

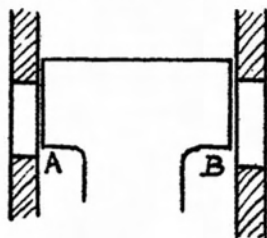
## NOTES

**(a) AN UNUSUAL CONDENSER DEFECT.**

A condenser defect which occurred in a "C" class cruiser after a large refit emphasises the importance of careful routine examination of sliding feet. It was observed that a leak occurred in the after condenser whenever the auxiliary exhaust steam was led to that condenser. It was found on examination that the condenser sliding feet were rusted up and not free to move. The auxiliary exhaust connection in these ships is on the side of the eduction bend, which is a very stiff structure of box section attached at one end to the L.P. turbine and at the other to the comparatively light shell plating of the condenser. The temperature of the eduction bend is normally low, but it warms up when going astern and becomes hot when auxiliary exhaust steam is led to it, and if the condenser is not free to move the expansion puts severe strains on the shell and tube plates and in this case caused the leak referred to. On freeing the sliding feet, no further trouble was experienced.

**(b) Piston Type Governor Control Valves.**

In fitting valves of this type care should be taken that when the valve is about to close the orifice round the cylinder ports is the same width all round the circumference. If due to erosion of the valve or ports, or from other cause, the opening at A, say, is much



narrower than that at B, the velocity of the steam through A will tend to be higher, thus lowering the pressure locally with the result that there is an unbalanced pressure which forces the valve against one side of its cylinder and friction will prevent it from closing completely.

**(c) AN EMERGENCY DISTILLER.**

In the very unusual case of the complete failure of the distilling condenser in destroyers and other small vessels, if the defect cannot be made good by the ship's staff at sea it is usually possible to rig

a hose connection between the outlet of the vapour valve of the evaporator and any suitable connection on one of the main condensers.

Usually the hoses available will be considerably smaller than the vapour pipe, and it may not be possible to obtain the full output of the evaporator by these means, but sufficient make up feed to carry on with can generally be obtained.

**(d) OVER ROLLING OF BOILER TUBES.**

In fitting boiler tubes considerable care is needed to see that they are not "over-rolled." Over-rolling begins with the first indication of permanent compression or yielding of the tube plate in the vicinity of the tube seat, or of damage to the tube ends, which latter is made apparent by an extension of the inner surface of the tube which obliterates the rounded end, and also by flaking of the inner surface.

No mechanically controlled appliance for preventing over-expanding is in general use in the Service, but the fact that the tube is making close contact with the plate can be ascertained by tapping the expander rings. After a few tubes have been tested in this manner the length of the mandril inserted in the expander can be noted and marked. If a large number of tubes have to be rolled a special mandril can be made with a shoulder at the end of the taper portion so arranged that the mandril is hard up when the tube is correctly rolled.

**(e) BUTT WELDS.**

With reference to page 93 of No. 13 issue of these papers the latest practice in butt welding large plates is to vee the plates from both sides to a sharp point and not leave a flat at the apex of the vee as shown in the illustration. It has been found that with the method formerly employed it was difficult to avoid the formation of a cavity in the centre of the weld.