

UNION-CASTLE LINE'S PROGRESS

COMPLETION OF THE "CAPETOWN CASTLE"

South Africa's Increasing Overseas Trade

Special Supplement to "The Shipping World"

The largest and latest ship of a famous fleet

R.M.M.V. CAPETOWN CASTLE

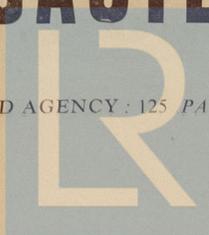
(27,000 tons)



THIS magnificent motor-vessel enters the weekly South African mail service on April 29th, leaving Southampton for Capetown on her maiden voyage—6,000 miles in only 13½ days; subsequently calling at Port Elizabeth, East London & Durban.

UNION-CASTLE LINE

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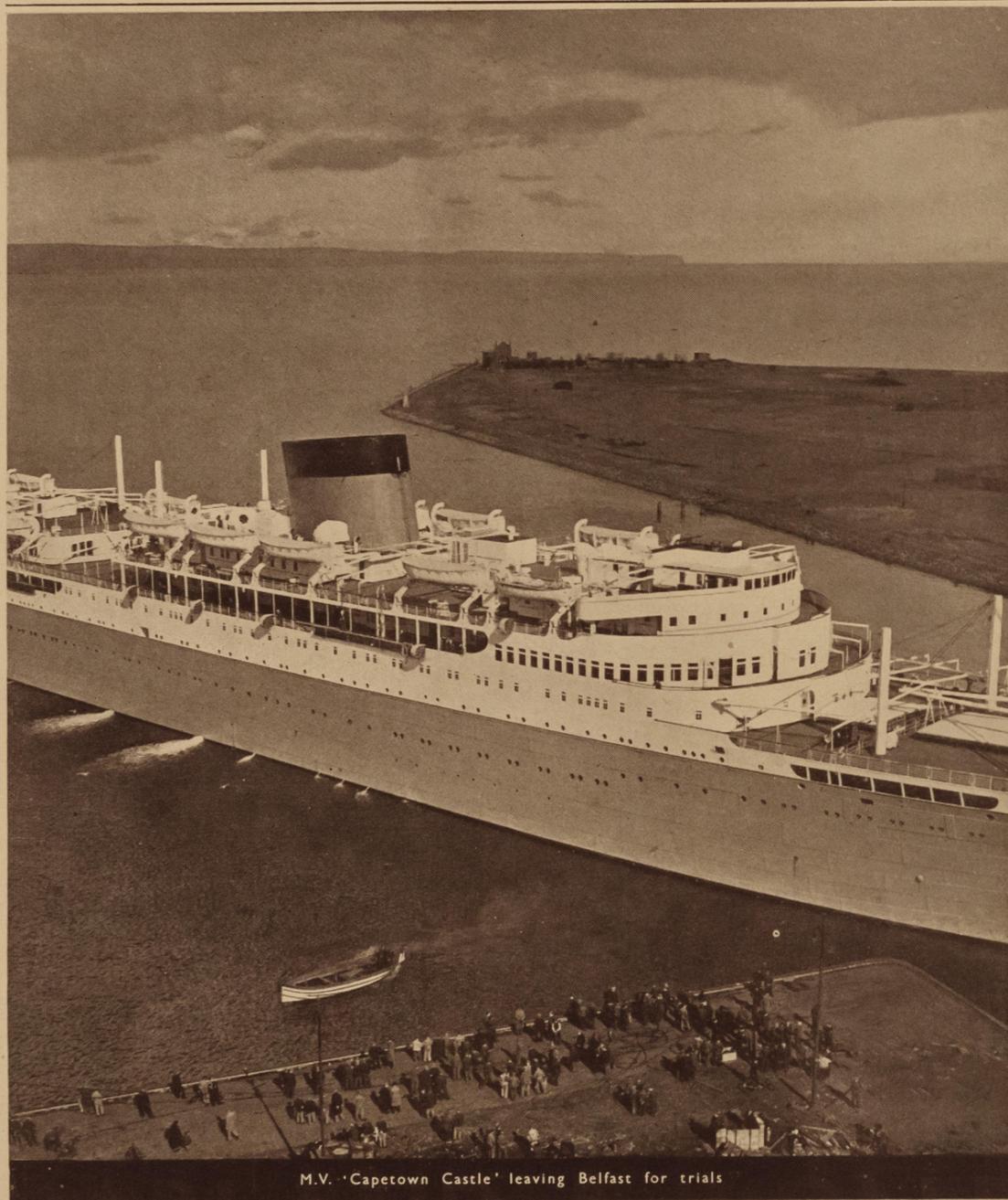


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M.V. 'Capetown Castle' leaving Belfast for trials

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SOUTH AFRICAN SHIPPING SERVICES

RECORD OF EIGHTY YEARS PROGRESS

By ROBERTSON F. GIBB (Chairman of the Union-Castle Mail Steam Ship Company)

THE fact that the various means of transport, in common with many other of man's inventions, have developed far more in the past century than in the whole of the previous history of mankind, is so well-known that to reiterate it is to lay oneself open to the charge of dealing in platitudes; but, although the fact may be so obvious, that should not cause one to forget that it is none the less very remarkable.

It was only about a hundred years ago that regular shipping services between this country and the distant parts of the earth were commenced, and it was not until 1850 that any serious attempt was made to provide such a service for the carriage of mails, as well as passengers and cargo, between the United Kingdom and South Africa. The company which undertook this service, however, found it too costly to run and it was withdrawn after four years, the company itself being subsequently wound up.

A second mail service to the Cape was inaugurated in 1856, but this venture was of even shorter duration than its predecessor, and came to an end in little more than a year.

In the autumn of 1857, the contract for the carriage of mails to the Cape was again put up for tender and was awarded to the Union Steam Ship Co., Ltd., which had been formed four years earlier with the intention of confining its operations to the coal-carrying trade. The new service proved successful and has been continuously maintained during the eighty years which have since elapsed.

For many years the Union Steam Ship Company was faced only with sporadic competition, which was usually very short-lived as the company was constantly adding larger and improved vessels to its fleet with which newcomers to the trade were unable successfully to compete. In 1872, however, the Castle Line, under the energetic management of Mr. (later Sir) Donald Currie, entered the South African trade, and competition began in earnest. Before very long the Castle Line had secured a share in the mail contract, and the development and improvement of the service, which had been progressing steadily hitherto, was now greatly accelerated, for both companies, in their efforts to outbid the other, were constantly building bigger and faster ships.

Wasteful and Uneconomic Competition

No one can doubt that a certain amount of competition is healthy, whatever the industry may be, as it tends to encourage enterprise and to produce increased efficiency, but these advantages only accrue if

the competition is kept within certain limits. When once these limits are exceeded it becomes wasteful and uneconomic, especially in undertakings which require the investment of a large amount of capital. The keen rivalry between the Union and Castle Lines might have tended gradually to weaken the financial resources of both and, had it been maintained indefinitely, there might have been a very real possibility of the services of the two concerns becoming less rather than more efficient. However, this point was never reached, as in 1900 the companies amalgamated to form the Union-Castle Mail Steamship Co., Ltd.

During the twenty years preceding this historic date in the annals of South African shipping, various other British companies and two German companies also entered the trade, so that the amalgamation of the two principal lines did not by any means give them a monopoly. Before the Great War, another one or two lines commenced services to South Africa, and the post-War years have witnessed the establishment of the lines of other nations.

From the date of the amalgamation, the Union-Castle Line proceeded to develop its services, and several new and improved vessels were placed in commission in the years before the War. During this period, the shipment of perishable produce began to assume noticeable proportions and the com-

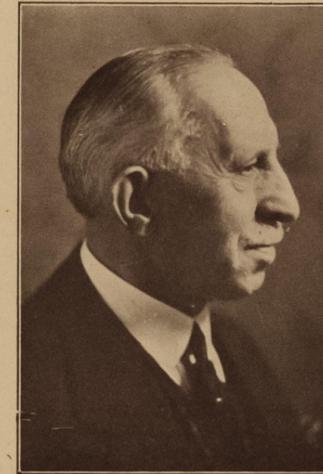
pany undertook to provide the necessary refrigerated space.

