

UNDER DE. 4077 (if not already recorded)

M.V. "ASTORIA"

In the last paragraph of their letter the Owners state that the Captain of this vessel has informed them that the Society's Surveyors at Melbourne were of the opinion that the pittings in No.2 tank were caused by sulphur in the Diesel oil in connection with sea water, and the Owners state that they would much appreciate the Committee's opinion as to the cause of these pittings.

It is submitted the Owners be informed that the Committee for some considerable time past have been taking note of all cases of corrosion which come before them, both in the case of vessels carrying oil in bulk, and in the case of vessels which carry fuel oil or Diesel oil in deep tanks or double bottom tanks. Some time ago, the Committee consulted the Society's Staff at home and abroad with a view to eliciting a statement of their experience in regard to the corrosion which they had observed in double bottom tanks or deep tanks carrying oil fuel, and the general effect of their replies is to establish the fact that oil fuel carried continuously in a tank does not lead to corrosion. On the other hand, when oil fuel has been carried alternately with water in these tanks, some corrosive action, varying in extent with the circumstances of each case, has taken place, and this action, it would appear, is more pronounced in tanks Nos.1 & 2 than elsewhere in the vessel.

It has frequently been suggested that the cause of such pitting and corrosion is the presence of sulphur in the oil, but investigation seems to shew that sulphur, although certainly stimulating corrosion if present, is not essential for the chemical reaction which produces corrosion, and it is known that in many cases crude oil containing a large percentage of sulphur has been carried

without sensible damage.

Recent investigation seems to shew that the corrosion produced in a tank carrying alternately fuel oil and salt water is principally due to the presence of salt water, or some species of acid liquid, suspended in the oil or settling from the oil, which ultimately collects in bubbles on the bottom of the tank, and at these points pitting takes place.

It has been suggested that in tanks which carry alternately oil and water, a suitable method of preventing pitting would be to introduce an alkaline solution of caustic soda into the double bottom tanks, and this measure has been adopted in some Japanese vessels classed with the Society.

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