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ADAPTOR FOR TESTING SPRINKLER HEADS UNDER HYDRAULIC PRESSURE

by

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Summary

The connection of a large number of sprinkler heads to a supply line for hydraulic pressure testing has in the past been a slow process. By using an adaptor, in which the machined surface at the end of the sprinkler thread is forced against a rubber washer to provide an effective water seal, the procedure is simplified and quickened considerably.

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Fire Research Station,
Boreham Wood,
Herts.

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Introduction

When testing sprinklers for leakage at the valves it has been the practice to wrap the thread with hemp and screw the sprinkler tightly with a spanner into a tee-connection in the pressure supply line. This method has expended much effort and time and there is always the possibility that in screwing the sprinkler home to make a pressure-tight joint, the threads might be distorted and thereby be unfit for further service.

These difficulties have been overcome by the use of the adaptor illustrated in Figs. 1, 2 and 3 below. Into this adaptor the sprinklers need to be screwed only finger tight, to obtain a satisfactory pressure seal, without the possibility of distortion to the threads.

Description

The adaptor consists of a machined brass body, screwed internally with a taper thread, the limits of which are designed to cover the maximum and minimum tolerances of the $\frac{1}{2}$ inch B.S.P. thread used on sprinkler heads.

At the bottom of the adaptor thread is an $\frac{1}{8}$ inch thick rubber seal which is prevented from collapsing by a $\frac{1}{2}$ inch diameter brass tube inserted in the bore. The sprinkler is screwed down until it makes light contact with the rubber seal. An externally-threaded $\frac{1}{2}$ inch B.S.P. shank on the adaptor is screwed into a $\frac{1}{2}$ inch B.S.P. tee-connection in the pressure supply line and is intended as a permanent connection. Two flats are milled externally on the body of the adaptor to fit a $\frac{9}{16}$ inch Whitworth spanner.

Performance

The adaptor has been tested to a hydraulic pressure of 500 lb/sq.in., the standard test pressure for sprinkler heads, and has shown no sign of leakage.

Remarks

It is considered that this adaptor is suitable for testing large numbers of sprinkler heads or similar devices, up to 500 lb/sq.in. Its use results in a valuable saving in effort and time and avoids the possibility of damage to the threads.

