship Hurunui. A noteworthy feature in connection with the clipper is the fact that all her officers are colonial "boys," from the captain downwards. Captain Sinclair is a native of Lyttelton; his chief officer, Mr. Robert Fraser, hails from Wellington; Mr. John Wilkin, second officer, belongs to Christchurch; while Mr. A. W. Mackellar, third officer, is an Auckland boy, being a son of Mr. Mackellar, of the local Customs Department. Mr. Mackellar has secured his certificate as second mate, and is making good progress in his adopted profession. The Waitangi's voyage out from London was uneventful, save for the loss overboard of the boatswain, and the time occupied was 94 days.



"H.M.S. ENDEAVOUR"

Survey of New Zealand

No one could have greater interest either individual or collective in the work commenced by H.M.S. Endeavour some fourteen months ago, than the members of the Company of Master Mariners.

The following remarks on some aspects of the work, are submitted in the hope that they may prove of interest to other members, by one who has been privileged to serve in the ship.

There is no need to comment on the present series of charts covering the greater part of New Zealand coastal waters and approaches beyond the fact that most are collected from very old surveys necessarily limited in scope.

Most members have encountered the difficulties of "fitting" one sheet with its neighbour quite apart from the difficulties of "fixing" by visual bearing when the objects selected have been charted from quite different surveys, with the result that "nothing goes".

It will undoubtedly be a boon of the first magnitude to the profession at last to have charts which do "fit" in every way and incidentally the sheets arranged so as to avoid the necessity of changing over in inconvenient positions.

The writer has been frequently asked as to the reason the Endeavour commenced operations in the locality she did when so many other perhaps more widely used areas are in urgent need of survey.

In a complete survey such as this, it is, of course, impracticable to commence in haphazard fashion to triangulate and survey one area moving then to another to repeat the performance. It so happens that New Zealand Land and Survey Department have recently commenced a complete revision of the Geodetic Survey in the north, resulting in the establishment of numerous trig stations ready to hand as a basis for triangulation for hydrographic work. Even with extensions where necessary this has meant the saving of a large amount of time and preliminary work.

A secondary reason is that the ship commenced operations immediately after arrival from England at the commencement of winter when normally surveying operations are suspended, and Hauraki Gulf was the obvious locality to avoid long delays on account of bad weather. A further reason is the urgent necessity of the survey of the far north which must, of course, be linked up systematically with the modern surveys adjoining.

It may be of interest at this point to give a brief description of the ship herself.

Laid down in 1912 as a steam yacht, Endeavour was taken over by the Admiralty before completion and fitted out for service as a survey vessel.

She is of 1280 tons displacement, 241 feet o.a., 34 feet beam, and with her fine lines, bowsprit, and yacht counter, is a very handsome model.

Her complement consists of a Captain in Command,

eight Wardroom Officers, including six specialist surveying officers, two Warrant Officers, and in the vicinity of 130 Ratings, all of whom, with the exception of five or six specialist Surveying Recorders, are drafted from the Navy General Service.

"Endeavour's" activities have been world wide during her useful career including service in Home waters, West Indies, Persian Gulf, Straits Settlements, Mediterranean, and Red Sea and her War service included special work at the Dardanelles.

The navigating bridge contains the usual fittings, Gyro Repeater, etc., and also two echo sounding machines mostly used in ship's sounding although, as will be mentioned later, other methods are sometimes employed.

The boat deck comprises signal bridge, wheelhouse, shipwrights', blacksmiths' and E.R. artificers' workshops, and a structure euphemistically known as "Rose Cottage," temporary home for transgressors of the King's or Admiralty Regulations and Instructions.

The boat establishment comprises two heavy 35 feet motor-boats, very excellent and serviceable sea boats, each fitted with recording echo machines. These boats are aptly named "Penguin" stowed to port, and "Stork" stowed to starboard, and incidentally an ingenious "bosn" has devised "Penguin" with painted wash. "Strake" and "Stork" with scrubbed ditto as a long range unofficial recognition signal.

A smaller motor-boat glorying in the name of "Goldfinch" is also carried, an excellent smooth water boat, but a holy terror in a seaway.

All the ship's power boats are fitted with Kitchen rudders, buckets to open or close for ahead or astern and which, in the hands of an experienced coxswain render possible the high degree of manoeuvrability necessary for survey work. A very useful 30 feet dipping and standing lug cutter, two service Montague whalers, and three dinghies, two of which a small motor very reminiscent of an Austin "7" engine is fitted, complete the list of boats carried.

"Boat Drill" as we know it in the Merchant Service is rather different from the daily boat drill of a survey ship where possibly all boats are lowered, hoisted and turned in at least once in the course of a day's routine.

On the main deck is situated the chart-room, well lit by windows, large skylight and high power arc lights, and which contains the large chart table, some twelve feet square upon which rests the sacred "plotting sheet covering" the area under survey.

The plotting sheet consists of a plot in grid form of all stations used in the survey either main, secondary or temporary and these in turn transferred as required to field boards or tracings. It is perhaps the first example the ocean navigator, confident in his skill, ac-

quires of relative degrees of accuracy on first starting out in the steps of Captain Cook.

One has vivid memories of seemingly perfect "cuts" after painstaking plotting by chords made to appear an outsize in "Cocked Hats" by a vigilant Captain and an instrument of torture a lumine magnifying glass.

In certain positions along the main deck provision is made for affixing a variety of instruments and motors when required for such purposes as deep sea "bottling," etc., or other oceanographical work.

Stowage is also found for mine-sweeping gear, such as otters and kites, used in verifying or otherwise suspected pinnacles.

"Sweeping" winches and a high speed friction winch are fitted aft together with an ingenious device for measuring distance, known as a "taut wire" machine.

Captain's and officers' quarters, mess decks, and storerooms, small arms stowage, etc., are situated 'tween decks, with further storerooms and magazines below.

The ship's armament consists of one 3-pounder saluting gun with of course, arms to equip a landing company.

An interesting model in the ship is one of Captain Cook's Endeavour, one marvels at the wonders accomplished with such a craft, together with a profile of the present one to scale, making an interesting comparison in size.

Hydrographical surveying such as this, apart from the constructive usefulness of the work, has its extreme fascination in the variety it has to offer; comprising as it does, coastline plotting, sounding from the drying line to the 100 fathoms line, topography such as will be of use to the mariner, tidal stream observations, magnetic variations observations, the checking of heights, and arcs of lights, each with its variety of methods to achieve depending on local circumstances.

