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VII.




LX. PHYSICS.-A Spectroscope with Hiuid Prism- By A. F. MII-




X. TECMNOLOGY.- P ulphuric Acid. - A review ofthe American sul

REMOVAL OF AERIAI ELECTRIC WIRES IN NEW YORK.
The work of removing the aerial teiegraph, telephone, and electric supply lines in this city, with a view to forcing the electrical supply companies to use the subway system in such streets as contain it, bas been vigorously prosecuted during the past week. An attempt, on the part of the Western Union Telegraph Co., to obtain au injunction in the Federal courts having failed, the city authorities put a large force of men at work to cut and remove the wires and lower the poles. Unfortunately, the work has been marred by casualties, one instant death and several injuries resulting. One lineman, who had climbed a pole, narrowly escaped with his life, as the rotten wood gave way, and the pole, unbraced by the usual telegraph lines, fell. It fortunately struck against a building, so that the operative was afforded a chance of escape, which hewas quick to profit by. This accident showed that the poles were a distinct source of danger as they became more and more decayed.

A very impressive feature of the operations is the comparative darkness to which the city in these parts is relegated at night. The gas lamps are quite unable to supply sufficient light for the people, who have now been accustomed to electric illumination. It is to be hoped that the electric light companies will make every effort to start their lamps anew and give the many centennial visitors a good illustration of subway electric supply and illumination.

## A NEW SUIT UNDER ELECTRIC DYNAMO CONSTRUCTION

 PATENTS.The initial proceedings in a suit brought by the Westinghouse Electric Company, through its lessee, the United States Electric Light Company, against the Manhattan Electric Light Company, were taken on April 18. The suit, resumably the first of an extensive series, is notable from inc patents under which it was brought. These are two patents granted within a few days to Edward Weston, the well known inventor, after nearly seven years' delay caused by interference proceedings. If they prove to be valid, they will be among the most valuable patents extant in the class of dynamo-electric machinery. The feature of construction covered by them is the building up of an armature core from iron disks with interposed plates of insulating material. Four carefully worded claims, undoubtedly the broader from the early date of application, when the field was unnarrowed by similar inventions, cover as far as can be seen the whole system of disk-built armatures. As the vast majority of armatures of the well known Siemens type, both for dynamos and motors, are thus constructed, it will be evident that much litigation may be in prospect, and that these two Weston patents may yet figure in the annals of patent law proceedings with the Morse Goodyear, and Bell patents.

DELAY IN GRANTING APPLICATIONS FOR PATENTS On April 16, 1889, two patents were granted to Edward Weston, which bid fair to be basis of many and extensive suits for infringement. They illustrate the evils of the presentsystem of granting patents, as regards the delay in concluding the proceedings. On September 22, 1882, the original application for this invention was filed as for a single structure, and eight weeks later a division was made so as to include the matter in two applications. This was nearly seven years ago. It would be impossible to give any esti mate of the thousands of dynamos and motors that have been constructed with the armatures described and claimed in these two patents. Every day sees the factories all over this country turning them out by the wholesale. In the face of this testimony to their merit, it seems that a radical defect must exist in Pa tent Office proceedings for nearly seven years' delay to have occurred in granting them. Six years have been devoted largely to interference proceedings to settle whether the patent should be awarded to Edison or to Weston. And now, after all that contest, the same battle will have to be fought over again in the Federal courts.
It may well be asked what good is attained by judicial contests before the Commissioner of Patents. The infringement suits brought under a patent that has been contested under interference proceedings in the Patent Office are not accelerated by the contest before the examiners of interference. The Federal courts at tach little weight to Patent Office decisions. As the present case stands, the patentee has been barred for over six years from bringing suit under apparently a most meritorious patent. It is true that the triumph has come, but the years that have elapsed have robbed it of much of its value. Many old time users of the invention, who should have been prima facie infringers, are out of the field. With present infringers, vhose name is legion, if the patents prove valid, a battle of probably greater duration has to be fought. It would be far simpler for the Patent Office to act in the registering faculty, rather than in the judicial. Abandoning the latter function, it should grant patents to any applicant, and let the battles of priority, like
those of infringement, be fought in the Federal courts. This would be a move in the right direction, and in that of simplification. It would tend to make attor neys more careful in drawing up claims, and would multiply immensely the number of examiners, for every inventor personally would be his own examiner. and would search the records in order to waste neither time nor money in procuring a worthless patent, or else the would employ competent attorneys and expert to do the same for him.