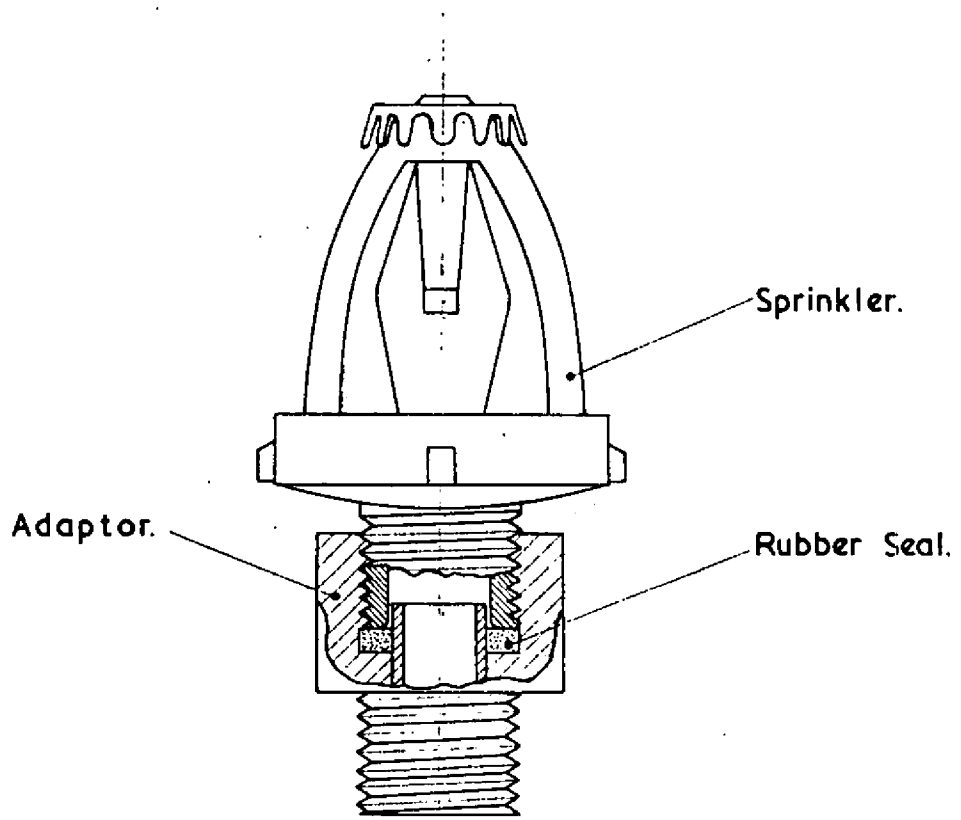
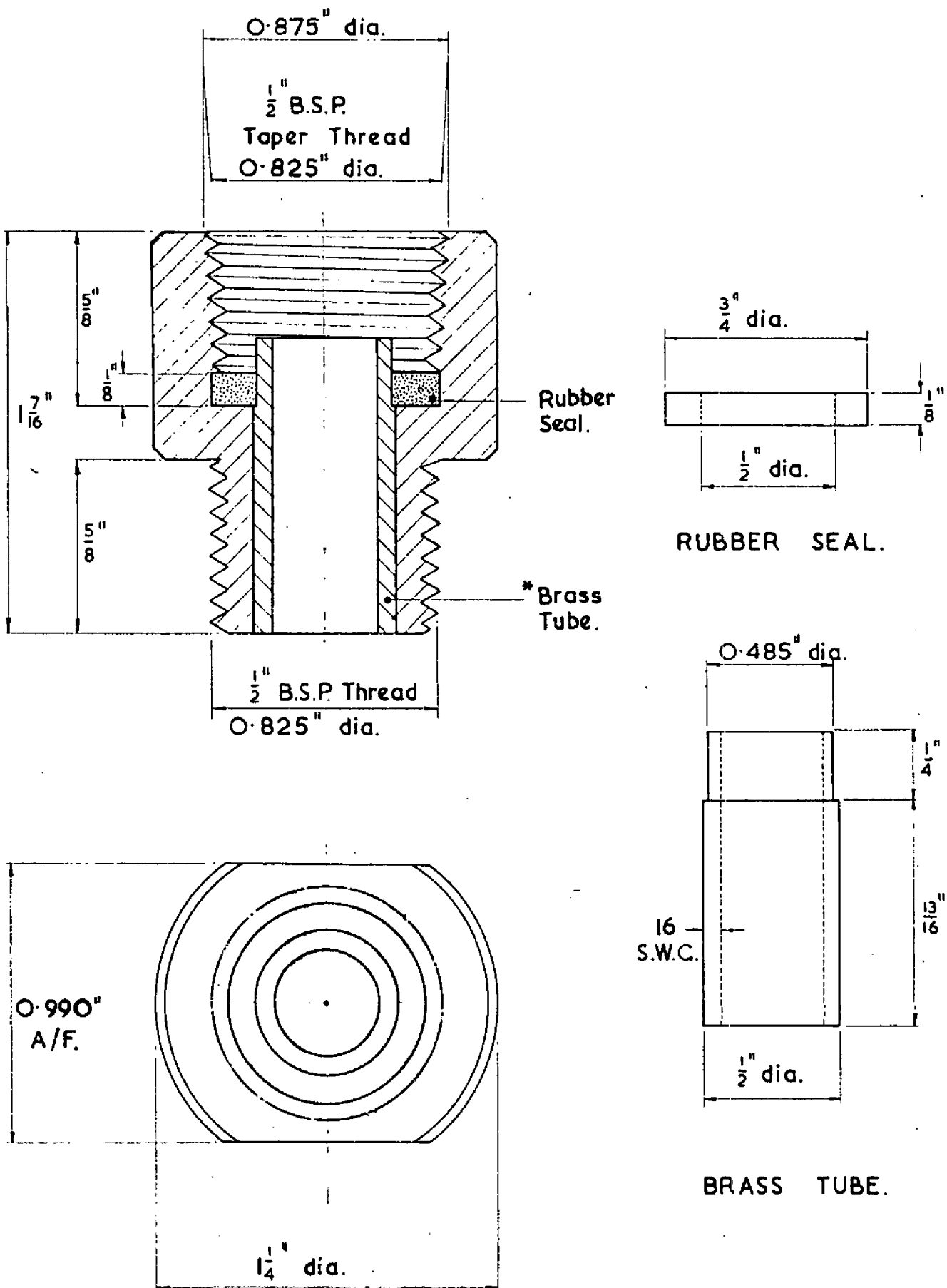


FIG. 1. SPRINKLER TESTING ADAPTOR.