A brief description of some of the "Day's Work" may be not without interest.

As far as possible, Captain Wyatt, in charge of the survey, co-ordinated the work so that everything proceeded systematically, either by having boat parties away each day coast-lining, inshore sounding, etc., while the ship carried on sea sounding. If, as often happened, inconvenient distance would have to be steamed by the ship for the recovery of boats, camp parties were established, with usually two officers and boats' crews, "on the job" in any spot affording sufficient shelter. A good portion of the summer spent in such camps in the vicinity of Moehau Peninsula gives the writer very pleasant memories to retain for ever.

Sounding lines usually drawn at right angles to the coast or expected fathom lines, and their distances apart depending on the scale of survey and locality, are drawn on one's board prior to commencement. The boat or ship is then taken to a convenient "end" of a line by station pointer fix. Soundings are recorded while steaming along the line every 20 or 30 seconds or as fast as received, again depending on the locality, and at every fifth, seventh, ninth, or even eleventh sounding, depend-

ing on the speed one is steaming or the confidence one has of "holding the line," station pointer fixes are taken again, plotted, and numbered, and course corrections made if necessary.

The second angle of the fix is taken by one's recorder, without exception impertable, reliable seamen, petty officers, or ratings specially selected. The writer has very grateful memories of Petty Officers Webber and Rose, and Leading Seaman Long, on various occasions during his "Makee learn" apprenticeship to boat sounding when almost desperate with a combination of bucking boat, indistinct marks, sun glare or spray and instruments which would fly off the table just when wanted, next fix due almost as soon as the last one plotted, and the situation only saved by their excellent qualities.

At approximately every "fix" way is taken off the boat and a check sounding taken by either hand lead or Lucas machine together with a sample of the bottom. Sounding from the ship by echo, one machine is checked against the other, and both checked at the "end of the line by Lucas," while bottom samples are taken frequently while under way by Kelvin motor machine.

Shcals discovered are minutely examined by interlines or by "starring" round a buoy dropped on the suspected spot, and, if any doubt remains as to the least depth, the whole area is swept over by mine-sweep either by ship or boat.

At the end of the day soundings are reduced to Chart Datum and then entered at and between the "fixes" so far the only marks on one's board.

Any variation from normal in the contour of the fathom lines is immediately observed.

A variation from echo sounding is sometimes employed which is worthy of brief description, and which is known as Somerville Sounding after its originator, Admiral Somerville. Members will no doubt remember he met a tragic death in Dublin being shot by thugs during the Irish trouble.

On the side it is intended to sound, the ship's lower boom, normally used in harbour for the mooring of boats, is swung out and topped slightly.

Through a block below the boom a one-inch special wire about 100 fathoms in length, is rove and led through a block at the eyes of the main lower rigging down to a high speed friction winch.

A 200lb. lead is shackled to the outboard end of the one-inch wire; and to the bottom of the lead, by means of about two fathoms of "stray chain," is shackled the depth line marked as all surveying lead lines. The depth line leads through a block at the quarter of the mainmast derrick which exactly plumbs the quarter-deck sounding chains, and it then leads along the quarter-deck rail astern to well clear of the ship where it is connected to a drogue composed of anything suitable, such as boat's leads, etc.

The procedure of sounding is that the friction winch is veered rapidly, the lead therefore sounding rapidly to the bottom, which it has reached when the depth line is "up and down" alongside the after sounding platform.

A rating keeps a gloved hand on the depth line thereby ensuring that a true bottom sounding is obtained. The drogue ensures that all slack depth line is taken up above the lead. The lead is then hove forward at high speed to its position under the lower boom clear of the water and the operation repeated. After the first few runs it is amazing the speed at which soundings are obtained, everything depends, of course, on co-ordination between "winchman" and leadsman. The O.O.W. is careful to avoid too wide variations in course and speed and to be constantly on the alert for any event not in accordance with "drill." Occasionally an over exuberant winchman does attempt to "serve" the lower boom by wrapping the lead and wire around it, but the normal procedure is that it is hove forward and released in exactly the same manner as one swings a hand lead, that is well forward.

The soundings obtained are passed to the O.O.W. and recorders on the bridge by means of a system of numbered lights as well as by voice pipe.

This method was employed when sounding the Frith of Thames and is most applicable to such waters where comparatively even shallow depths exist, particularly with mud bottom which is prone to give occasionally a poor echo result.

In conjunction or slightly ahead of sounding "coast-lining" is carried on whereby the actual coast is plotted and high water features shown.

This has extreme fascination, to the writer at any rate, in the variety of methods by which one may accomplish the result depending on conditions.

"Walking in" is perhaps the best whereby one is able to ambel along the "high" line and "fix" at short distances by established stations; or a combination of "fixing" and traversing between "fixes."

Using tacheometry, one has the choice between sextant and a ten foot pole or level and stare, depending largely on the type and nature of "going." Frequently the type of coast or weather conditions preclude landing or walking and resort is then made to boat "stations," anchoring and fixing one's boat at short distances and "fixing" selected natural marks by intersection.

Further variety is provided when temporary secondary marks have to be established and "fixed" or main "trig" stations, long in disuse, rediscovered by their pipes or marks. As can well be imagined in New Zealand this mostly entails the clearing of thick bush to enable one to even reach the station with theodolite and usually a large amount of clearing for vision when one has achieved the objective.

The writer has a most wholesome respect for the toughness of New Zealand bush after almost a week of gruelling effort in reaching and observing from the summit of Red Mercury Island.

Topography gives further change still by tramping miles across country, "plane tabling," or from boat or ship "stations."

Tracings covering small areas of the grid are made from the field board on return to the ship and it is from these that the fair charts are drawn during the winter lie up season.

The past year's work is being drawn at present in Auckland on to fair charts which on completion will be forwarded to the cartographers at the Hydrographic Office for reproduction.

A "Collector" tracing covering the whole area under survey is also filled by each surveying officer each week as this work progresses whereby the Captain is enabled to have a collective view of the work completed.

The method and instruments employed in fixing geographical positions by Stellare observations differs of course from the methods employed at sea.

Numbers of stars of low magnitude and of appropriate Right Ascension are selected for each quadrant from the Unabridged Almanac. These are tabulated with the approximate G.M.T. they will have reached the altitude of 45 degrees.

