Wave-length.	Class of Line.	Effect over Faculæ.
4306.078.....	Arc	No change
4443.976.....	Spark	Strengthened
4468.663.....	Spark	Strengthened
4501.445.....	Spark	Strengthened
4548.198.....	Arc	No change
4527.490.....	Arc	No change
4572.156.....	Spark	Strengthened

MOUNT WILSON SOLAR OBSERVATORY.

A NOTE ON MISSING SPECTRA.

BY A. S. EVE.

MINING engineers use well-constructed sieves made of phosphor bronze wire with various sizes of mesh, ranging up to three hundred wires to the inch.

When a narrow beam of parallel light falls on the sieve diffraction bands and patterns are produced which may be observed directly, or after projection.

By a calculation involving simple proportion only, the wave-length of any light can be determined.

A sieve with 300 wires to the inch was found to have the intervals between the wires precisely equal to their diameters. It necessarily follows that the even order spectra are entirely absent, while the odd order spectra are enhanced in brilliancy. On inclining the sieve to the ray the gaps are effectively narrower while the circular wires are not, hence at about 30° the missing spectra suddenly appear.

A photograph of the sieve was taken with a white screen behind it. This photograph was used as a grating and all the spectra were found present. Possibly the light flooded the plate when the photograph was taken, so that the gaps were enlarged relatively to the image of the wires. There is no new principle involved in the above, but the method is a valuable and effective method of demonstrating missing spectra. Such sieves might have advantages over coarse gratings in astronomical work.

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THE ULTRAVIOLET ABSORPTION OF ANTHRACENE AND BENZENE.

BY J. M. HYATT.

THE purpose of this investigation was to check the results previously obtained, by using the Hilger sector photometer according to the method described by Howe.¹

Anthracene.

The anthracene absorption was determined by using a number of different concentrations of the anthracene in ethyl alcohol, the thickness of the absorbing

¹ H. E. Howe, PHYS. REV., Vol. VIII., 1916.