In the course of the War itself, the company's vessels played a useful part as armed merchant cruisers, hospital ships, transports and food-ships. Eight ships were lost, and, on the cessation of hostilities, the company had a considerably depleted fleet, which was not immediately capable of restoring all its pre-War services. The following few years were spent in making good these losses.

An important addition to the company's fleet was made in 1926, when the *Carnarvon Castle* was placed in commission. She was the company's first motor vessel and proved so adapted to its particular needs that every subsequent vessel built for the company has been fitted with Dieselenines.

Extension and Building Programme

In 1934, the board of the company decided that the time had come for it to embark upon an extensive shipbuilding programme, and in the past four years the company has received delivery of three mail vessels (including the *Capetown Castle*), two intermediates, four refrigerated cargo ships and one coasting vessel,



Mr. Robertson F. Gibb
[Chairman of the Union-Castle Mail Steamship Company, Ltd.]



The steamer "Dane" (530 tons), which was one of the vessels with which the Union Steam Ship Company commenced its mail service in 1856



The new motor passenger liner "Capetown Castle" which will leave Southampton on her maiden voyage to South Africa on Friday.

whilst there are a further two intermediates and two refrigerated cargo ships at present under construction. These mail and intermediate vessels are all marked advances as regards size, speed and appointments, upon any previous vessels engaged in their respective services, and those already in commission have justified the board's forward policy by their popularity and by their satisfactory earnings. The refrigerated cargo ships have been built specially for the conveyance of perishable cargo (consisting almost entirely of citrus and deciduous fruit) from South Africa, and, although this is not a profitable branch of the company's operations, these vessels have been of very great assistance in enabling the company to fulfil its obligations to the Government of the Union of South Africa in this connection.

The greatly increased speed of the new mail vessels enables them to perform the voyage between Southampton and Capetown in 13½ days, or three days less than the time hitherto required, and, in order to make use of this increased speed without interfering with the regularity of the mail service, the company decided two years ago to re-power five of its existing vessels with a view to enabling them to perform the voyage in the same time. Two of these mail ships are already

back in service and the remaining three will be re-commissioned before the end of the present year.

Carriage of Mails

The company was encouraged to go forward with this vast shipbuilding and re-powering programme by the extension of its mail contract with the South African Government for a further period of ten years from January 1, 1937. In this connection, it should not be overlooked that, although all first-class mail matter to and from South Africa is now carried by air, as regards volume this only forms a small part of the total mail, and the bulk, comprising parcels, newspapers, periodicals, etc., is still conveyed by the Union-Castle Company under this contract.

The extension of the contract afforded the company a sufficient sense of security to justify its embarking upon the great expenditure involved in connection with this shipbuilding programme, whilst, as far as South Africa is concerned, it will have the advantage of having what will probably be the most up-to-date and fastest regular mail service in the world—a service which undoubtedly will prove of immense benefit to the business community and to the travelling public alike.

INSPECTION OF THE "CAPETOWN CASTLE"

AN IMPORTANT LINK IN EMPIRE TRADE

At the invitation of the Union-Castle Mail Steamship Company, a number of guests representative of the British Government, South and East Africa, Rhodesia, and commercial interests travelled from London to Southampton to inspect the latest addition to this company's fleet.

Familiar though many of the visitors were with Union-Castle new constructional policy, there is no doubt that the *Capetown Castle* revealed many new technical features.

In general, of course, the ship is a repeat of the *Stirling Castle* and *Athlone Castle*. She is, however, somewhat larger, and it was interesting to note the use of all-electric steering in association with the Harlandic Brown Gyro control. Electric steering was employed by the Union-Castle Line in the *Carnarvon Castle*, their first big passenger and mail motor liner. The *Capetown Castle* is an example of one of the latest equipments of this kind under the British flag. Visitors who inspected the gear found a convenient entrance to the engine room via the tunnel escape, and the approach to the machinery space via the shaft tunnels again revealed the massive proportions of the hull. An interesting feature is the compact way in which the refrigeration compressors of J. & E. Hall type are tucked away on the starboard side of the ship abaft the after engine room bulkhead.

Features of the "Capetown Castle"

The main engine room itself stripped of its auxiliary Diesels by reason of the fact that these are in a separate engine room forward, is a spacious affair. It is an interesting reflection upon the auxiliary requirements of the modern big Diesel to note the electrically-driven scavenge blowers arranged on each side of the engine room in the wings.

The auxiliary engine room is well proportioned and the main switchboard, although not of deadfront type, is very accessible at the forward end of the auxiliary engine room at cylinder top level. Those units which were running at the time of the inspection were remarkable for their smoothness of operation and lack of noise.

Returning to the top deck via the engine room elevator one could not help being struck by the fine proportions of the vessel as viewed from the boat deck. Another point which was remarked upon was the way in which the bridge itself merged into the curved lines of the

superstructure and did not, as in the case of so many ships, appear to be a mere afterthought. Undoubtedly the forward end of the vessel is improved by the elimination of the well between the forecastle and the superstructure which characterised the early mail vessels. The long sweep of house deck is reminiscent of that of the big trans-Atlantic motor liners *Britannic* and *Georgic*, whilst the appearance of the ship as a whole is enhanced by the curved raking fashion plate stem.

The *Capetown Castle* is the complete answer to those critics who would have us believe that British shipowners and builders are behind in ideas when it comes to the appearance of vessels, and there is no doubt that she will command a great measure of respect technically as well as from the passenger's point of view, both in South Africa and this country.

Carriage of Mails

Sir Walter Womersley, Assistant Postmaster-General, speaking at luncheon on board, referred to the dependence which the Post Office placed on the company for the conveyance of mails to South Africa. In spite of the fact that letters were now sent by air, the British Post Office was sending just as much in weight to-day by sea as it did ten years ago. The relations between the Post Office and the Union-Castle Line had been of the most cordial description. The company was rendering a service to our great commercial interests, and it must be recognised that steamship companies such as the Union-Castle Line had played a great part in building up British trade.

Mr. Robertson F. Gibb, chairman of the Union-Castle Line, who replied, said that the company first carried the mails to South Africa eighty years ago and had continued to do so uninterruptedly since that time. In 1857 their first vessel took 44 days to make the outward voyage and 37 days to come home. The total freight outward was £102, and homeward £700, while the total passage money was £218 and £600 respectively. The *Capetown Castle* was the latest of the ships which the company was putting into the mail service, and even their severest critics in South Africa could not complain that the company had not shown a spirit of enterprise in providing, and in some cases in anticipating, the requirements of the Union. The company had embarked upon an extensive shipbuilding programme, which was not yet completed, for they still had under construction two intermediate cargo vessels and two refrigerated cargo vessels.

SOUTH AFRICAN OVERSEAS TRADE

ITS DEVELOPMENT AND PROGRESS

By F. J. du TOIT, Trade Commissioner, Union of South Africa

In giving consideration to the commercial and industrial development of South Africa, it is important to remember that the national activity and expansion are dependent mainly on a European population of just over two million. It is thus no mean achievement for South Africa to have attained the proud position of being Great Britain's best customer and the only country with which the United Kingdom has shown a steadily expanding and unbroken trade balance during the last 20 years.

The total importation into South Africa and the proportion supplied by Great Britain over the last seven years are of interest.

Year.	Total Imports.	Imports from U.K.
	£	£
1930	64,579,696	29,738,814
1931	53,015,058	23,633,586
1932	32,812,724	15,121,059
1933	49,317,825	24,719,681
1934	66,304,439	32,293,843
1935	75,325,920	36,622,125
1936	86,299,361	39,953,354
1937	103,382,242	42,000,000

Until 1910 activity in South Africa was almost entirely



The Union-Castle liner "Carnarvon Castle" at Port Durban

confined to the primary industries. Between 1910 and 1914, however, small beginnings were made towards the establishment of secondary industries, but it was not until South Africa was thrown upon her own resources during the Great War that her potentialities as a manufacturing country were realised. By 1915-16 the gross output of manufacturing industries rose to £40,000,000, and a figure of £113,000,000 was reached in 1928-29.