The observations are taken by means of a 45 degrees Astrolabe, an ingenious arrangement of prisms and mirrors compactly fitted into an instrument not unlike a small squat range finder and which is of course mounted on suitable legs.

For "time" a chronograph is used, a chronometer connected electrically to a tape machine and to a "hand push" switch which is held by the observer. With the "making" of the switch at the exact instant of making contact with the star one is observing, a fine needle pricker stabs the paper tape which is unwinding from the machine in unison with the chronometer and the exact time is scale off on completion of sights. Chronometer error is found at the same time by the use of Rhythmic signals which method the writer submits is a little known boon to Merchant Service navigators keen to have an accurate rate. With the provision of a head phone lead from the wireless room, these signals can be utilised by the navigator himself after very little practice.

Intercepts are calculated and plotted, of course, to a very much greater degree of accuracy than is necessary for the sextant observation and methods used at sea.

To the delights of hydrographical surveying must be added the opportunities it offers for the exercise of one's own initiative in meeting a complete variety of circumstances, and, in the constant boat and ship work the practice of the art of the seaman. To have watched Captain Wyatt handling the Endeavour while laying or picking up large unwieldy beacons with long moorings eastward of the Great Barrier Island or to have one's boat picked up, as the writer has experienced, in very unpleasant conditions, or a host of other situations common to surveying, enables one to see the true are of the seaman displayed at its very best.

With the much to be commended practice of ship-owners is fitting echo sounding machines, gyros, and other modern aids increasing opportunity is given to Members of the Company to make valuable amendments and corrections to existing charts.

May the writer presume to submit that in forwarding such amendments completely full details should be included so as to be of full benefit to the Marine Department in New Zealand or the Hydrographic Office at the Admiralty. An example may be given such as when

forwarding details of existence of a shoal discovered by the echo, it is, of course, obviously essential to include draught for depth of transmission line, times for the state of tide, whether echo was checked against lead-line, and where "fixes" can be given that they should be reliable station pointer or bearing and distance from some well charted position.

The writer cannot conclude these random remarks about the Endeavour and her work without mentioning

his personal gratitude for almost a year of the happiest service in any ship in which it has been his good fortune to serve.

Any member of the Company would be welcome on board to obtain a first-hand glimpse of a survey ship and her work and such visit would undoubtedly prove of untold interest.

A. S. HOLDEN,
Lieutenant Commander.

THOMAS GRAY MEMORIAL FUND

The Hon. Secretary,
N.Z. Company of Master Mariners,
P.O. Box 1090,
Wellington, C.1.

Dear Sir,—I forward, for the information of your members, three copies of a printed circular dated March, 1938, from the Royal Society of Arts, London, giving particulars of the prizes offered by the Thomas Gray Memorial Trust for the improvement and encouragement of navigation.

Yours faithfully,
L. B. CAMPBELL,
Secretary.

ROYAL SOCIETY OF ARTS.
JOHN STREET, ADELPHI, LONDON, W.C.2.

THOMAS GRAY MEMORIAL TRUST.

PRIZES OFFERED IN 1938 FOR THE IMPROVEMENT AND ENCOURAGEMENT OF NAVIGATION.

Under the will of the late Thomas L. Gray, the Royal Society of Arts has been appointed residuary legatee of his estate for the purpose of founding a memorial to his father, the late Thomas Gray, C.B., who was for many years Assistant Secretary to the Board of Trade (Marine Department).

The objects of the trust are "The advancement of the science of Navigation and the Scientific and Educational interests of the British Mercantile Marine."

The Council now offer the following prizes:—

I.—PRIZE FOR AN INVENTION.

A prize of £25 to any person who may bring to their notice an invention, publication, diagram, etc., which, in the opinion of the judges appointed by the Council, is considered to be an advancement in the science or practice of navigation, proposed or invented by himself in the period 1st January, 1933, to 31st December, 1938. Entries which have already been considered by the judges in the years 1933-37 are not eligible for further consideration unless they have since been materially modified.

In the event of more than one such improvement being approved, the Council reserve the right of dividing the amount into two or more prizes at their discretion. Competitors must forward their proofs of

claim on or before 31st December, 1938, to the Secretary, Royal Society of Arts, at the above address.

II.—PRIZE FOR AN ESSAY.

A prize of £25 for an essay on the following subject:—

A cargo steamer of the ordinary three island type, loaded to her marks, with end holds about half-full of cargo and bound from New York through the Mediterranean, when about half-way across the Atlantic and in a westerly gale collides end on with a derelict.

The whole stem is forced back, hawse pipes are broken, anchors are jammed in the wreckage, the forepeak is open to the sea, and the collision bulkhead is holding but under big strain, and the ship is out of trim.

Write fully in the form of an Essay the action you would take to get the ship to a port where she could be repaired to continue the voyage.

The factors to be considered are the safety of the crew, the selecting of the port to make for, facilities available there for repairs, the time and cost thereof, and the fact that the ship must be prepared to anchor on arrival before she can be docked and that no outside assistance is available.

Competitors must send in their essays not later than 31st December, 1938, to the Secretary, Royal Society of Arts, at the above address.

The essays must be typed in English. They must be sent in under a motto accompanied by an envelope enclosing the author's name, which must on no account be written on the essay. A breach of this regulation will result in disqualification.

Both competitions are open to persons of any nationality, but, in the case of the Essay Competition only, competitors must be past or present members of the seafaring profession.

The judges will be appointed by the Council.

The Council reserve the right of withholding a prize or of awarding a smaller prize or prizes, if in the opinion of the judges no suitable invention or essay is submitted.

The Council also reserve an option on the copyright of the successful essay or essays, but do not claim any rights in respect of any invention to which a prize may be awarded.

K. W. LUCKHURST,
Secretary.

April, 1938.

SEA AND THE SHIPS

RETURN TO SAIL TRAINING IMPROBABLE.

BRITISH MARINERS ARE STEAM-MINDED.

(By "Helmsman," in the "Evening Post.")

No question has been more hotly contested in shipping circles during the past two decades than that of sail v. steam as a training medium. There are arguments without number on both sides.