## POSITION OF THE PLANETS IN MAY.

 venuss morning star. She is a charming object in the east ern sky before sunrise, as she oscillates westward rom the sun, rising earlier every morning and ncreasing in brilliancy as a larger portion of hel illumined disk is turned toward the earth. Her rapid novement southward may beohserved, her declination on the 1st being $19^{\circ} 7^{\prime}$ north, and on the 31 st $11^{\circ} 33$ north. She rises on the 1st a half hour before the sun, and on the 31st about an hour and threp-quarters be fore the sun. Venus rises on the 1 st at 4 h .28 m . A. M On the 31st she rises at 2 h .45 m . A. M. Her diameter on the 1st is 59'.6, and she is in the constellation Aries.

## JUPITER

is morning star. There will be a fine opportunity for contrasting the two planets. Venus is the more bril liant, but her luster is dimmed by the radiance of the dawn, while Jupiter seems almost her equal in bright ness as he shines with the midnight sky for a back ground. The regal planet is approaching the earth, and will be superb when, on the last week of the month, he looms above the southeastern horizon about o'clock in the evening, and looks down from the me ridian at 1 h .47 m. A. M. Jupiter rises on the 1 st at $1 \mathrm{~h} .16 \mathrm{~m} . \mathrm{P} . \mathrm{M}$. On the 31st he rises at $9 \mathrm{~h} .9 \mathrm{~m} . \mathrm{P} . \mathrm{M}$ His diameter on the 1st. is $40^{*} .6$, and he is in the con tellation Sagittarius.

> SATURN
is evening star. He is in quadrature with the sun on the 3 d , is then on the meridian about sunset, and finely ituated for observation. He may be found in the west when it is dark enough for the stars to come out, slowly approaching Regulus in the handle of the Sickle, but his light grows dim as he approaches the sun. Saturn sets on the 1st at 1 h .28 m . A. M. On the 31 st he set at $11 \mathrm{~h} .34 \mathrm{~m} . \mathrm{P} . \mathrm{M}$. His diameter on the 1 st is $17^{\circ} \cdot 2$, and he is in the constellation Cancer.
mercier
is evening star. He reaches his greatest eastern elonga tion on the 24 th , and is $22^{\circ} 49^{\prime}$ east of the sun. He may be easily seen at that time, and for a week before and after, by the unaided eye. Observers will be sure to find him, for his position is most favorable. He sets on the 24th about two hours after the sun. Those who desire to find the shy planet must command a clear view of the northwestern horizon, and commence the search three-quarters of an hour after sunset. Mercury will not fail to appear about $5^{\circ}$ north of the sunset point, as a bright star with an intenseluster. An opera glass will be an aid in finding him. Mercury sets on the lst at 7 h .28 m. P. M. On the 31 st he sets at 8 h .5 m m P. M. His diameter on the 1 st is $5^{\prime \prime} .2$, and he is in the constellation Aries.

## mars

evening star. As he moves westward from the sun he meets Mercury moving eastward. The planets are n conjunction on the 5th. Neptune overtakes and passes Mars on the 12 th . Mars sets on the 1st at $\boldsymbol{\%} \mathrm{h} .53$ m. P. M. On the 31 st he sets at 7 h .40 m. P. M. His diameter on the 1st is $4^{\prime \prime}$, and he is in the constellation Taurus.

## neptune

evening star until the 22d, and then morning star. He is in conjunction with the sun on the 22ll, rising and setting with the sun, and passing to his western side. Neptune sets on the 1 stat $8 \mathrm{~h} .23 \mathrm{~m} . \mathrm{P} . \mathrm{M}$. On the 31 st he rises at $4 \mathrm{~h} .9 \mathrm{~m} . \mathrm{A} . \mathrm{M}$. His diameter on the 1 st is $2^{n .5}$, and he is in the constellation Taurus.

## URANUS

s evening star. He sets on the 1 st at $4 \mathrm{~h} .1 \mathrm{~m} . \mathrm{A} . \mathrm{M}$. On the 31st. he sets at 2 h .2 m . A. M. His diameter on the 1st is $3^{\prime \prime} .8$, and he is in the constellation Virgo.
Mercury, Mars, Saturn, and Uranus are eveningstars at the close of the month. Venus, Jupiter, and Neptune are morning stars.

## Salt Beds in New South Waler.

The Sydney Daily Telegraph says: What may be a discovery of great value has been made at Ellalong, near Maitland, and about 16 miles from Allandale station. There a deposit of crystallized salt, 4 feet thick in places, has been found, and it is expected that a body of rock salt will be reached below. Mr. Hilton, an expert, expresses the opinion that a similar deposit will be discovered at Ellalong. Something like 100,000 tons of salt per annum are used there, and the price is 5l. 10s. per ton. Thus, such a discovery would be of great value. A syndicate has secured 400 acres of the and, and the value of the latter will be thoroughly tested.