Output of Gold

During the world-wide depression activity fell off considerably, but, with the abandonment of the gold standard at the end of 1932 and the subsequent appreciation in the price of gold, recovery was rapid and the output rose to over £150,000,000 during the last year or two.

In 1925 when a revision of the Customs Tariff took place, a policy of moderate protection was adopted, and, in order further to encourage local industries, facilities were granted for the importation, under favourable duty conditions, of raw and semi-manufactured materials to be used for industrial purposes.

Dutiable Material Imported Under Rebate of Duty for Industrial Purposes.

Year.	Total Imports.	Imports from U.K.
	£	£
1931	1,589,348	2,748,744
1932	1,288,867	3,045,693
1933	2,267,875	3,604,778

The figures for this class of imports reflects the expansion which has consequently taken place.

Despite the enormous strides made in the internal development of the country, and the replacement of articles which formerly came from overseas by locally manufactured products, importation, far from being detrimentally affected, has greatly increased.

While South Africa is the largest purchaser of Great Britain the bulk of her merchandise is in turn exported to the United Kingdom, although, if the following figures are compared with the importation figures shown above, it will be apparent that the South African imports from the United Kingdom are greater than the equivalent figures relating to her exports.

Year.	Total Exports.	Exports to U.K.
	£	£
1930	28,763,142	14,742,491
1931	18,818,527	9,273,251
1932	16,950,456	7,796,214
1933	21,242,248	8,717,822
1934	22,037,834	9,500,555
1935	26,607,234	11,737,612
1936	26,517,200	11,387,089
1937	36,911,799	14,460,312

Exports of Agricultural Produce

Agricultural produce naturally plays an important part in the export trade of South Africa, and in her development as a member of the British Commonwealth, it is to be expected that her largest market should be found in the United Kingdom. This can best be illustrated by means of statistical data, and figures showing the export value of a few of the more important products for the years 1926 and 1936 are given on the next page.

South Africa's position as a producer of gold and diamonds is too well-known to require reiteration here. But the Union has, too, a wealth of base minerals, all of which can be produced on a commercial scale. The most important of these at present are probably asbestos and copper. During the years 1931 and 1936 the percentage of asbestos shipped from South Africa to the United Kingdom rose steadily from 35.1 per cent. in 1931 to 51.8 per cent. in 1935 and 47.9 per cent. in 1936. The balance was distributed among several foreign countries. Practically the entire output of copper from the Union is exported to and sold on the London market. There are also large deposits of other base metals such as manganese ore, magnesite, chrome, corundum, mica, marble, travertines, platinum, tin, lead, fluorspar, mineral pigments, talc and steatite. Many of these are being exploited, but it is felt that a greater export market might be found for others, such as manganese, marble and chrome, particularly in the United Kingdom.

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Commodity.	1926		1936	
	Total Exports.	to U.K.	Total Exports.	to U.K.
	£	£	£	£
Fruit (fresh) ...	699,637	673,049	2,711,018	2,440,030
Fruit (dried) ...	129,155	79,849	357,510	294,563
Fruit (preserved) ...	55,346	47,302	124,579	104,018
Wines—Spirits ...	29,382	16,416	228,313	156,809
Sugar ...	797,405	684,402	1,184,732	1,019,834
Wool ...	12,645,851	5,980,110	9,840,566	1,957,287

In addition to goods which are actually purchased an important factor to be considered is the benefit which accrues from invisible trade. In this respect the United Kingdom gains very much more than South Africa. In the case of shipping some 90 per cent. of the freight payments on cargoes, both to and from the Union, are made to Britain. Then, too, large sums are paid for insurance services, and agency and banking services which belong, almost entirely, to United Kingdom interests. Another factor in the invisible trade is the revenue derived from tourism. The number of visitors from South Africa to the United Kingdom has trebled itself in recent years, while the tourist figures from the United Kingdom to South Africa have grown steadily since 1925.

Facilities for Shipping

In order to facilitate the handling of cargo, and the berthing of ships at South African ports, extensive harbour improvements have been made. A scheme for the reconstruction of Table Bay Harbour has been put into operation. It is considered the period required to complete the work will be four years, at an estimated total cost of £6,000,000. An enclosed harbour has been built at Port Elizabeth at a total expenditure of £2,095,000. At East London the provision of a turning basin has made it possible for ships of any size to enter the harbour, whereas formerly the larger steamers were forced to anchor outside the harbour and were attended by lighters. Additional deep-water berths have been

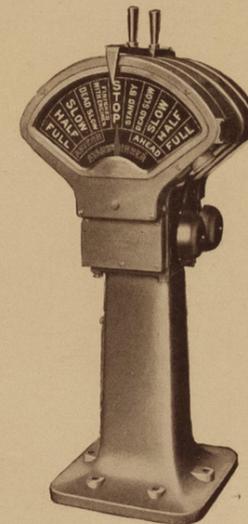
constructed at Durban Harbour, and as this port is the terminus of the flying boats operating between England and South Africa, an air base has been provided. Grain elevators to facilitate the storage and export of maize and grain are established at Cape Town and Durban, and pre-cooling stores for the export of fruit and other perishable produce have been erected at all the principal ports.

It is interesting when reviewing this somewhat remarkable development to study briefly the progress of South African shipping. The chief service in the South African trade was, in 1927, comprised of a fleet of 39 vessels with a gross tonnage of 332,667 tons, while at present the fleet consists of 34 vessels with a gross tonnage of 378,687 tons. Four vessels are under construction, which at the end of 1940 will increase the fleet to 38 vessels and the gross tonnage to approximately 426,700 tons. Apart from the main service, increased tonnage has also been provided by other lines operating between Europe and South Africa.

In comparatively recent years there has been considerable improvement in shipping facilities and much has been done to cope with the rapid expansion of South African trade, notably in the provision of refrigerated space, and, in the last two years, acceleration of the voyage. These two factors have been of inestimable benefit in the export of fruit and other perishable produce. It is fully realised that, to some extent cargoes do fluctuate, but where the exports are largely seasonal this is unavoidable, and it is a condition that applies not only to South Africa, but equally to shipping services to other parts of the world. However, if the present rate of progress in the import and export trade of South Africa continues, and there is no reason to believe it will not, one can only conclude that the greater accommodation facilities afforded by the shipping services will be taxed to the utmost to cope with the trade satisfactorily and expeditiously.

The M.V. CAPETOWN CASTLE

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The First-class Entrance.



The First-class Verandah.



The Children's Playroom.

THE UNION-CASTLE LINER "CAPETOWN CASTLE"



A Portion of the First-class Dining Saloon.



Part of the First-class Lounge.

THE R.M.M.V. "CAPETOWN CASTLE"

THE LATEST ADDITION TO THE UNION-CASTLE FLEET

THE 27,000 ton motor passenger liner *Capetown Castle* will leave Southampton on her maiden voyage to South Africa on Friday. She is in every way an outstanding product of British shipbuilding and engineering skill. She has a beauty of line and form which are a joy to both artist and engineer. She is slightly larger than the *Stirling Castle* and her sister mail ship the *Athlone Castle*, but has the same striking modern type profile—a raked stem of fashion plate, a cruiser type stern and a short pear-shaped streamlined funnel, which give a general effect of grace and power.

She is a two class ship and will carry 292 first-class and 499 cabin class passengers. The general arrangement of the passenger accommodation is in the main on the same lines as on the *Stirling Castle*. Particular attention has been paid to the decoration of the public rooms, and the general effect of light, air and coolness, combined with a restful simplicity in the various colour schemes, will appeal immediately to the discriminating traveller. The indirect system of lighting, around which many of the decoration schemes have been built, has made this possible. Modern strip lighting has also been used extensively, and passengers will no longer have to bear the hard glare of electric lights. Many beautiful African woods figure prominently in the public rooms.



A First-class Cabin de Luxe in the "Capetown Castle"

A feature of the new vessel which will be distinctly popular is the colour scheme which has been used for the deck houses. It is a faintly tinted ivory, extremely restful to the eyes in contrast to the usual dead white which can be so trying in the bright glare of the tropics.

