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A New B.C.U.R.A. Radiometer for Testing Domestic Appliances

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SUMMARY

A description is given of an improved radiometer developed in the Domestic Appliance laboratories of the Association; this incorporates a number of improvements upon the original instrument evolved nearly ten years ago.

Experience has shown that this type of continuous recording unit has many practical advantages and, in response to numerous requests, arrangements have been made to supply a limited number of units to Members of the Association and to other Research Laboratories.

Introduction

Many members will already be familiar with the original B.C.U.R.A. radiometer which has been in use for some years in the Domestic Appliance laboratories. This instrument was described in 1943* and has been used by a number of organisations both in this country and the Dominions.

It should be remembered that the original requirement which prompted the design of this radiometer was to provide an easy means for the direct recording of radiation from all types of domestic open fires, installed in settings similar to those normally used.

A simple arrangement was used consisting of 18 thermo-electric elements mounted on a part-spherical surface formed by means of a cage of curved metal strips. Each element was located in the centre of an area representing 1/18th of the surface of the cage and the 18 elements were connected in series. The total radiation passing through the cage was then deduced from a previous calibration of the elements, and the area of the surface over which they were distributed.

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* "Coke and Smokeless-Fuel Age," February, 1943, p.40.