CLEARING A FIREMAIN

BY

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While H.M.S. *Solebay* was in the Eastern Mediterranean during her present commission the firemain became rapidly choked with mussels. Each section was isolated from the others by blockages so that all pumps had to be run to keep pressure in each section. The auxiliary cooling water and sanitary services supplies from the firemain together with some of the fire hydrants also became blocked.

At the first opportunity the following action was taken :—

(*a*) The firemain was completely emptied.

(*b*) All isolating valves and cocks were opened and found to be completely full of mussels strung together in festoons. These were removed.

(*c*) A fire hydrant on ' B ' Gun deck, the highest in the ship, was removed. Into the open pipe were poured successive buckets of undiluted Condenflu and warm fresh water in the proportion of one part Condenflu to five of water. A battery acid bucket was used for this purpose. Altogether one carboy of Condenflu was used. This was allowed to remain in the firemain for one hour when all pumps were started, all hydrants opened and the firemain flushed through.

The solution seemed to have killed all the mussels and to have destroyed their power to grip the internal surfaces of the pipes and valves, but they were still strung together in festoons. All the isolating valves and several discharges and hydrants had to be opened again and more mussels removed before the firemain was finally cleared. The last clump of mussels was shot as high as the top of the funnel from the open pipe of a hydrant on the iron deck.

Within a few months, although the firemain had been occasionally flushed through with fresh water, signs of mussel infestation began to occur again. This time it was able to be grappled earlier and before the sections were hopelessly isolated. The firemain was emptied and without opening and clearing any of the other valves first, the hydrant on ' B ' Gun deck was again removed and a stronger mixture poured in. This consisted of one part of Condenflu being followed by three buckets of water and so on, two complete carboys of Condenflu being used altogether. This mixture exactly filled the firemain to the level of the hydrant. It was allowed to stand for one hour, and, the ship being alongside at the time, the firemain was flushed through with fresh water under pressure from the jetty for an hour and a half discharging through hoses from the upper deck hydrants.

The strength of the mixture this time was adequate. In addition to killing the mussels it dissolved all the threads binding them together, and a sort of moules marinière was ejected through the hoses until the firemain was completely clear. The firemain itself has not suffered any damage from the acid and has operated with no further trouble now for six months.

Departmental Comment

The Engineer Officer of *Solebay* is to be commended on his efforts to remove the marine fouling.

The addition of Condenflu has a similarity to the practice brought to notice in 1948 concerning the addition of chloride of lime to salt water systems which was considered to cause serious localized corrosion and lead to blockages and other troubles. (B.R.3001. para. 2801, sub. para. 7 of Chapter 28, refers.)

While the method adopted in *Solebay* may have been successful in this case, it is not considered that it can be recommended for general adoption, as presumably the same troubles would result as in the case of chloride of lime. There is also the possibility of pockets of hydrogen being produced, especially in the more complex systems of larger ships.