First Class Accommodation

There are eight cabins-de-luxe on "D" deck, and two special suites on "C" deck consisting of a bedroom, sitting room and private bathroom. A large number of cabins are fitted with intercommunicating doors in such a way that certain groups of rooms can, if desired, be arranged to form additional suites.

The first-class dining saloon on "B" deck is on modern lines, simple and bold in conception with cheerful but cleverly concealed lighting. There are vaulted windows on the port and starboard sides hung with tasteful curtains. The radial plan of seating, which is now becoming traditional with the Union-Castle Line for their mail vessels, is emphasised in the design of the floor, which adds a distinctive note of its own.

The other first-class public rooms are situated on "E" deck which is enclosed at the forward end for a considerable length and makes an ideal place for sitting out or dancing.

The main lounge is a lofty and spacious apartment with sweeping lines leading up to a central dome. It has boldly designed wall panelling to the arched windows. The lighting is concealed in the ceiling and in the dome, but there are a few standard lamps on graceful veneered stems to illuminate the walls and dissipate any feeling of gloom which a floodlit ceiling might give to the lower part of the room. The furniture, floor covering and carpets are all simple in form and design but luxurious in comfort. A feature of the forward end is a concert platform fitted with stage curtains and providing splendid accommodation for music and entertainment.

The card room forms a balcony overlooking the main lounge. Its main feature is a solid carved wood balustrade which represents some of the many decorative flowering plants for which South Africa is famous.

Aft of the lounge on the starboard side is an attractive ladies' drawing room, designed and furnished in a modified eighteenth century style.

Other Public Rooms

On the port side is the long gallery. It has tall and spacious bay windows to the deck, a large bookcase, many writing tables, and it will probably be a popular place for afternoon tea.

The smoking room is a most comfortable apartment panelled with English brown oak and African teak, following somewhat on the lines of the Dutch South African style, and has a general air of comfort in its softly padded furniture. Doors from the smoking room lead to a sheltered sunny verandah which is raised above the general level of the sports deck thus making a shelter for spectators watching deck games.

The main staircase from the promenade deck to the swimming pool passes the dining saloon and is decorated in modern style with novel lighting features.

On "D" deck there is a completely equipped shop which might have been moved bodily from Bond Street, and a fully equipped hair dressing saloon and beauty parlour.

There is an unusually large first-class swimming pool, notable for the use of Italian quartzite instead of the usual chilly tiled floor. There is also a fully equipped gymnasium adjoining the pool. There is a children's playroom with child size furniture and ample scribbling space on the walls in the form of blackboards.

Vi-Spring Products, Ltd., have supplied their Vi-Spring mattresses to all the first class accommodation.

Cabin Class Accommodation

It is expected that the cabin class accommodation will prove extremely popular and every provision has been made for the comfort of the increasing number of passengers who travel in this class. The public rooms are decorated and furnished to a high standard, and, together with the ample deck space, including spacious sun and sports decks, provide splendid accommodation for those whose means do not permit of more expensive travel to South Africa.

The lounge on the promenade ("E") deck is a large and airy apartment, well provided with comfortable settees and armchairs. Aft of the lounge is a spacious verandah, overlooking the open air swimming pool.

The smoke room, on the bridge ("D") deck, is panelled in light polished veneers. It is a large apartment, well furnished with card tables, tub chairs and easy chairs, and its ample window space and modern tubular lighting ensure a cheerful atmosphere at all times. Aft of the smoke room on the same deck is the children's playroom. On the bridge deck also is a comfortable writing room where passengers are able to make their choice of reading matter from a library well supplied with books to appeal to all tastes.

An enquiry bureau is situated opposite the entrance on the upper ("C") deck. The dining saloon accom-

modating 430 persons on the main ("B") deck, with children's dining saloon adjoining, extends the full width of the ship. The tables provide seating for parties of four, six, eight or twelve passengers.

The cabin class passengers are accommodated in two and three-berth rooms with hot and cold running water and the Purkah Lcuvre ventilation system. All are furnished with wardrobes and chests of drawers and each berth has an interior spring mattress.

The cabin class passengers will have a special shop and hairdressing saloon.

TECHNICAL DESCRIPTION OF THE "CAPETOWN CASTLE"

A TWIN-SCREW MOTOR VESSEL

The *Capetown Castle* was built by Messrs. Harland and Wolff, Ltd., under Board of Trade and Lloyd's Survey, and has the following principal dimensions:—Length overall, about 734 ft. 3 in.; length b.p., 685 ft. 5 in.; breadth moulded, 82 ft.; gross tonnage, 27,000.

There are four complete steel decks, also orlop and lower orlop decks forward and aft of machinery space, as well as spacious promenade and boat decks.

The hull is divided into twelve compartments by eleven watertight bulkheads all of which extend to the upper "C" deck, and there is a continuous double bottom arranged to carry fresh water, water ballast and oil fuel. Deep fuel tanks are fitted across the vessel forward of the auxiliary machinery space.

There are three cargo holds forward and four abaft of the machinery space with corresponding cargo 'tween decks to the underside of "B" deck. Nos. 1, 2, 5, 6 and 7 lower holds and No. 5 tunnel 'tween decks are arranged for ordinary cargo, and the remaining holds and 'tween decks are insulated and arranged for the carriage of deciduous and citrus fruits, certain of the compartments being specially arranged for chilled or frozen produce.

The cargo hatches to the seven holds are served by 15 tubular steel derricks including four 10-ton derricks and a 30-ton derrick at No. 2 hatch, which is of a large size for shipping special loads. The derricks are worked by 16 electric winches of Laurence Scott make, those at No. 2 hatch being specially arranged to deal with heavy lifts.

The refrigerating machinery has been supplied by Messrs. J. & E. Hall, Ltd., the temperature of the cargo spaces being regulated by cooled air circulation, while the spaces for chilled or frozen produce are also fitted with a system of brine grids.

An electrically driven warping winch of Clarke Chapman's make is fitted on "D" deck forward, and two electric warping capstans by Messrs. Stothert & Pitt at after end of "D" deck.

The vessel is fitted with a streamlined semi-balanced rudder, operated by an electrically driven steering gear of builders' make.

There is hot and cold running water in every cabin.

Ventilation and Safety Arrangements

The ventilation of the *Capetown Castle* has been given careful consideration in view of the varying climates through which the vessel will pass. All passengers' staterooms and living accommodation throughout the vessel are ventilated on the Thermotank punkah louvre system, the louvres in the staterooms being arranged adjacent to the beds so that they can be easily operated by the occupants from the beds.

The dining saloons, swimming pool, dressing boxes, gymnasium, and special suite rooms are ventilated on the Thermotank distributor system. This new Thermotank patent gives draughtless diffusion of air across the ceiling, or when desired in hot weather, by simple adjustment, downward diffusion of the air can be obtained.

Ample exhaust ventilation is arranged by means of Thermotank fans extracting the vitiated air from the swimming pool, gymnasium, lounges and smoke room. Special attention has been paid to the ventilation of the kitchen spaces, laundry, store rooms, lavatories and bathrooms. As on other recently-built Union-Castle liners the complete ventilating installation for the *Capetown Castle* was designed and supplied by Thermotank, Ltd., of Govan, Glasgow.

Modern fire protection arrangements fitted to the latest Board of Trade requirements include the most up-to-date fire detecting and extinguishing system for cargo spaces and a sprinkler extinguishing system throughout the accommodation.

A complete and up-to-date equipment of cooking gear, etc., including oil fired cooking ranges, has been installed for the passenger accommodation.

The life-saving appliances include thirteen 30 ft. and two 26 ft. lifeboats, also a 30 ft. motor boat fitted with wireless.

The lifeboats are fitted with hand-propelling gear and all boats are fitted under Barclay gravity type davits, with boat winches of the same make.

A photographic dark room is provided for the use of passengers, and a large well-equipped laundry for dealing with passengers' and ship's linen is also arranged.

Bridge Equipment and Steering Gear

The "Brown" gyro compass equipment is installed in this vessel. The bearing, steering, and multiple repeater for the wireless room are of the usual standard pattern. In addition, a 360° automatic course recorder is included.

