THE NEW

HALE

SPECTROHELIOSCOPE

BUILT AND SOLD BY

HOWELL & SHERBURNE CO.

88 NORTH DELACY AVENUE

PASADENA, CALIFORNIA

U. S. A.

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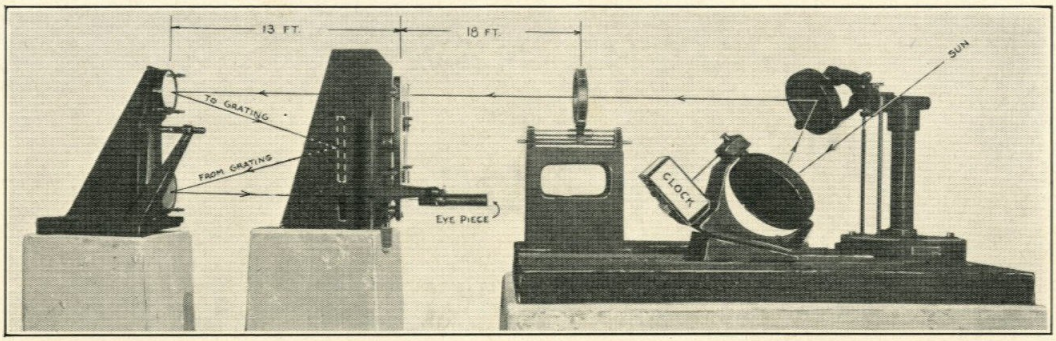

This illustration shows the different parts of the instrument drawn together for clearness. In use they are supported on piers as shown in the cut on opposite page.

THE HALE SPECTROHELIOSCOPE

From remotest time man has yearned to look upon the sun unharmed, and wondered on the changes taking place in the fiery orb that gave him warmth, light, food and comfort. Only today has science come to his aid and made his dream come true.

Readers of scientific journals and magazines cannot have failed to note the frequent references to this new addition to science, which is now available to educational institutions and research workers in the new and expanding field of astrophysics. By means of this remarkable invention a whole new field of research has been thrown open, to both scientist and amateur alike. For until now it has been impossible to bring the sun's image under observation where it can be studied just as one views a landscape through binoculars.

In plain language, this instrument allows one actually to watch the changes taking place on the sun's surface, and observe the violent outbursts altering their shapes from hour to hour. As Dr. Hale says, "In order to give any conception of the fantastic beauty of solar prominences it is necessary to see them in action."

Specifically, the spectrohelioscope, by means of slits, mirrors, rotating prisms, and a grating, produces a moving picture of part of the sun's surface in red light (the Hα line)—a monochromatic image that is studied through an eyepiece.

In addition to rendering visible to the eye the changing features of the sun's surface, the instrument may be quickly converted into a spectroheliograph and photographs of striking phenomena taken at the time of their occurrence.

The bearing that the spectrohelioscope may have in helping to throw light on some of our most pressing problems is best given in Dr. Hale's own words:

> "Such brilliant phenomena are striking enough in themselves, but their relationship to terrestrial disturbances makes them doubly important. If you are interested in radio or the aurora, or terrestrial magnetism, you will want to learn the source of the electrified particles which are shot from the sun into the earth's atmosphere, where they arouse the Northern Lights, initiate magnetic storms, affect radio transmission, produce powerful earth currents in telegraph lines, and sometimes puncture Atlantic cables."

For a more detailed description of this instrument, you are referred to Dr. Hale's articles in the April and May issues of the *Scientific American* (1929), and the *Publications of the Astronomical Society of the Pacific,* October 1928.

The spectrohelioscope has recently been perfected and is now being manufactured, and available to colleges or other institutions of learning that are desirous of keeping their scientific equipment up to date. The instrument with all optical parts, including the grating, can be purchased from the firm of Howell & Sherburne, 88 North Delacy Avenue, Pasadena, California. Prices and delivery upon application.