* Tube to be force fit in adaptor.

Material:-
Brass.

Scale:-
2/1.

FIG. 2. SPRINKLER TESTING ADAPTOR.

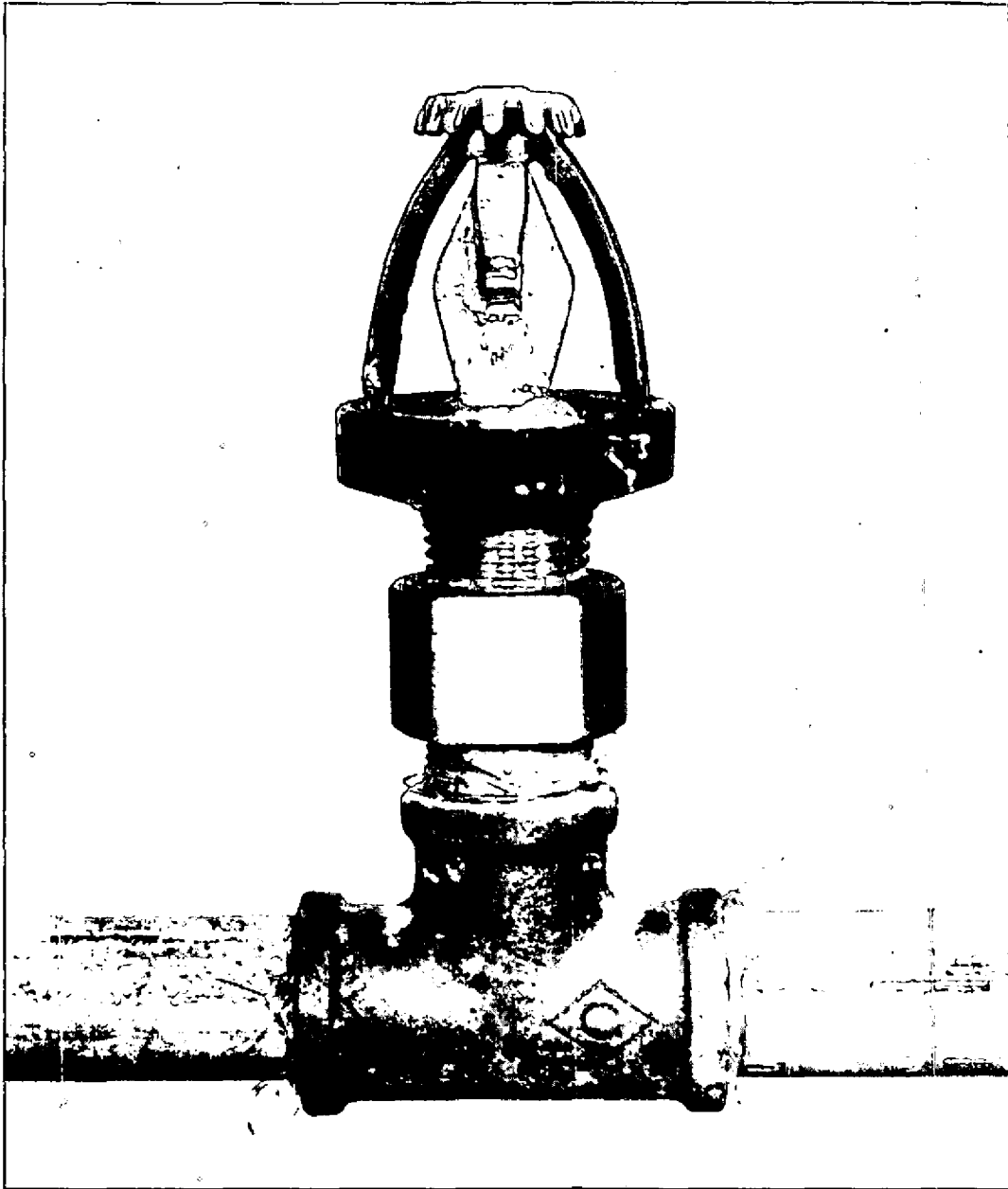


FIG.3. SPRINKLER HEAD AND ADAPTOR ATTACHED TO PRESSURE SUPPLY LINE