

This Committee was established by the Department in 1919 to continue the work of the Adhesives Research Committee of the Conjoint Board of Scientific Societies which was set up towards the end of the War to conduct research on adhesives with the aid of a grant from the Ministry of Munitions. The exhibition was opened to the public on Saturday, December 18, and will remain open for some months.

A BROCHURE on electro-medical apparatus by Messrs. Newton and Wright, Ltd., 72 Wigmore Street, London, W.1, gives a fairly complete list of appliances in current use with illustrations and prices. These appliances include portable sets required for administering faradic or galvanic currents. An electro-medical table shown has all the requisite gear for giving both varieties of current from any D.C. supply between 50 and 250 volts. There is also illustrated an "Omnistat" machine in which the motor is an integral part of the apparatus, which is made in two models; the "Standard," providing galvanic and sinusoidal currents; and the "Therapeutic," in which

the faradic is substituted for the sinusoidal. Both types are adapted for the inclusion of vibro-massage apparatus.

APPLICATIONS are invited for the following appointments, on or before the dates mentioned:—An assistant master at the Dewsbury Municipal Technical College, with qualifications in physics and electrical engineering—The Secretary for Education, Education Offices, Town Hall, Dewsbury (January 3). An assistant lecturer in physics at the Bradford Technical College—The Principal (January 11). A director of tubercular research in the University of Melbourne—The Agent-General for Victoria, Victoria House, Melbourne Place, Strand, W.C.2 (February 1). Assistantships in the departments of zoology, botany, entomology, and mineralogy of the British Museum (Natural History)—The Director, British Museum (Natural History), South Kensington, S.W.7. A teacher of engineering subjects and metalwork at the Doncaster Technical College—The Principal, Technical College, St. George Gate, Doncaster.

Our Astronomical Column.

RECENT SUNSPOTS.—The stream of spots seen near the sun's central meridian on Dec. 15 and 16 is the most important group observed for the last two months. Except for occasional short intervals, there has been no dearth, however, of smaller spots, whilst faculae have been abundant (see also NATURE, Oct. 23, p. 603). The spots recently under observation appear to have originated about Nov. 21, but cloudy weather prevented their development being followed at that time, and later when the group was due to return at the east limb on Dec. 9. When first seen on Dec. 15, the arrangement of the spots was that usually associated with a bipolar group or stream of normal type. With the exception of the leader, the component spots were much broken up. The length of the stream, which was parallel to the sun's equator, was about 12° of solar longitude. Although the aggregate area of the spots was fully 1000 millionths of the sun's hemisphere, the group could be seen on Dec. 15 and 16 only when the disc was very carefully screened. Particulars of position, etc., are given below. It may be noted that no group so large as this has hitherto appeared during the present cycle so close to the sun's equator.

No.	Date on Disc.	Central Meridian Passage.	Latitude.	Area.
11	(Dec. 9-22)	Dec. 15.9	7° N.	$1/1000$ of sun's hemisphere

THE DOMINION ASTROPHYSICAL OBSERVATORY, VICTORIA, B.C.—Vol. 3, Nos. 9, 10, 11, 12 of the publications of this observatory, deal with the orbits of nine spectroscopic binaries and the radial velocities of 48 stars. 12 Lacertæ is interesting from the rapid change in the amplitude of the radial motion, accompanied, according to Guthnick, by a similar change in the range of variability of light. As in many other cases, the *H* and *K* lines of calcium are stationary, and nearly accord with the solar component of radial motion. The 48 stars were found to include 9 binaries.

Boss 1275 was found to be a binary by Adams at Mt. Wilson in 1916, but the period previously adopted, 27.43 days, is shown to be wrong. The true value is 2.15165 days.

H. D. 191201 is a very massive binary, the minimum

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values for the components being 13.8 and 12.9 times the sun. The type is B0, and the estimated distance 5000 light years.

U.S. NAVAL OBSERVATORY, WASHINGTON.—Vol. 10 of the publications of this observatory deals, in the first place, with observations made with the Prime Vertical Instrument during the period 1893-1912. Vega was the star most regularly observed, since it is readily visible by day. It was found, however, that the daylight observations differ systematically from the night ones; the difference is ascribed to lateral refraction produced by unequal heating of the layers of air near the instrument.

The parallax of Vega was deduced to be $0.123''$, the aberration constant $20.542''$, the nutation constant $9.250''$, the mass of the moon $1/80.54$. The last was deduced from the nutation constant, assuming the luni-solar precession for 1850 to be $50.373''$. The variation of latitude was not deduced from the observations but was taken from the values published by the International Geodetic Association.

The volume also gives in detail the results obtained during the total solar eclipses of 1905, 1918, 1923. Two expeditions were sent to Spain and one to Algeria in 1905. Numerous plates contain reproductions of the coronal photographs and also of drawings, both those made direct from the corona and those from combinations of photographs. There are some excellent reproductions of the chromospheric spectrum; in one plate this is placed in juxtaposition with the corresponding region in Rowland's Atlas.

Some striking drawings in colour of the landscape (showing approach of moon's shadow) and of the corona and prominences were obtained in 1918 by Mr. Howard Russell Butler, and are reproduced in colour in the volume. He gives the corona a distinct blue tint, agreeing with several observers, though others describe it as white. The distant hills in the shadow are drawn as purplish violet; the sky just above them in orange, changing to bluish purple higher up. The orange band was also seen in Norway in 1896, when Mr. N. E. Green made a colour drawing of the landscape during totality. The eclipse of 1923 was observed from aeroplanes; interesting descriptions are given, but they are of little scientific value.