Reviewing the position as it stands to-day, it is interesting to observe that Great Britain has not one seagoing sail training vessel (states an exchange). One or more such craft, propelled entirely by sail or with auxiliary power, are possessed by the following nations: Argentina, Belgium, Brazil, Denmark, Egypt, Finland, France, Germany, Greece, Italy, Japan, Yugoslavia, Norway, Poland, Portugal, Russia, Spain, Sweden, and the United States of America.

The last vessel to fly the Red Ensign as a square-rigged sailing ship for training purposes was the Joseph Conrad, now in American ownership, but her complement was almost as much foreign as British. The barquentine Cap Pilar, although she is now of British registry, cannot claim to be regarded as a training ship in the strictest sense of the term.

The Garthpool was the last large British square-rigger training British sailors. She was a merchant ship, but at least on a parity with those of Scandinavian nations serving dual purposes to-day. After she had run aground in Bone Vista Bay in the Cape Verde Islands on Armistice Day, 1929, she became a total wreck. Her place has not been filled.

UNDER FOREIGN COLOURS.

Here are a few of the training craft of other nations:—Mercator (Belgian), L. Faroukieh (Egyptian), Dar Pormoza (Polish), Suomen Joutsen (Finnish), Kommodore Johnson, Admiral Karpfanger, Grossherzogin, Elizabeth, Schulschiff Deutschland, George Foch, Horst Wessel, and Hein Goodwinde (all German), Danmark, Georg Stage ((Danish), Abraham Rydberf (Swedish), Almirante Saldanha (Brazilian), Strasraad Lehmkuhl, Sorlandet (Norwegian), Shintoku Maru, Taishei Maru, Nippon Maru, Kaio Maru (Japanese), Tusitala (American), and the Amerigo Vespucci and Critofero Colombo (Italian).

The list shows that while the British, for various reasons, no longer care to train their mariners in sail, other nations are very active in that respect.

The passing of the sailing ship under the British flag has been deprecated on many occasions. Many have been the heated controversies; public meetings have been held; excellent resolutions have been framed, but when time came for action support suddenly dwindled; special societies have been organised, notably the Sea Lion Training Ship Society, which was inaugurated by that altruistic lover of ships, Sir William Garthwaite, Bart, 1930. The progress made has always been negligible.

Sir William wished to raise sufficient funds by

public subscription to build a square-rigged ocean-going sailing ship. The response to his appeal was disheartening in the extreme. He approached the Board of Education, the Board of Trade, and the Admiralty. In each case the reply was the same. . . . "No money."

SAIL ABANDONED.

Why is it, then, that Britain cares no longer for the ship of sails—the craft which carried the Union Jack to distant lands and peopled the Dominions overseas with hardy pioneers? To many it is unpalatable, but the fact remains that the British builders of splendid traditions by decades of dearly won supremacy on the seas, scorn the craft whence they gained their greatness.

The late Joseph Conrad said: "A year or a year and a half of training in a seagoing sailing ship I would regard for a boy destined for the sea as a course in classical practice of the sea. What he will actually learn on board that ship he will leave behind him directly he steps on the deck of a modern steamship, but he will have acquired the old lore of the sea which has fashioned so many generations down to his very father's, and which, in its essence, will remain with the future generations of seamen, even after the day when the last sail and the last oar have vanished from the waters of our globe."

No more powerful, no deeper plea for the efficacy of sail training has been made. Conrad was a deep-water sailor, in the sense of the man who serves in the sailing ship, and not the all-embracing "seaman" which describes skipper in his finely-panelled steamship saloon and the firemen's peggy alike. He served before the mast and later paced the poop of ships of his own command.

AN EMPHATIC "NO."

An emphatic "No," not infrequently tinged with a trace of regret, is the almost invariable answer to the query. Will Great Britain ever revert to sail training? says another writer. Perhaps an old shellback here and there, with hazy memories of days spent before the mast, melled by the passage of time, might say, "Well, maybe," but an affirmative opinion indicates optimism in inverse proportion to possibility.

Certainly there are some who will quote other maritime nations and infer that Britain will not be long in following. "Germany, Finland, Italy, Sweden," they will say, "are going back to sail and even building new ships—perhaps Britain will do the same." Quite right; Britain might do the same, but it is a very, very slender possibility.

Why? For one thing, sailors nowadays have to sail steamships. They serve their apprenticeships and graduate to the bridges of steamers and motor vessels. They are concerned with mechanics and mathematics rather than knots and splices. To be able to operate a

telmoto is of more importance than the ability to brace yards and take out a head earring.

And so they go on. The arguments for and against are without end, but the fact remains that sail training no longer exists on a practicable basis for the British merchant service.

Strangely enough, the pilot service demands that applicants for certificates must possess masters' tickets in square-rig. That is the case in most British ports, and in a large number of foreign ports. The men entrusted with the exacting responsibility of guiding in and out of port ships from overseas are all qualified to command a deep water square-rigger.

A FEW OLD BARQUES.

The time is coming, and coming fast, when that stipulation will have to be abandoned. Pilots cannot go on indefinitely, and there are not sufficient sailing vessels to train those who eventually will fill their positions. There remain a few old barques and four-mast barques roaming home from Australia with golden grain and collecting an odd cargo here and there, but each succeeding year their numbers dwindle. Berths in these craft are difficult to obtain, and there are always many youthful Nordic mariners eager to join them.

If Britishers cannot obtain sail training they will be unable to qualify for their pilots' tickets under the existing stipulations. If those requirements are not given elasticity the unfortunate position will arise of British ports without British pilots. There is not much chance of Britain returning to sail, if only for training, so the issue appears to be clear-cut—pilots soon will not be required to possess tickets in square-rig.

Career Ended

SWEDISH TRAINING VESSEL.

According to reports from Sweden the full-rigged ship *Af Chapman*, one of the ornaments of the Swedish navy, has now finished her active career and will serve as a depot ship in the port of Stockholm, states a writer in "Sea Breezes."

The *Af Chapman* was taken over by the Swedish navy in 1924 as a training ship and is now being put out of commission as no further use can be found for her. The vessel, it is stated, is in excellent condition.

Most of the vessel's voyages as a naval unit have been to the Mediterranean, and she crossed the Atlantic on two occasions, once in 1931 and again in 1934. On the first occasion the voyage was to New York and Norfolk; on the other occasion she sailed to Porto Rico.

