

Thus if I hear a steamer's whistle ahead on my port bow, I immediately put my helm hard-a-port and blow one blast. If I hear the whistle on my starboard bow, I put my helm hard-a-starboard and blow two blasts. Now, if those simple signals are properly understood and acted upon by steamers approaching each other, it is certain they will pass without the slightest danger of collision.

SAMUEL BROOKS,
Commander Guion Line steamer "Arizona."

I THINK steamers ought to be fitted with two separate steam-signals. This could easily be arranged by having two valves on the same steam-pipe. The sounds emanating from these would be as distinct as possible. Thus, the fog-siren would be the ordinary fog-signal to indicate the proximity of a vessel. The whistle could then be used to indicate the approximate course: one whistle, for instance, for "from North to East"; two, for "from East to South"; three, for "from South to West," and four, for "from West to North." When long and short whistles are used, they are apt to be confusing; but any rule which is made by the Maritime Conference should be authorized and enforced by all maritime nations.

Stationary fog-signals, such as those on light-ships and light-houses, might be made more useful by the use of explosives. The ordinary siren, with an explosive signal (it might be a steam one) every two minutes, would allow the mariner sufficient time to distinguish between it and the moving vessel.

GEORGE BURTON,
Commander White Star steamer "Coptic."

You ask my opinion concerning fog-signals, and are desirous of learning what I would recommend for the consideration of the Maritime Convention. This is a very complex question; but it is of such prime importance in promoting safety of navigation that I give my opinion without hesitation, convinced that it is the duty of all seamen to contribute their experience to the solution of this serious problem.

Collisions at sea form to-day the gravest—I would add, perhaps the only—danger to navigation. Unfortunately, the rules

laid down by the International Convention are absolutely insufficient to enable even the most vigilant navigators to avoid collisions in thick weather. Are these international rules capable of improvement? I think they are.

According to Article 12, every steamship must be provided *with a steam-whistle, or with some other instrument operated by steam, so placed that the sound shall be unbroken by any obstacle.* Let us observe here that most steamships have the whistle placed in front of the funnel,—a thoroughly ineffectual system, because the waves of sound are broken toward the bow by the masts and yards, while toward the stern there is a wide section, both right and left of the funnel, in which the sound waves are feeble and probably deflected. The true place for the whistle is, undoubtedly, on the bow of the ship.

But the regulation is wholly silent as to the power of these steam-whistles, although an essential point. Supposing two steamers to be approaching each other with great speed: it is necessary that they should hear each other's signals before the distance separating them becomes too small to permit manœuvring. If each is going at the rate of twenty knots, a maximum speed on the high seas at present, the two boats are approaching at the rate of forty knots an hour, or $\frac{60}{100}$ of a knot per minute. It appears to me indispensable that the respective whistles be heard at least six minutes before the ships meet. Hence it is necessary that the whistles should carry the sound $\frac{60}{100} \times 6$, or $\frac{360}{100}$ of a knot—equal to about four nautical miles.

The same Article says, farther on, that vessels, whether sailing or steam, shall be provided with a fog-horn of sufficient power. It is especially the means for signalling employed by sailing ships. In this wording there is the same vagueness as in the rule as a whole. What are we to understand by the words *sufficient power*? It is evident that a sailing ship, moving more slowly than a steamer, might have an instrument less piercing than the steamer; but still it is necessary that the minimum power should be fixed, and it appears to me that it is important to make the limit two miles for sailing vessels.

Article 12 enumerates the rules adopted for regulating fog-signals: A—*Every steamship, when in motion, should give a prolonged blast of the whistle at intervals not exceeding two minutes.* A steamer has, therefore, the right to sound its signal not oftener