Of special interest is the new type of automatic steering gear. This is known as the "Harlandic-Brown" auto control system and has been developed by Messrs. Harland & Wolff and S. G. Brown, Ltd., to link up the Harland & Wolff all-electric steering gear with the "Brown" gyro compass.

This control unit manufactured by Messrs. S. G. Brown, Ltd., is enclosed in a neat watertight casing and arranged to be fitted to the bulkhead, the adjustment controls for varying conditions being readily accessible by means of a special door fitted in the main casing. In this system, the usual power unit is dispensed with and the control directly connected to the electric steering gear.

Not only is the system simplified by this means but in addition has several important features. With the ordinary type of automatic steering control, this has to be disconnected should it be necessary to change over to the hand control in the wheel-house. With the "Harlandic-Brown" system, the steering of the wheel is left connected and in an emergency can be used to operate the steering gear even with the control system still in circuit.

A further advantage of this system is that it enables the amount of rudder applied to be variable to suit weather conditions and the steering characteristics of the vessel itself. For instance, in order to obtain the

most efficient results in steering, it can be arranged for, say, rudder application of 3° Port and 5° Starboard or any other suitable variation required.

Messrs. Siemens Bros. & Co., Ltd., of Woolwich, have fitted to the *Capetown Castle*, the electric engine docking and steering telegraphs, the marine telephones and automatic telephones, electric rudder indicators, navigation lights indicator, "look-out" indicators, ahead and astern revolution indicator, electric distance thermometers, and the lifeboat searchlights.

The Propelling Machinery

The twin main engines are of the Harland-B. & W. 10 cylinder double-acting, two-cycle type, with a diameter of 660 mm. and piston stroke of 1,500 mm. embodying airless injection of fuel, uniflow scavenging and tuned exhaust system. The upper and lower exhaust piston valves are driven by eccentrics from the main crankshaft, and the work done on the exhaust pistons augments the collective power of the main pistons.

In accordance with the uniflow principle scavenge air is admitted to the cylinder through ports arranged in a tangential direction around the complete circumference of the liner. These ports are uncovered by the pistons and give a swirling motion to the scavenge air, achieving the turbulence necessary for good combustion. The exhaust is released by piston valves arranged in the cylinder head. With this arrangement of ports and valves, the flow of gas is unidirectional, a perfectly fresh charge is ensured for each cycle and the temperature gradient is uniform, with the result that high mean pressures are attained with smokeless combustion with a good margin of safety and power. The tuned exhaust pipe arrangement assists scavenging in reducing the load required for scavenge blowers.

Cylinder covers and the end portions of the main pistons are made of special steel. In the cylinder covers are located an exhaust piston valve, two automatic fuel valves, an automatic starting valve and a safety valve. The fuel valves are arranged diametrically opposite each other, spraying in such a way as to clear the exhaust piston valves. The main pistons are oil cooled, oil being conveyed to the piston through the annular space between the piston rod and the enclosing cast iron sleeve, and returns through a channel bored in the centre of the rod. Cylinder covers and jackets are cooled by fresh water flowing in a closed system. Salt water is circulated through the oil coolers and fresh water coolers.

Another contributor to the large output of the main engines is the independent drive of scavenge blowers. Four electrically-driven scavenge turbo blowers are provided, of such a size that three running can supply the necessary scavenge air, the fourth blower being a standby.

Oil Strainers

There are four 10 in. bore Auto-Klean main lubricating oil strainers with a total filtering area of 1,100 sq. in., and a total capacity of 1,000 tons per hour. Two are fitted in parallel in the lubricating oil system between the forced lubrication pumps and coolers of each of the main engines.

There are also two 6 in. bore Auto-Klean strainers in the lubricating system of the auxiliary engines, total capacity 200 tons per hour. Two 4 in. bore Auto-Klean Diesel fuel oil strainers are fitted in the fuel lines from daily tank to engine fuel pumps, and two 2½ in. bore Auto-Klean Diesel fuel oil strainers are fitted in the fuel oil line supplying the auxiliary engines. The lubricating oil filters are equivalent to 80 by 80 mesh, the fuel oil filters are equivalent to 100 by 100 mesh.

Two H. & W. Clarkson Silencer-Boilers for waste heat recovery are fitted on to the main engines. Each boiler measures 9 ft. 6 in. diameter by 22 ft. high, and is of the Clarkson wide water space design, which provides complete accessibility on both sides of the heating surface, without the need for any dismantling. Arrangements are made for exhaust gas to be diverted from the

waste heat boilers when more steam is generated than can be utilised. These boilers are of the same size and type as those fitted in the *Stirling Castle* and *Athlone Castle*. In port the steam service is maintained by two oil fired Cochran boilers arranged in compartments placed between the main and auxiliary engine rooms. There is a single funnel which is utilised to accommodate main and auxiliary engine silencers and tanks.

The Electrical Installation

The electrical installation is supplied by five main Diesel driven generators of the builders' own make, each having an output of 700 Kw. or the equivalent of 3,500 Kw. in all. In addition there is a 50 Kw. emergency generator also driven by an oil engine placed above the margin line, and a battery of 252 ampere hours at the five hour rate, which on the failure of the main generators is automatically connected to the steering gear, emergency lights and other important circuits until such time as the emergency generator is started up.

Both the main and emergency switchboards are of the builders' manufacture; the former has 22 distributing panels and is over 62 ft. long.

The connected load of the vessel amounts to about 7,400 Kw. made up of deck and engine room auxiliaries including four large air blowers of 590 h.p. each, and over 70 electrically-driven pumps. There are about 8,000 lights installed throughout the vessel.

An electric lift conveys the engineers from the starting platform in the engine room to their living quarters on the boat deck, while two lifts are provided for conveying the passengers to all decks. In addition to these there are electric hoists for conveying food quickly from one deck to another.

"Harlandic" electric heaters of the builders' own make are installed throughout, as also the "Harlandic" system of electric clock control by means of which correct ship's time can be maintained during the voyage, avoiding the necessity of having to put the clocks forward or back daily.

The watertight doors on the tank top will be electrically controlled from the captain's bridge, these doors being of the builders' well known design and make.

Electrically-operated cooking apparatus and service motors including an electric range for the crew's galley are installed, and the installation also includes an electrically-operated laundry and gymnasium.

The music equipment enables broadcast programmes, the band, or alternatively gramophone records, to be enjoyed all over the ship.

A luminous call system ensures silent and efficient service and in addition there is an automatic system of telephones connected to the service stations.

The installation also includes directly operated lifebuoy releases and an alarm system controlled from the captain's bridge.

The Wireless Equipment

The wireless equipment of the *Capetown Castle* has been supplied by the Marconi Company. It is similar to that fitted or to be fitted on the other vessels of the Union-Castle Line and will enable communication to be maintained at all times with any part of the world. It consists of a Marconi wireless telegraph installation including a 2 Kw. C.W./I.C.W. transmitter for long and medium wavelengths, a 1½ Kw. short wave transmitter, and a ¼ Kw. quenched spark gap emergency set; together with receivers covering the whole of the commercial wavelengths.

This apparatus not only provides adequately for Safety of Life at Sea Regulations, but also ensures that the ship will have a first-class radio telegraph service enabling her passengers and personnel to be in communication with various countries of the world throughout the voyage between England and South Africa.

For navigational purposes and to comply with Government regulations a Marconi direction finder with double loop fixed frame aerial is being installed.

THE BUILDERS OF THE "CAPETOWN CASTLE"

GREAT BUILDING AND RE-CONDITIONING PROGRAMME

The *Capetown Castle* is the latest of a long line of ships built for the Union-Castle Mail Steamship Company by Messrs. Harland and Wolff during the last 50 years. The connection between the two companies dates back to the times when the late Lord Pirrie went to South Africa and designed ships which were the forerunners of the handsome vessels—replete with the latest advances in design and knowledge in shipbuilding, implemented by skilled craftsmanship—which to-day serve the Empire and the South African services.