The *Af Chapman* has had a very interesting history since she was built at Whitehaven for Dublin owners in 1888. She was then the *Dunboyne*, an iron three-masted ship of 1425 tons gross, built for carrying rather than speed, although when the famous Captain Messenger was first mate he made her walk with the canvas which he loved to carry.

In 1908 she was sold to Leif Gundersen, of Porsgrund, one of the principal Norwegian sailing ship owners at the time, for £3625, and in 1915 he sold her at a huge profit to the Swedish Transatlantic Co., who

renamed her *G. D. Kennedy*, and used her principally as a training ship. At the same time she contrived to earn very big freights during the boom, and after she had been paid off she was sold to the Swedish navy at the end of 1923 to carry on her training service as the *Af Chapman*. She had accommodation for some 200 boys, who served in her for about a year, and she always made a very strong impression when she visited foreign ports in the course of her cruises. It is reported as doubtful whether the vessel will ever go to sea again.

Barque's Adventures

Of the barque *Penang*, which will visit New Zealand this summer, a "Times" correspondent writes:—

Having sailed home from Port Germein, Australia, by way of the Cape of Good Hope, the Finnish four-mast barque *Penang* took 139 days to complete the passage.

Her captain relates that, while the vessel was at Port Germein, bathers on the beach were horrified at seeing a huge shark rise out of the water with a man's body in its mouth. The body was that of one of the crew of the *Penang* who had been drowned on the previous night. Captain Karlson manned a boat and chased the shark, firing several pistol shots at it, but it was not seen again. The body was, however, recovered. On the previous night some members of the crew had overloaded a small boat when returning from a dance to the ship. The craft capsized and the ship's carpenter was drowned. The other ten occupants of the boat were saved.

Captain Karlson said that the vessel made a very good start, and had an average passage of 96 days to the Cape of Good Hope. The *Penang* sailed through the Azores, but lay in the doldrums for some time and failed to get the advantage of the trade wind. When approaching the English Channel she encountered a heavy fog which compelled Captain Karlson to remain on deck for 48 hours.

Milkin'

It was a sunburned farmer who was leaning on a plough,
And talking to a Sailor as he mopped his shining brow;
"Can you milkin'?" the farmer queried, and the weary one
replied—
"Never left a gill in any cow I ever sat beside."

The farmer stood and pondered and he said, "Well, I
might find
Some sort of light employment fer a feller to me mind;
While me son an' me are plougin' (we must do it while
we can)
Some jobs maybe 'll crop up fer a useful, all-round man.

There's some snaggin' at the water'-ole—it's time that
that was done—
And the misus wants wire-nettin' fixed around 'er poultry
run;

There's some cleanin' round the stables, and there's milkin', did I say?

"Yes, you spoke about the milkin'," said the sailor, "fire away."

"You can fill to-morrer morning'," said the farmer, sure and slow,

"With a drain I've thoughter diggin' fer this fifteen month or so;

There's the pigs' feed to be carried, there's the 'orses to attend,

And a heap of broken blacksmith's tools that's waitin' fer to mend."

"There's some fencin' the contractor couldn't finish, bein' sick—

You'll find 'is line of post-oles over yonder by the crick; And towards even' Sis an' mother 'll be ready with the cows—"

"Aye, you menshuned there'd be milkin'," said the man, with gloomy brows.

"The man I want" the farmer said, "won't loaf about and yarn";

You can have the last blokes quarters in the corner uv the barn;

If your time should 'ang too 'eavy (when the milkin' is got through)

I've some old tarpaulin covers you could fix as good as noo.

"I'll wake you in the mornin'," said the farmer "with the boy;

It's gen'ly turn-out-early with the men that I employ.

And you'll start the day with milkin'—have I spoke uv that as yet?"

"I believe I 'eard a whisper," said the sailor in a sweat.

"Well, things is pretty quiet," said the farmer. "Seems to me

Twelve bob a week ud pay you, if you git your tucker free.

There'll be fencin', diggin', mendin', patchin' things up 'ere an' there."

"And amusements, sech as milkin'," said the sailor with a glare.

"There'll be Sis and me and Mother," said the Sailor growing red,

'Ull be tuggin' 'at them milkers when the sun ain't outer bed;

And when the pale moon's risin', all the landscape fer to kiss,

Sitin' achin' in the cowshed 'll be Mother, Me, and Sis.

"When things get kinkder lonesome fer the want uv work to do,

We'll git up milkin' parties till the night is 'alfway through.

When the crimson sun is mountin' or is sinkin' in the West

I'll be milkin', 'long uv Mother, just to keep me 'eart at rest."

And the sailor muttered curses that were loud and likewise deep,

And he left the farm standing like a man surprised from sleep.

The farmer watched him plodding o'er the hillside's muddy brow—

"Well, I TOLD 'im there'd be milkin'," he remarked, and seized his plough.

Decision in Adelong Enquiry

BLAME PLACED ON PILOT.

The steamer Perthshire was recently declared by the Court of Marine Inquiry to be at fault for the collision with the Huddart Parker vessel Adelong, off Nobby's, Newcastle, on July 2nd. The Court also contended that the pilot of the Perthshire was to blame for the collision through mistaking the lights of the Adelong for those of a tug he was expecting.

It was the opinion of the Court that there was no failure of duty amounting to misconduct. Each master had maintained great care and conducted proceedings in a seamanlike manner when a collision became inevitable.

The Chairman of the Court (Mr. Stevenson, S.M.) stated:—

"With regard to the charges laid by counsel re conspiracy and perjury by officers of the Adelong, I consider it a breach of privilege on the part of counsel in laying such charges, because the matter was taken up by the Press and was published in all newspapers, and has gone out to the world, particularly the seafaring portion of the world, that two of the counsel in the case considered the Adelong's officers guilty of conspiracy to give false evidence and to deceive the Court, and also charged them with perjury.

"I am personally of opinion that there is no foundation whatever for such charges to be made.

"I am prepared to believe the officers of the Adelong, and hope this view of mine will be given the same publicity as the statements by counsel, in fairness to the officers of the Adelong.

In reply to questions set by the Court, Mr. Stevenson said that the Perthshire was to blame through forcing the Adelong to port her helm when on the southern leads. The Perthshire entered the channel too far south through not having completed her turning movement at a safe distance from the entrance.

It was recommended by the Court that marine authorities provide a light at the entrance to Newcastle channel, indicating that the channel was being used by one ship. It was considered dangerous for two vessels to cross in the channel.

