

is directed to the necessity for taking special precautions to reduce the risk of fire to a minimum. It is pointed out that even in the best-equipped vessel the danger is always present unless there is constant vigilance and strict attention to cleanliness. The conditions which are highly dangerous, and which it is most important to avoid, are such as will permit of the possibility of fire spreading over an area such as spaces underneath the boilers (bilges and ballast-tank tops), a condition not unknown to the Surveyors and one which constitutes an act of neglect by the responsible engine-room officer deserving of severe censure. No evidence of oil should be permitted to exist in such places. The chief engineer might usefully require the condition and contents of the engine- and boiler-room bilges and tank-tops to be logged at the end of each watch. The great importance of cleanliness might be further impressed on the engineering staff by posting in the engine and boiler rooms a notice to the following effect: "Cleanliness is essential to safety, and small fires which may occur can be prevented from being disastrous by keeping fittings tight and bilges scrupulously clean." Copies of this circular have been forwarded to all Engineer Surveyors and to chief engineers of oil-burning steamers.

Whilst the great importance of cleanliness in the use of boiler fuel and other crude oil as used in the Diesel and semi-Diesel engines cannot be overstressed, there is even a greater necessity for care in the use of petrol and other light motor-oils as used in most of the launches. Petrol is a most dangerous oil. Petrol-vapour is heavier than air, and therefore finds its way into the bottom of the boat and into parts where its presence might not be suspected. Petrol liquid will creep along metal surfaces, and no riveted joint can be guaranteed to prevent it leaking through. Many who are accustomed to use it ashore are inclined to use it afloat in the same more or less careless manner. They forget that in the open air the spilt benzine is rapidly dispersed, but that on a launch it saturates the woodwork and that its vapour is confined in any compartment in which it may be spilt. Many people display a contempt for danger born of ignorance or indifference when handling petrol. Many accidents are due merely to gross carelessness, and in such cases those responsible deserve severe punishment.

Petrol is a highly dangerous explosive, and its vapour is very easily ignited. Some of the precautions that should be observed in the handling of petrol should be obvious to any one. In some cases of fire where the presence of petrol has been suspected as the cause it has been difficult to understand just how the fire started. It is known, for instance, that a man standing on the rubber covering of the running-board of a motor-vehicle, filling the tank under the seat with petrol from a can which he was holding in the air, has generated sufficient electricity by the friction of the petrol passing out of the mouth of the can to cause a spark and resultant fire.

The filling-pipes of oil-tanks on board ship should be carried above the deck so that the oil-vapour displaced from the tank when it is being filled may have free escape into the open air. It has come to the knowledge of the Department that in some cases the deck filling-pipes have been removed so that the tank could be filled from below deck. This is a highly dangerous practice, and one vessel last year was burnt to the waters edge due to the filling of the tank from the engine-room. Surveyors have been instructed to see that fuel-tanks are fitted close to the deck so that, from lack of headroom, it will be impossible to fill the tank from below deck.

Advice has been received from the Board of Trade respecting new rules relating to the life-saving appliances to be carried on ships. The regulations of this Department are now being revised to bring them into conformity with the latest Board of Trade regulations. The principal points in which the new Board of Trade rules differ from those of the Department at present in force are as follows: The present rules require on all foreign-going passenger-steamers lifeboats sufficient to accommodate all persons on board. In the Board of Trade rules great importance is attached to the principle that all boats must be readily available in case of emergency. In a few of the existing foreign-going passenger-ships where it is not possible to carry boats for all in such a manner that they shall be readily available the deficiency is allowed to be made up by buoyant apparatus. The capacity of the lifeboats is subject to a definite minimum.

To provide for the rescue of those who may not have been able to obtain a place in a lifeboat or who may have been thrown into the sea, all foreign passenger-steamers are required to carry, in addition to their ordinary equipment, light buoyant apparatus sufficient for 25 per cent. of those on board.

The carriage of a motor boat or boats is made compulsory on vessels carrying more than fifteen lifeboats, and these motor-boats must be fitted with wireless apparatus and searchlights. If the vessel does not carry a motor-boat and has more than ten lifeboats, one of these is required to be fitted with wireless. In the case of foreign-going passenger-vessels launched after the 1st March, 1913, and in the case of home-trade passenger-vessels launched after the 1st January, 1926, other than those where the height of the boat-deck above the water-line at the vessel's lightest seagoing draught does not exceed 15 ft., the structural strength of the boats, and the strength of the davits, falls, blocks, and all other gear required for lowering the boats, are required to be sufficient to permit of the boats being safely lowered into the water with the full complement of persons and equipment on board, the ship being assumed to have a list of 15 degrees.

On all foreign-going passenger-steamships in which the boat-deck is more than 30 ft. above the water-line provision has to be made for the illumination from the ship of the lifeboats when alongside and in process of or immediately after being launched. In order that boats shall have a satisfactory form and ample stability and sufficient freeboard and strength, a table of scantlings and a minimum specification have been embodied in the instructions relating to life-saving appliances. Buoyant apparatus is required to be reversible, to be of such size and strength, and of a weight not exceeding 400 lb., so that it can be handled without mechanical appliances, and, if necessary, be thrown from the vessel's deck on which it is stowed. It is further required to have sufficient stability in any position in which it is capable of floating. Life-jackets are in future to be reversible, suitable both for adults and children.