In addition, Messrs. Harland and Wolff are now carrying out an extensive re-engining programme for the Union-Castle Company. Under the provisions of the new mail contract the entire mail fleet of the Union-Castle Company must be able to maintain the weekly service between Southampton and Cape Town in not more than fourteen days, as compared with the 16 days 14 hours laid down under the old contract.

The new mail ships *Athlone Castle*, *Stirling Castle* and *Capetown Castle* can, of course, easily maintain this accelerated schedule, but its adoption necessitated the repowering of five units of the company's present fleet. This programme of reconditioning, which is without precedent in the history of shipbuilding, is dealt with on other pages of this supplement. When completed, Messrs. Harland and Wolff will have had the unique distinction of having built and modernised the entire Union-Castle mail fleet within a period of five years. Only a company with a wide technical experience and extensive facilities could have undertaken the work successfully, and the Belfast firm can now look back with pride on the essential part they have played in forging an important link of the Empire. As an indication of the long connection between owners and builders, the following table gives a complete list of the ships which Messrs. Harland and Wolff have built for the Union-Castle Mail Steamship Company and its parent company, the Union Steamship Company.

Name of Vessel.	Year Gross Tons completed	Name of Vessel.	Year Gross Tons completed
<i>Gaul</i> ...	4,745 1893	<i>Windsor Castle</i> ...	19,022 1922
<i>Goth</i> ...	4,738 1893	<i>Carnarvon Castle</i> ...	20,063 1926
<i>Greek</i> ...	4,746 1893	<i>Llangibby Castle</i> ...	11,950 1929
<i>Norman</i> ...	7,392 1894	<i>Winchester Castle</i> ...	20,108 1930
<i>Geulph</i> ...	9,916 1894	<i>Dunbar Castle</i> ...	10,002 1930
<i>Gascon</i> ...	6,287 1897	<i>Warwick Castle</i> ...	20,444 1931
<i>Gaika</i> ...	6,287 1897	<i>Roslin Castle</i> ...	7,016 1935
<i>Goorkha</i> ...	6,286 1897	<i>Rothsay Castle</i> ...	7,016 1935
<i>Briton</i> ...	10,248 1897	<i>Stirling Castle</i> ...	25,550 1936
<i>German</i> ...	6,763 1898	<i>Athlone Castle</i> ...	25,563 1936
<i>Galeka</i> ...	6,767 1899	<i>Dunnottar Castle</i> ...	15,006 1936
<i>Saxon</i> ...	12,385 1900	<i>Dunvegan Castle</i> ...	15,006 1936
<i>Galician</i> ...	6,756 1900	<i>Walmer Castle</i> ...	905 1936
<i>Walmer Castle</i> ...	12,545 1902	<i>Rochester Castle</i> ...	7,795 1937
<i>Kenilworth Castle</i> ...	12,975 1904	<i>Roxburgh Castle</i> ...	7,800 1937
<i>Dunluce Castle</i> ...	8,113 1904	<i>Capetown Castle</i> ...	27,000 1938
<i>Gdinburgh Castle</i> ...	13,326 1910	No. 987*	17,000 —
<i>Ealway Castle</i> ...	7,987 1911	No. 1006*	17,000 —
<i>Dromore Castle</i> ...	5,242 1919	No. 1012*	8,000 —
<i>Dundrum Castle</i> ...	5,259 1919	No. 1013*	8,000 —
<i>Arundel Castle</i> ...	19,022 1921	* Under construction.	

The Queen's Island yard is the largest shipbuilding establishment in the world, and the high position which it occupies is indicated by the fact that the firm have headed the world tonnage output on no fewer than

23 occasions. Messrs. Harland and Wolff also hold the Blue Riband for the largest tonnage output ever achieved by one yard in one year. This occurred in 1914 when no less than 156,000 tons of new ships were put into the water.

Notable Motorships Built

Harland and Wolff are also the world's largest builders of motor ships, and the Harland-B. & W. engine has attained world-wide reputation for excellence of performance and manufacture. The Queen's Island firm have been closely identified with the development of the Diesel engine for more than 25 years, and have been very largely responsible for its rapidly increasing application to ships of all types. The quadruple screw *Reina del Pacifico* (17,700 tons) completed early in 1931 for the Pacific Steam Navigation Company, was the largest motor liner of that year; while the *Britannic* (1930) and the *Georgic* (1932), each of 27,000 gross tons, are the largest British motorships afloat. All the vessels

recently built for the Union-Castle Company are motor vessels, the *Capetown Castle* being propelled by Harland-B. & W. oil engines of the 2-cycle type. The firm have been sole licensees for the British Empire of the Burmeister and Wain type of oil engine for over 25 years, and engines of this type have been fitted to over 1,000 vessels, representing over five million h.p.

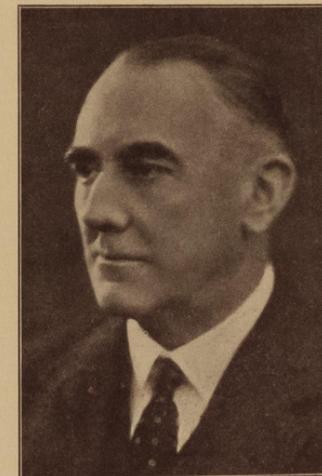
The firm of Harland and Wolff was founded in 1859, when Sir Edward (then Mr.) Harland, who had taken over a small shipyard from Messrs. Robert Hickson & Co., was joined by Mr. G. W. Wolff. The name Harland and Wolff has been retained from the beginning, but, of course, other names have been largely associated with the progress and success of the firm, notably Lord Pirrie and the present chairman, Mr. F. E. Rebbeck. From one hundred hands at the commencement, the number of employees at Queen's Island has increased until at busy times it exceeds 18,000.

Builders of High-Class Tonnage

The work turned out by Messrs. Harland and Wolff has always been of a high-class character, so many of the vessels built by them being full-powered passenger vessels. The tonnage figures do not fully indicate the immense volume of work undertaken, the larger vessels especially, with their handsome public rooms and luxurious appointments, as also their powerful machinery, representing a value greatly exceeding that of the more ordinary kind of tonnage.

Possibly the best illustration of the class of work turned out and the specialisation in large vessels may be conveyed by reference to some of the notable ships constructed by the firm. The second *Oceanic* built for the White Star Line, 1899, was the world's biggest ship. She had a gross tonnage of 17,274, and was followed in 1901 by the *Celtic*, the first ship to exceed 20,000 tons; in 1902 by the *Cedric*, 20,000 tons; in 1903 by the *Baltic*, 24,000 tons; and in 1906 by the *Adriatic*, 24,600 tons; each in turn taking world leadership in size. These were followed later by the famous *Olympic* of 46,000 tons—one of the most popular vessels ever employed in the North Atlantic service—and in 1915, by the *Britannic*, of 48,000 tons. The *Britannic* is the largest ship to be built at Belfast and the largest to be built in any British yard before the *Queen Mary*.

The firm is also famous for the large number of vessels



Mr. F. E. Rebbeck
Chairman of Messrs. Harland & Wolff,
Ltd.]

built for cross-channel services, and was the first to apply the Diesel engine to such vessels when the *Ulster Monarch* and her two sister ships were built for the Liverpool-Belfast service.

Messrs. Harland and Wolff are also the world's largest builders of refrigerated cargo tonnage, and in addition to the vessels constructed for the Union-Castle line, have built a number of "food ships" for the Shaw Savill and Albion Company, the Blue Star Line and other shipping companies engaged in the carriage of perishable foodstuffs to this country.

As well as being the world's largest builders of passen-

ger liners, Messrs. Harland and Wolff have in the past undertaken many notable contracts for the British Admiralty. At the present moment there are under construction at Queen's Island the aircraft carrier *Formidable*, of 23,000 tons displacement, and the *Belfast*, a cruiser of 10,000 tons, which was recently launched by Mrs. Neville Chamberlain, wife of the Prime Minister; and there is every likelihood that further Admiralty contracts will follow. That, however, is for the future; but the firm has every reason meanwhile to be proud of the important part it has played in maintaining the supremacy of British merchant shipbuilding.