As an Admiralty case was pending, counsel for the Perthshire and its pilot asked that all exhibits in the case be impounded.

Rocks in the Strait

REQUEST FOR CHARTING.

On the Admiralty chart dealing with Cook Strait are shown three reputed danger points on the straight line between Stephen's Island and The Brothers light. Two are marked "Position approximate; shoal reported," and the third is reported to be under five fathoms of water, with the additional note, - "Position approximate; unexamined."

Ships coming to Wellington from Australia often have to contend with a strong tide setting to the north and in giving ample clearance to the three rocks mentioned may find themselves uncomfortably near Fisherman's Rock, which is described as lying under five fathoms of water and surrounded by depths ranging from 159 to 178 fathoms.

It is understood that for some years representations have been made by shipmasters with a view to proving the existence of the three rocks said to be lying on the straight course from Stephen's Island, and if they exist, to charting their exact position and depth under water. In times of poor visibility and strong tide the fact that they appear on the chart and accordingly must be given a wide berth is said to add to the difficulties of navigation, perhaps unnecessarily.

Gazette Notice

Page 1746.

NOTICE TO MARINERS No. 36 of 1938.

Marine Department,

Wellington, N.Z., 25th July, 1938.

NEW ZEALAND—SOUTH ISLAND—CAPE CAMPBELL.
W/T Beacon to be established.

Date of establishment: About 10th August, 1938.

Position: At lighthouse. Lat., 41deg. 43'S.; long., 174deg. 17'.4E. (approx.). Chart No. 695.

Abridged description: Fog W/T.

Details: The following signal group will be transmitted at the time stated hereunder:—

ZLOG (— — . . . — . . — — — — — .)

once followed by a succession of G's 45 sec.

Long Dash (-----) 10 ..

Repetition of ZLOG and G's	..	45	..
----------------------------	----	----	----

Long Dash (—)	10	..
---------------	----	----	----	----

Silent	150	..
--------	----	----	----	----	-----	----

Period	360	.. (6min.)
--------	----	----	----	-----	------------

During fog or weather of poor visibility, between 6 a.m. and sunset, the signal group will be transmitted every six minutes commencing at 2 minutes past the hour. During clear weather, between 6 a.m. and sunset, two complete transmissions of the signal group will be made commencing at 02 and 32 minutes past each hour. During all weathers between sunset and 6 a.m. the signal group will be transmitted every six minutes. Wave.

297.5 kc/s. (1008 m). Type A2. Normal range, 80 miles.

Charts affected: 2178—695—2054—3629—1212—788.

Publications: New Zealand Pilot, 1930, page 264; Admiralty List of Wireless Signals, 1935, Vol. 1, page 162, No. 123A, and page 170.

L. B. CAMPBELL, Secretary.

(M. 8/14/17.)

REFRIGERATION

The following extract from the proceedings of the New Zealand Association of Refrigeration, Inc., will be of interest to Master Mariners:—

It is felt that no apology is necessary in bringing this paper before the members of this Association as the subject matter has been the cause of much litigation in this and other countries, and an examination of the evidence adduced in such cases indicates that the highest scientific authority is not always available to those who are called upon to adjudicate upon them. It is further felt that a study of this and kindred problems is an excellent foundation for a proper understanding of the principles of air conditioning, the practice of which it might seem, may reasonably be extended into the field under consideration.

This paper, entitled "THE DAMAGE TO CARGO DUE TO SHIP'S SWEAT" by S. J. Duly, M.A., Head of the Department of Commercial Products, City of London College, was first read before the Royal Society of Arts at London on December 7th, 1927. It was summarised in the January 1928 issue of the "Export World and Commercial Intelligence" and later reprinted in the July 1928 issue of the Pacific Marine Review. It has been widely read in shipping and insurance circles on the Pacific Coast, and a copy of the lecture appears in the "Journal of the Royal Society of Arts of January 1928. A further paper by Mr. Duly will be published at a convenient date, entitled "PROBLEMS OF CARRIAGE OF PERISHABLE CARGOES BY SEA."

THE DAMAGE TO CARGO DUE TO "SHIP'S SWEAT."

Moisture is a common agent of damage to goods stored in warehouse, cold store or in ships' holds. Its manifestations are extremely varied. Among them the following instances may be enumerated to illustrate the range of commodities affected by moisture and the variety of the symptoms attributable to its influence.

The loss of the power of germination of seeds shipped overseas in bags is a fairly common occurrence and is due principally to dampness. Great care must be exercised in the carriage of grain in bulk to see that the moisture content of the grain is below a safe maximum; otherwise the grain begins to ferment and heat "spontaneously." The growth of moulds is a familiar consequence of the presence of moisture; aeroplane spruce, for instance, is difficult to carry without the development of fungal damage unless it is dry, appropriately stowed and ventilated. Shell eggs carried or held in cool storage just above freezing point not infrequently become covered with the white filaments of moulds which penetrate the shells and spore abundantly within the eggs.

Low temperatures do not prevent fungal growth if the moisture conditions are favourable, so that in the carriage of frozen meat, and especially of chilled meat, the abolition of mould is a matter requiring care. Bacterial activity also requires moist conditions, and a variety of instances of damage from this cause might be given. The rusting of metallic objects, such as canned goods, and the tarnishing and corrosion of galvanised plates are still further examples of damage which would be absent if it were not for circumstances which allow them to become moist.

The holds of cargo vessels are usually bone dry. The visible presence of moisture is an abnormal state of affairs. If it does occur it is derived either from the cargoes carried or else from the ventilating air. This general statement disregards the possibility of rain or sea water reaching the ships' holds as accidents outside the scope of the discussion.

Many cargoes which would be regarded as dry, such, for instance, as graded wheat or air-dried timber, contain, nevertheless, a comparatively high percentage of water. Wheat arrives in this country with a moisture content between 11.5 and 14 per cent. On a long voyage the grain dries out to the extent of from $\frac{1}{2}$ to 1 per cent., and this represents a considerable weight of water on a cargo of three or four thousand tons, which is gently carried away by the ventilating air. The weight of grain delivered from the ship is thus about $\frac{1}{2}$ per cent. less than the weight shipped, and a large part of this loss is due to drying. Timber dries in a similar manner on certain voyages. It follows that apparently dry cargo provides a source of moisture in the same manner as, but to a less extent than, damp cargoes, such as unseasoned timber or low grades of raw sugar. Damage by moisture derived from cargo is generally thought of as the chief and perhaps only form of sweat damage on board ship. To be more logical it should not be regarded as due to ship's sweat, but to the sweating of cargo, the ship's iron structures offering a condensing surface on which the moisture from the cargo is precipitated when the conditions are appropriate.

