A Demonstration of an Apparatus for Testing the Tensile Strength of Gas Mantles

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A DEMONSTRATION of an Apparatus for Testing the Tensile Strength of Gas Mantles was given by Mr. J. T. ROBIN.

THE apparatus comprises a vertical cylindrical float which is surrounded by water in a cylindrical container. It is surmounted by a cup carrying wax, and the lower edge of the mantle to be tested is attached to the float by allowing the melted wax to solidify while the mantle dips into it, the latter being suspended in the usual way. The mantle is then put in tension by running off the water slowly, so that the mantle takes a gradually increasing proportion of the weight of the float. As soon as the mantle ruptures the float drops and automatically effects cessation of the flow of the water. The apparatus having been previously calibrated, the breaking weight can be read from the height of the remaining water, which is shown by an inspection tube connected to the container at its lower end, and backed by an adjustable scale. Special precautions are observed in handling the mantle and burning off the cellulose. The shear strength is taken to be proportional to the tensile strength. It is found that some mantles can support 500 times their own weight.