THE FLEET OF THE UNION-CASTLE LINE

ACCELERATION OF THE MAIL SERVICE TO THE CAPE

By "Baltrader"

"THE history of South Africa," General J. C. Smuts once remarked, "has been so bound up with the growth of her overseas communications that the records of the country would be incomplete without accounts of maritime enterprise from the days of sail down to the present age of steamer and motor liner." During the last eighty years the Union-Castle Mail Steamship Company, Ltd., formed as a result of the amalgamation of the Union and Castle Lines, has played a leading part in this history.

The Union Steam Ship Company, Ltd., was registered on December 5, 1856, and on September 12, 1857, it received a contract for the carriage of mail between England and Cape Colony. For an annual subsidy of £33,000, it had to despatch a steamer, out and home, once a month and the duration of the passage was to be not more than 42 days. On September 15, the first steamer, the *Dane*, sailed from Southampton.

In 1872, there appeared on the scene that "Colossus of South African Shipping," Donald Currie, whose first steamer in the Cape trade, the *Iceland*, sailed from Dartmouth on January 25, 1872, and arrived in Table

Bay 27 days later. Since the existing mail contract was based on a passage of 38 days, this achievement was regarded as a remarkable development. Four years later, when the mail contract with the Union Line came to an end, new arrangements were made whereby Cape Colony was, for the first time, provided with a weekly mail service. Fortnightly sailings were taken by the Union Line and Currie, henceforward to be known as the Castle Line, vessels, and the contract time was reduced from 38 to 26 days, with premiums for more rapid passages.

The Birth of the Union-Castle Line

One of the clauses in the new mail contract forbade the two lines concerned to amalgamate, the Cape Government apparently hoping that the rivalry which existed between them would make for efficiency. The great progress of South Africa and the entry of newcomers into the trade, however, eventually led the lines to compose their differences, and when, in 1899, new tenders for the mail contract were asked for, the ban on amalgamation was lifted. The Union and Castle Lines together then submitted a tender for the new mail contract, and in the last days of the century it was officially announced that they were to amalgamate, the Castle Line changing its name to the Union-Castle Mail Steamship Company, Ltd., and taking over the fleet, property, assets and liabilities of the Union Line. The scheme was adopted at meetings of both companies on February 13, 1900, and on February 17, the first mail steamer flying the new house-flag, the *Dunnottar Castle*, left Southampton for the Cape.

Thus was the Union-Castle Line launched on its successful career. To-day it ranks as one of the great British liner companies with a high record for punctuality and safety. It owns no fewer than 31 ships of 377,868 tons gross, excluding two small craft of 319 tons. Tribute has repeatedly been paid to the courage and enterprise with which the company's affairs have been conducted during the last few years, under the chairmanship of Mr. Robertson F. Gibb. Within the last three years, the company has taken delivery of eight new ships of 137,606 tons, and has four of 48,000 tons still under construction. It has, moreover, agreed to reduce the passage time between Southampton and Cape Town from 16½ days to 13½ days with full effect from January 1, 1939. This is a remarkable achievement, since the acceleration of an existing mail service calls for a considerable financial expenditure and a great deal of organising ability, especially when that service is concerned with one of the great trade routes of the world.

Terms of the New Mail Contract

In recent years the speed maintained on the South African mail service has been criticised from time to time. The Union-Castle Line, in reply, repeatedly pointed out that the speed was regulated by the terms of the mail contract and that it could only be increased at the request of the Government of the Union of South Africa. It was questionable whether that Government would agree to pay the extra mail subsidy which higher speed would entail, especially since all first class

mail matter—letters, etc.—would in course of time be carried by air, as, in fact, they are carried to-day. The problem was solved by a compromise which was creditable alike to the Ministers of the Union Government and to Mr. Robertson F. Gibb, who negotiated it on behalf of his company. In March, 1936, General Smuts, the Deputy Prime Minister, at a luncheon at Cape Town on board the *Stirling Castle*—then on her maiden voyage—announced that the Government, in return for an acceleration in speed, had agreed to continue the existing mail contract for another ten years. Mr. Robertson Gibb, who also spoke on that occasion, said that the new sailing schedule would cost his company a lot of money, but added, in reference to the new agreement, that "this has been a good thing for us and not a bad thing for the Government." At the annual meeting of the Union-Castle Company in May, 1936, the chairman pointed out that the agreement marked "a noteworthy development in the history of the company and the accelerated service, when it comes into operation, should prove of great benefit not only to the company itself but also to the Union of South Africa." It was obvious that the company, however, had undertaken a formidable task, involving nothing less than a complete readjustment of its whole organisation to new conditions of service.

In order to provide a weekly service in each direction between Southampton and Cape Town, eight ships had to be available which could maintain a service speed sufficiently high to reduce the passage by no less than 3 days. It possessed two such ships at the time, the *Stirling Castle* and *Athlone Castle*. The problem was solved by ordering another ship, the *Capetown Castle*, and arranging for the motor liners *Carnarvon Castle*, *Warwick Castle* and *Winchester Castle*, and the steamships *Arundel Castle* and *Windsor Castle* to be repowered. It was no easy matter to withdraw these five ships in turn from the service, while carrying on the service with its accustomed regularity. The plan which was adopted was based on two time schedules, one of 16½ days and the other of 13½ days. Anyone who believes that such a programme is easy to arrange is advised to take pencil and paper and work it out for himself.

The *Stirling Castle*, in inaugurating the accelerated service, left Southampton on August 21, 1936, and arrived at Cape Town 14 days later, the official time

for the passage being given as 13 days, 6 hours, 30 minutes. What it came to was that in sixty years the time of the passage had been halved. It is interesting that in the same sixty years, the time taken to cross the North Atlantic had also been halved, evidence that those responsible for the mail service between England and South Africa, though catering for traffic on a smaller scale and in less favourable conditions, had not been behindhand in taking advantage of the progress of naval architecture and marine engineering.

Unprecedented Reconstruction Programme

The task of repowering the five existing ships was entrusted to Messrs. Harland & Wolff, Ltd. No reconstruction programme of such magnitude had ever before been conceived by a shipping company or undertaken by a single shipbuilding company in this

or any other country. The work which has been completed at Belfast with the greatest efficiency, and by the beginning of next year this undertaking will have been brought to a successful conclusion. Despite the difficulties which this firm, like other shipbuilders, has experienced in the matter of steel deliveries and so on, as a result of the rearmament programme, the timing of the work, so important to the Union-Castle Line, has been faultless. The following table shows the year of building and the gross tonnage of the five repowered ships, the date on which they arrived at Belfast for the work to be done, and the date on which they either re-

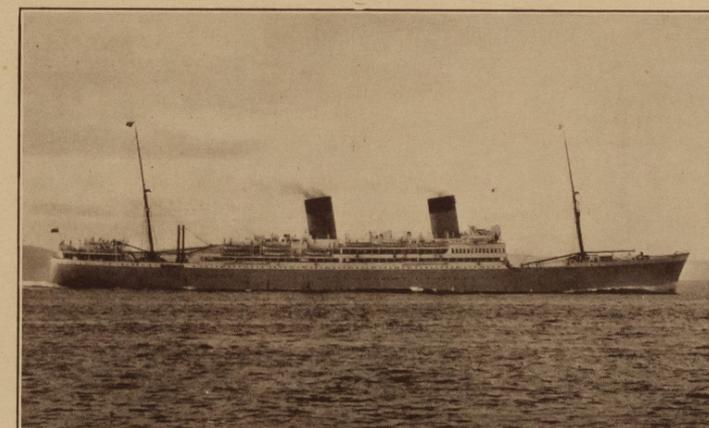
entered the mail service or are to re-enter it.