The air entering the ventilators provides the second source from which moisture in the hold may be derived, and it is mainly with damage arising from this cause that this paper is concerned. The condensation of moisture from the ventilating air in the holds of vessels should receive another name to distinguish it from the sweating of cargo. If the term "ship's sweat" were reserved for moisture derived from the cargo, the term "condensation" or "condensation damage" might be used to denote moisture derived from ventilating air, and the damage it causes.

RUST ON CANNED GOODS. The occasional and sometimes frequent arrival in this country of shipments of canned goods in a rusty condition from the Pacific Coast of the United States of America, and from British Columbia carried via the Panama Canal, provided the occasion of the investigation into the manner in which ventilating air may start damage. The rusting leads to a depreciation of, perhaps, ten per cent. of the sound value of the goods, because it is necessary to sell at a re-

duced price or to unpack, recondition, re-label and re-pack the tins. The contents are unaffected unless the rusting is bad enough to cause perforation of the metal. The condition on arrival of such a shipment is worth a careful description since at least half the difficulty in discovering the cause lay in an accurate diagnosis of the symptoms of damage.

The cans are packed in fine boxes, nailed together and bound with galvanised wire. Externally these packing-cases are entirely free from blemish. Sometimes their uniform cleanness and brightness on arrival in London is astounding, for when they are unpacked the tins are seen to be speckled with rust. The rusting varies in severity from case to case. Some are lightly speckled and some heavily. The only indication on the outside of the cases that the goods within are not in perfect condition is that the heads of the nails of the case may be touched with rust and the binding wires tarnished. But these slight symptoms are too insignificant to lead one to anticipate damage within. The distribution of the rust spots is noteworthy. They occur on either or both ends of the tins—there are two tiers of tins in each case—and under the labels. Their distribution is sporadic and not confined to the contact between the rims and the wood of the case. Where there happens to be a loose knot or broken slat in a case the damage extends inwards heavily from the opening.

Sometimes a consignment arrives with the wood of the packing cases badly discoloured. Such a consignment may be a parcel of another mark stowed in with canned goods, such as those just mentioned, as arriving externally clean, and, therefore, subject to the same conditions as those on the voyage. Usually two or three sides of such a case are greenish black, like old weathered softwood. This confuses the issue, because it appears to point to damp timber as the origin of the moisture which has settled on the cans; moreover, such externally damaged cases are the most readily observed and have received the most attention from surveyors. The arrival of one small consignment of such blackened packing cases proliferously covered with the minute black fruit bodies of the timber fungus "*Ceratostomella pilifera*" fixed the cause of the blackening. The boards from which the blackened slats were cut were infected from the beginning, and the conditions in the ship's hold humid enough not only to cause the timber to become penetrated by the fungus, but also to cause it to produce perithecia abundantly.

The confusion is made worse by the occasional presence of stained cases containing perfectly clean and bright cans, either on the same voyage when rusted cans are turned out from other parts of the vessel's holds or on other voyages when all the cans are free from rust.

There are other minor indications of damage which need not here be catalogued, but which hinder the recognition of the main characteristic of this damage, namely, that rusted goods are contained within clean packing cases. The fact is that the variety of symptoms correspond to no single cause, but to a main cause producing rusted cans within clean cases and other secondary and minor causes operating simultaneously, producing other and minor symptoms.

THREE CLASSES OF CONDENSATION: The rusting of canned goods carried through the Panama Canal has been studied on the American side by Dr. A. W. Bitting, who attributed the cause generally to condensation of moisture on board ship, and recommended a thorough investigation into the effect of ventilating the cargo. The opinion in London was divided as to the cause because of the variety of the symptoms. The use of damp packing cases and the liberal use of paste on the edge of the label were held to be at least contributory causes, and the frequent appearance of fungi both on the sapwood of the timber and on the labels were put forward to support that view; that the main damage was due to over-humid conditions in the holds of the vessel was also held to be a likely cause, but exactly how this could produce such rusting was difficult to explain. In order to make tin plate rust in the manner of the damaged tins it is necessary for actual beads of moisture to become deposited on it. It will not rust simply by being kept in humid air, unless temperature changes operate to cause the deposition of moisture upon it. The problem then was to investigate these moisture and temperature conditions on board ship in an endeavour to define the circumstances in which moisture from the incoming air could become deposited on the cargo. The records of this investigation, which was carried out on a summer voyage in 1926 to Vancouver, and a second summer voyage this year to New York, lead me to differentiate between three classes of condensation of moisture in the ship's hold, and to focus attention on the lag which exists between the temperature of cargo and the temperature of the air and sea when the latter are changing fast.

The three classes of condensation are as follows:—

- (1) Moisture condenses on the ship's side while the cargo remains dry.
- (2) Moisture condenses on the cargo while the ship's side remains dry.
- (3) Moisture condenses on the under-side of the deck and hatch coamings and drips back on to cargo.

The circumstances in which each of these forms of condensation arises differ from each other; in addition the method of ventilation necessary to check the condensation depends on the particular form.

The principle underlying all investigations of this kind is that dew will form on any object if it is cold enough to be below the dew point of the air reaching it. An instance of this may be given from the occasional formation of dew on the deck of a vessel passing through tropical waters.

At mid-day, or soon after, the deck reaches a temperature of 120-125deg. F. As late afternoon approaches the deck cools fast, and by six o'clock it is colder by a few degrees than the air, for the air temperature has not fallen as fast as the deck. The deck reaches the nightly level of 82-83deg. before the air, and if the air on these occasions approaches saturation it becomes covered with dew. In what circumstances can such deposition of moisture take place in the ship's hold? To discover this we must look for temperature differences in the ship either between day and night or from day to day, which would cool some part of the ship or cargo sufficiently to cause moisture to condense out on it.

