

In a few cases concerning casualties to small vessels the necessity for having a precise minimum standard of efficiency for the standard compass of such vessels has become evident; and it is intended to make provision for this to be carried out as soon as sufficient data becomes available to enable this to be performed.

The usual investigation of dredgers' compasses has been made; and in some cases the compasses of this class of vessel have required more than the usual remedy to enable a satisfactory compass adjustment to be carried out. Owing to the constructive nature of these vessels a satisfactory adjustment is seldom obtainable, and it has not always been possible to confine the compass errors within such limits as are prescribed by the present Compass Regulations.

Many important changes in the design and in the development of the gyroscopic compass have taken place; especially noticeable is the introduction of a mercurial ballistic, which has superseded the formerly used pendulous floating ballistic; the changes making for simpler manipulation and improved efficiency. Its exclusive use, as far as can be ascertained at present, is confined mainly to vessels of special design such as warships, &c., the design of which vessels makes the maintenance of an efficient magnetic compass very difficult, but in such cases the magnetic compass is used as a check on the gyroscopic compass. Judging by the number of vessels at present equipped with the gyroscopic compass it may be assumed that before long it will be found installed on some of the overseas vessels regularly trading to this Dominion.

The inspection of ships' compasses by the Department's Inspectors has been carried out in the usual manner.

"NAUTICAL ALMANAC AND TIDE-TABLES."

The publication of the "Nautical Almanac and Tide-tables" was carried out in the usual manner, and the Nautical Almanac was available to the general public about a week before Christmas, its customary time of issue. Economic reasons continue to restrict its contents to bare requirements only. The necessary nautical ephemeris as used for the navigation of vessels was included, as formerly. An important change in the latter substance respecting the method of reckoning Greenwich mean time will take place on the 1st January, 1925, which will necessitate a complete revision of the tabulated methods for showing the nautical ephemeris as now shown in the Nautical Almanac. This revision, which follows the alteration recently made in the British Admiralty Nautical Almanac, is now being arranged.

Daily tidal directions through the year for high and low water were given for the ports of Auckland, Wellington, Lyttelton, Dunedin, Bluff, and Westport; and the tidal stream predictions for Tory Channel and French Pass were included. The latter tidal predictions were given as a result of a set of period observations taken some years ago, and it will be necessary to again obtain period observations during the coming year, which, with some additional information now to hand, should enable these tidal predictions to be given with greater accuracy, as the streams in both these localities are found to vary slightly from the tidal predictions.

The established ports of the Dominion, and those ports which are in process of development, are reviewed from a navigational standpoint; and the substance relating to them is kept up to date with information concerning navigational aids, soundings, pilotage, &c. Principally owing to this latter reason the publication is in much demand by overseas vessels, as much of the information is unprocurable elsewhere until a much later date.

Imperial notices to mariners, as published by the Board of Trade in Great Britain, and other information from authentic sources affecting the navigation of vessels when such relates to this Dominion, have been reproduced.

MARINE CASUALTIES.

The usual number of marine casualties occurred during the year. The casualty involving the greatest loss of property was the total loss by stranding of the s.s. "Port Elliot" near East Cape. Other casualties of minor importance, such as damage owing to fire, stranding, collision, &c., were investigated by the Department.

Many outbreaks of fire on vessels continue to occur, but in most cases little damage has resulted. The origin of such fires continues to be difficult of definition. The fires which assumed greatest dimensions during the year were those on the s.s. "Kaikoura" and the s.s. "Canadian Pioneer," at Auckland.

Fires among wool or part-wool cargoes have not been an outstanding feature of fires on vessels during the past year, but the possibility of such fires becoming more numerous is to be expected when vessels loading wool remain on the coast for considerable periods, visiting many ports and picking up a little at each place, as is done at present, as this necessitates the holds being opened and closed many times and their being visited by many different gangs of men, and of the visits often being of a hurried nature. Under such circumstances it is difficult for a vessel's officers to be continuously watchful to prevent matches being used in the holds.

Some of the outbreaks of fire may have resulted from the liberty enjoyed by the general public to walk and to smoke in the vicinity of vessels and cargoes whilst loading or discharging operations are being performed. Such liberty does not exist in older countries. The matter is primarily one for governance by Harbour Board by-law, and it is to be preferred that the Boards should act in the matter.

Collisions affecting sea-going vessels have been infrequent, and their infrequency shows, generally speaking, that the Collision Regulations are being well interpreted by those who necessarily have to observe them. Minor collisions between vessels of the launch class continue to occur, and the time has arrived when an elementary knowledge of the Collision Regulations, &c., should be