Ship	Year built	Tons gross	Arrived Belfast	Re-entered Service
<i>Arundel Castle</i> ...	1921	19,118	Jan. 18, 1937	Oct. 29, 1937
<i>Windsor Castle</i> ...	1922	19,141	May 12, 1937	Jan. 28, 1938
<i>Carnarvon Castle</i> ...	1926	20,063	Oct. 25, 1937	July 8, 1938
<i>Warwick Castle</i> ...	1930	20,445	Jan. 24, 1938	Oct. 28, 1938
<i>Winchester Castle</i> ...	1930	20,109	Apr. — 1938	Jan 20, 1939

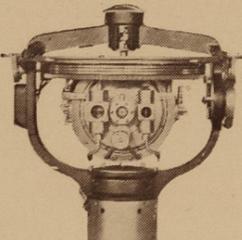
The *Windsor Castle* was constructed at Clydebank by Messrs. John Brown & Co., Ltd., and the other four ships at Belfast by Messrs. Harland & Wolff, Ltd. In the case of the three motor ships, the re-powering consisted merely of installing more powerful Diesel



The "Union-Castle liner "Windsor Castle" as a four-funnelled steamer, 1922 to 1937.



The Union-Castle liner "Windsor Castle" after being reconditioned.

THE
**"CAPETOWN
 CASTLE"**
 IS EQUIPPED WITH THE
Brown
 THE BEST BRITISH

GYRO COMPASS
 AND THE NEW
HARLANDIC-BROWN
AUTO-STEERING
CONTROL SYSTEM

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engines. But the work on the *Arundel Castle* and *Windsor Castle* involved the lengthening of the bow in each case by about 15 ft., and certain structural alterations were made which have changed their outward appearance considerably. Their original machinery, which consisted of geared turbines and Scotch boilers developing about 14,000 horse-power, has been replaced by the latest type of Parsons single-reduction geared turbines with four Babcock-Johnson high pressure water-tube boilers, this machinery developing well over 28,000 horse-power.

These five ships, together with the *Athlone Castle*, of 25,564 tons and *Stirling Castle*, of 25,550 tons, both built in 1936, and the newly completed *Capetown Castle*, of about 27,000 tons, with a combined tonnage of 176,990 tons gross, will, from the beginning of next year, maintain a weekly service in both directions between Southampton and Cape Town, each vessel being capable of a service speed of 18 knots. Two ships at present on the service will be withdrawn and presumably will in due course be sold for breaking-up. They are the *Balmoral Castle*, of 13,363 tons, and the *Edinburgh Castle*, of 13,329 tons, and both were built in 1910, the former by the Fairfield Shipbuilding and Engineering Company, Ltd., and the latter by Messrs. Harland & Wolff, Ltd. It is a tribute to the sound workmanship put into these vessels that for 28 years they have successfully maintained an exacting mail service under all conditions of weather. On the new schedule, the vessels will take 13½ days between Southampton and Cape Town, calling at Madeira en route, will spend 14 days proceeding from Cape Town to Durban via Port Elizabeth and East London, and returning to Cape Town via the same ports, and will have 14 days at Southampton.

The Intermediate Services to the Cape

In addition to the mail service to the Cape, the Union-Castle Line maintains two intermediate services:

A. At fortnightly intervals from London to Cape Town, Port Elizabeth, East London, Natal, Lourenço Marques and Beira, proceeding alternatively via Las Palmas and Tenerife and calling once a month with mails at Ascension and St. Helena.

B. Every four weeks from London, calling at Tangier, Gibraltar, Majorca, Marseilles, Genoa, Port Said, Suez, Port Sudan and Aden, to Mombasa, Tanga, Zanzibar, Dar-es-Salaam, Port Amelia, Mozambique, Beira, Lourenço Marques and Durban.

Vessels proceeding outwards via the Suez Canal return to England via the West Coast route, and correspondingly certain of the vessels proceeding outwards via the West Coast return via East Coast ports and the Suez Canal, so as to give a regular service homewards from these ports. There is thus a regular round-Africa service westabouts and eastabouts.

The completion of the repowering programme will enable two vessels now employed on the mail service to return to the intermediate service A, for which they were designed. These are the motor liners, *Dunvegan Castle* and *Dunnottar Castle*, each of 15,007 tons and 16 knots service speed, built by Messrs. Harland & Wolff, Ltd. in 1936. The former returns to the service in July and the latter in November. They will take the place of the *Dunluce Castle*, of 8,131 tons, and *Durham Castle*, of 8,240 tons, which were built in 1904 by Messrs. Harland & Wolff, Ltd. and the Fairfield Company respectively.

Two new motor liners, each of about 16,000 tons, are at present under construction at Belfast. The first to be completed will sail from London on December 30, and will replace the *Gloucester Castle*, a vessel of 8,006 tons built by the Fairfield Company in 1911. The second ship, when completed, will presumably replace either the *Garth Castle*, of 7,625 tons, or the *Grantully Castle*, of 7,592 tons, both of which were built by Messrs. Barclay, Curle & Co., Ltd., in 1910. Two other liners of modern construction are employed in the intermediate service A. They are the *Llangibby Castle*,

of 11,951 tons and 15½ knots service speed, and the *Dunbar Castle* of 10,002 tons and 14½ knots service speed. Both are motor vessels, and were built on the Clyde by Messrs. Harland & Wolff in 1929 and 1930 respectively.

On the intermediate service B., outwards via the Suez Canal and homewards via the West Coast, three ships, all fitted with twin-screw quadruple expansion engines, are employed. They are the *Llanstephan Castle*, of 11,299 tons, built by the Fairfield Company in 1914; the *Llandoverly Castle*, of 10,609 tons, built by Messrs. Barclay, Curle & Co., Ltd. in 1925; and the *Llandaff Castle*, of 10,786 tons, built by Messrs. Workman Clark & Co., Ltd., in 1926. The first named has a service speed of 13½ knots and the other two service speeds of 14 knots.

A Fleet of Eighteen Liners

When the re-powering programme is completed and the two new liners are put in commission, the Union-Castle Line will have on its mail service and its two intermediate services 18 passenger liners of 301,276 tons gross, averaging nine years of age. Of these, 12 ships of 222,698 tons will be motor vessels, while 13 of them, of 241,816 tons, will have been built by Messrs. Harland and Wolff, Ltd. Six of the passenger ships now owned by the company, of 58,661 tons, will apparently be surplus to requirements, but these ships have an average age of 30 years. There can be little doubt, however, that the company, pursuing its policy of providing South Africa with the most up-to-date services possible, will, when a favourable opportunity offers, replace either the *Garth Castle* or *Grantully Castle*—whichever is not replaced by the second new ship of the "D." class now under construction—both of which are now 28 years of age, and also the *Llanstephan Castle*, which is now 24 years old.

There remain to be considered 11 ships of 65,931 tons, of which two are under construction. Two of them are of less than 3,000 tons each and are engaged in subsidiary services, the *Rovuma*, a steamer of 1,289 tons, built in 1927, being based on Port Natal, and the *Walmer Castle*, a motor vessel of 906 tons, built in 1936, which is being employed in transporting transhipment cargoes to and from the mail steamers at Southampton and the near Continental ports. The others are ocean-going cargo vessels. Three of them are used on the company's service between New York and the Atlantic ports of the United States and South Africa. They are the *Dundrum Castle*, of 5,259 tons, and *Dromore Castle*, of 5,242 tons, both built by Messrs. Harland and Wolff, Ltd., on the Clyde in 1919, and fitted with triple-expansion engines; and the turbine driven steamer *Sandown Castle*, of 7,607 tons, built by Messrs. Short Bros., Ltd., at Sunderland, in 1921.

The Growth of South Africa's Fruit Trade

Since the Armistice, and more especially in recent years, the export of deciduous fruits from South Africa to this country has shown an amazing increase. There came a time when the refrigerated space available in the mail ships was insufficient to cope with the demand. Notwithstanding the fact that the British shipping industry was passing through the most disastrous years in its history, and that the outlook was very black, the Union-Castle Company decided to meet the requirements of its South African clients and to build specially designed fruit ships for them. There are now four of these ships in service and two others under construction. All six have been, or are being, built at Belfast by Messrs. Harland and Wolff, Ltd. They are motor cargo liners, with large refrigerated space and a service speed of 16 knots, which is but little less than the speed of the mail liners in the past. The first two ships were the *Roslin Castle* and *Rothesay Castle*, each of 7,016 tons, built in 1935, and the next two the *Rochester Castle*, of 7,795 tons, and *Roxburgh Castle*, of 7,801 tons, built in 1937. The two ships now under construction are of about the same size, 8,000 tons,