SEA WATER TEMPERATURE: The controlling factor in regulating the temperature lower holds of the ship is the temperature of the sea water. The hull of the vessel is immersed in the sea to her marks and only half an inch of steel separates the hold space from the sea water. The steel is a good conductor and its temperature is that of the sea water, so that the "walls" of this "warehouse" are at the temperature of the sea water. The scrutiny of a typical record of the sea water temperatures on a voyage from the United Kingdom to Los Angeles through the Panama Canal discloses an absence of fluctuations that comes as a surprise to one accustomed to conditions on land. The best instance is in tropical seas, for instance, across the Caribbean Sea and into the Pacific Ocean. Here the temperature remained constant day and night at 83deg. F., with a fluctuation of only plus and minus one in the neighbourhood of the land masses of Central America. The sea is a huge thermostat, so that goods in the lower holds are maintained in a constant temperature day and night while the vessel is in tropical waters.

On the voyage from England to the tropics, the sea water temperature rises gently and with regularity. There is the general upward trend due to the change in latitude, amounting to an average of 2.5 to 3deg. F. per day, and superimposed upon this is a daily fluctuation of plus or minus one due to the sun, being rather greater in higher latitudes than in lower. The changes in temperature in the lower hold due to the influence of sea water are consequently very gradual, and large difference exists between the day and night temperatures of the sea water to produce periodic nightly saturation of the air in the hold. Sudden changes in the temperature of the sea water do, however, occur on the voyage, and these are due to the ocean currents, the approximate positions of which are known to the officers of the ship. For instance, the ship leaves the North Equatorial Current off the Gulf of California, sailing north to enter the cold Californian Current, and in consequence the temperature falls with great suddenness.

AIR AND SEA TEMPERATURES: Turning now to the air temperatures, we shall not be surprised to find them rather more influenced by the succession of night and day than water temperatures are, but what is remarkable is the very close agreement between the shade temperature of the open air and the sea water temperature throughout a long voyage. Usually the air and sea temperatures lie very close together indeed. There is the same gradual upward trend due to changes in latitude amounting to 2.5 to 3deg. F. per day until the tropical average of 83deg. is established, and superimposed on this upward trend is the daily rise and fall. This daily periodic change is greatest in high latitudes. Thus in the North Atlantic in fine weather it amounts to plus and minus 4deg. F., while in the tropics it is nearer plus or minus 1 deg. F. At no time is the daily fluctuation of the air temperature at sea as great as it is on land. When the sea water temperature begins suddenly to fall on account of ocean currents, the air temperature falls with it, the sea temperature falling rather in advance of the air temperature.

The closeness of the shade temperature of the air to the sea water temperature is well illustrated by plotting one on the other, and it will then be seen that the difference is never very great.

The significance of the shade temperature of the air lies in the fact that it is the temperature of the air entering the ship's ventilators. It is the air entering the cargo spaces. The holds of a cargo vessel are usually ventilated by cowl ventilators in groups of four, each serving all the holds within every two thwart ship bulkheads. The weather ventilators are trimmed to back the wind and act as uptakes, and the lee ventilators are trimmed to catch the wind. At each successive deck the cylindrical sheet iron pipes which carry the air to and from the holds are cut short just below the deck and are continued down with a somewhat smaller diameter to the next lower deck. The annular space thus left provides a passage for the ventilating air to enter or leave the respective hold in the 'tween-deck. The air enters and leaves the ventilators with considerable speeds and although these speeds are related to the speed of the ship and to the prevailing wind, in practice some surprising figures are obtained by measuring the speeds of the air currents entering and leaving the ventilators, and comparing them with the speed of the wind. The fact is that the distribution of the air currents on the deck is extremely complex both in force and direction, so that it by no means follows that with a head wind of 20 miles per hour there is a current of air of that value entering the cowl trimmed to catch it. The sheer and camber of the deck, the raised fo'c'stle, the presence of deck erections and the resistance offered by the bridge all influence the force and direction of the air currents in the immediate neighbourhood of the cowls, and it is these subsidiary air currents which enter the ventilators. The efficiency of the ventilators measured by the volume of air they admit in a given wind is consequently for the most part the chance of their position (including, of course, their height above the deck), relative to the deck erections, which act as shields.

Air at shade-temperature enters the holds through these ventilators at, let us say, an average speed of six miles per hour, and this corresponds to an entry of approximately 120,000 cubic feet. This air is at a temperature practically identical with that of the sea water, and consequently of the ship's side in contact with it. By day it may be a degree or so warmer and by night slightly colder than the sea water. No sufficient differences of temperature arise, therefore, to cause the precipitation of moisture from the incoming air on any object in the hold. It is not indeed the actual temperature of this ventilating air which is the critical figure, against which to match sea water temperatures and the temperature of the cargo, but the dew point of the ventilating air. If, however, all the objects in the hold, including the ship's side, are as warm as the air, they will be still warmer than the dew point, which is normally at least five degrees lower than the shade temperature of the atmosphere. In consequence we should not anticipate any

deposition of moisture in the hold as long as the changes in temperature are the gradual ones which characterise the typical voyage from the United Kingdom through the tropics. The dew point is very conveniently measured by a recording wet and dry thermometer, although there is a considerable difficulty in fixing it on the ship in such a way as to get a record uninfluenced by the radiation from deck or bulkhead. The dew point curve

is then easily drawn after removing the chart, by the use of Glaisher's factors. As long as no object in the hold has a temperature below that given by the dew point curve, there can be no risk that moisture in the ventilating air entering the holds may be deposited either on cargo or on the ship's side.

(To be continued.)

ARMY STORES

Brandon Street, Wellington

(Opposite New Government Life Office)

GREY BLANKETS, TUNICS, RIDING BREECES, UNDERWEAR, KHAKI SHIRTS, LUMBER JACKETS, TROUSERS, LACE TO KNEE BOOTS, LADIES' JODHPURS AND RIDING BREECHES, KHAKI DRILL SHORTS, COMBINATION KHAKI SUITS, BALACLAVAS, SOCKS, CASMAC OIL-PROOFING, ARMNEOL FOR BOOTS, BOYS' BLUE SHORTS AND BLOUSE JACKETS, ALL WOOL. HEAVY WOOLLEN CANADIAN JACKETS.

Send stamped addressed envelope for catalogue to

Capt. C. F. Bishop, Brandon Street, C.I.

JACOB JACOBUS

(Late of Stuart and Stuart, London).

High Class Tailor

AND

Marine Outfitter

Officers Uniforms a Speciality.

Sussex Chambers, 12 Panama St., (3rd Floor, opp. G.P.O.)