

a newly discovered danger, or other hindrance to navigation, the existence of which navigators might be quite unaware. Any benefit resulting from this rapid means of communication may become more widely distributed among ships of this Dominion than would be the case in other countries, as our wireless regulations require that wireless shall be carried on comparatively smaller ships than is required by the regulations of other nations.

Of the total urgent radio-broadcast navigation warnings, nine had reference to unforeseen temporary changes at coastal lights, one to a missing launch, one to a missing airplane, and one to a derelict which was considered a menace to shipping.

Of the total notices to mariners, sixty had reference to navigation on New Zealand coasts and harbours, fifteen to navigation within the Commonwealth of Australia, and twenty to matters affecting the navigation of ships trading to and from this Dominion.

The issue and circulation of notices to mariners is almost an international system of exchanging information concerning matters affecting the safe navigation of ships, and this Dominion suitably reciprocates by issuing and circulating information relating to its coasts and harbours. The necessity for reciprocity in this will be appreciated when it is realized that in our harbours most of the important maritime countries are represented.

RADIO DIRECTION-FINDING FOR NAVIGATIONAL PURPOSES.

The application of radio to navigation has shown marked progress by extended use of the device now widely known as a radio-beacon. This device, installed at a salient point on shore, when used in conjunction with its component—a radio direction-finder on board a ship—provides a ready means of obtaining a position-line. By making use of two or more radio-beacons, a ship having a radio direction-finder on board is enabled to ascertain her position within reasonable accuracy by the use of well-known methods of navigation. This system would appear to have ousted the earlier systems, some of which were both expensive and complicated in their use. It has survived a lengthy experimental period, and has apparently come to stay. It is largely used in the older countries where ships are more numerous. The installation systems of radio-beacons in other countries has been closely watched, and so far it has been established the spark system of transmission is being discarded in favour of that of the interrupted continuous wave.

Very little use has been made during the past year of the radio direction-finding beacon at Cape Maria. This, of course, is due to the fact that comparatively few ships are fitted with the complementary apparatus.

With regard to the provision which was made on the appropriations for the erection of similar beacons at Lyttelton and Wellington, the Department learned that the Canadian authorities were carrying out experiments with a continuous-wave type, something other than the spark-gap type having become desirable because of interference with other wireless telegraphic operations. The advice tendered by the Canadian authorities was to the effect that, while it was early to assert positively the success of the continuous-wave type, they considered it inadvisable to proceed in the meantime with the installation of any further beacons of the spark-gap type, and consequently no further action has been taken in the meantime.

EXAMINATION OF MASTERS AND MATES.

This Department's regulations relating to the examination of masters and mates have been revised so as to conform with those issued by the Board of Trade of Great Britain in 1927, thus ensuring that the examinations for foreign-going certificates conducted by this Department are identical to those carried out by the Board of Trade. Examinations for all grades of certificates are held at Wellington monthly, and every three months at both Auckland and Lyttelton.

During the past twelve months the total number of examinations held in this Dominion for certificates of competency as master and as mate, and for certificate-holders who desired to have their certificates endorsed as having passed the voluntary examination in compass deviation, was eighty-seven. Fourteen of these examinations were for certificates for restricted-limits ships.

The proportion of passes to the total number of examinations held during the past five years shows 49½ per cent. in 1927-28, 38½ per cent. in 1926-27, 34 per cent. in 1925-26, 46 per cent. in 1924-25, and 51 per cent. in 1923-24. The percentage of passes shows an improvement when compared with that of the previous year. The number of candidates who were successful in passing their examination at first attempt was twenty-five, this number for last year being eighteen.

Two candidates were successful in passing for the higher certificate—that of extra master—and four succeeded in passing the voluntary examination in compass-deviation. Examinations for a license as colonial pilot or in the voluntary examination in signalling were not held, there being no applicants for these qualifications.

Wellington continues to provide the greatest number of candidates for examination, the percentages of the total number of examinations held for each of the three ports being—Wellington, 69 per cent., Auckland, 22 per cent., and Lyttelton 9 per cent. These figures for 1926-27 were 59 per cent., 23 per cent., and 18 per cent., and for 1925-26, 52 per cent., 28 per cent., and 19½ per cent. respectively.

EXAMINATION IN FORM AND COLOUR VISION.

The number of sight-test examinations carried out totalled sixty-four. Of this number two candidates failed to pass the letter test. These examinations are open to all persons serving or intending to serve in the mercantile marine or in fishing-vessels, for the purpose of enabling them to ascertain whether their vision is such as to qualify them for service in that profession.