

POSITION OF THE PLANETS IN MARCH.

SATURN

is morning star until the 29th, and then evening star. He wins the place of honor on the March record, for he is in opposition to the sun on the 29th, at 5 h. 12 m. P. M., when he is under the best conditions for terrestrial observation during the present year. The ringed planet when seen at his greatest brilliancy must be in opposition when near perihelion, and in high northern declination, with his rings open to their widest capacity. These three events occurred in the year 1885, when Saturn was in opposition December 26, in perihelion October 21, and in 22° 31' north declination when in opposition. They will not occur again until about 1915, when the planet has completed another thirty years' revolution around the sun. After 1885 the rings seemed to be closing around the planet until 1891, when, being seen edgewise from the earth, they apparently disappeared, or were visible as a thin needle of light projecting on each side of the planet, showing that a quarter of a revolution had passed. They are now slowly opening and will continue to develop this phase until about 1900, when they will be open to their widest extent, the northern side being illuminated. The rings will again disappear after the passage of seven or eight years, and about 1915 will be again widely open, the southern side being illuminated, and the planet visible in his best estate. The opposition of Saturn on the 29th is not a brilliant one, for he is more than halfway on his course to aphelion, when he is 50,000,000 miles farther from the sun than when in perihelion, and his rings, on whose phases his brilliancy greatly depends, are just opening, while his southern declination is increasing. He is none the less a fine telescopic object as his rings slowly open, and give promise of changes to come as the years roll on.

Saturn observed with the naked eye shines as a first magnitude star, distinguished from his twinkling companions by his serene pale light and leaden tint. He rises at 8 o'clock on the 1st, and about four minutes earlier every night until the 29th, when he appears above the horizon at sunset and is visible the entire night. He may be easily recognized in the east, being on the middle of the month about 9° north of Spica, and nearly 2° east of Gamma Virginis, a famous double star among the first that were discovered. It is also a variable, its two components varying from the third to the third and a half magnitudes. The components are 5'.5 apart, and the color is silvery white with a tinge of yellow. The stars revolve around their common center of gravity in 185 years. Gamma Virginis is an easy object for a small telescope, and its position near Saturn affords a fine opportunity for the telescopic observer, who will have no difficulty in finding the star. As Saturn is retrograding or moving westward, he is seemingly approaching the star.

The moon is in conjunction with Saturn twice during the month. The first conjunction takes place, two days after the full, on the 4th, at 6 h. 36 m. P. M., the moon being 1° 12' south. The conjunction is invisible, as it occurs when the actors in the scene are below the horizon; but moon and planet will be near neighbors when they rise about 8 o'clock. The moon will occult Saturn and also Gamma Virginis for southern observers who see the moon in her geocentric position and who are between the limiting parallels, 33° and 90° south.

The moon is in conjunction with Saturn for the second time, a few hours before the full, on the 31st, at 10 h. 24 m. P. M., being 1° 5' south. The conjunction is visible, the hour is convenient, and Saturn is so close to the moon that he makes an appulse, or seems nearly to touch her northern limb. The moon rises on the 31st, near sunset, Saturn follows soon after, and between them is found Gamma Virginis, nearly hidden in the moonlight, the star the smallest in appearance of the trio, but in reality exceeding the sun eighteen times in mass, and shining with eighteen times the intensity of our central orb. It will be interesting to watch the moon's approach to the star and planet, the conjunction with each in turn, and the moon's recession as she moves on her eastern course. Southern observers are more favored than their northern friends, for what is here a conjunction is there, under the right conditions, an occultation, first of the star and then of the planet.

The right ascension of Saturn on the 1st is 12 h. 46 m., his declination is 2° 5' south, his diameter is 18", and he is in the constellation Virgo.

Saturn rises on the 1st at 8 h. 8 m. P. M. On the 31st, he sets at 5 h. 55 m. A. M.

MERCURY

is evening star until the 31st, and then morning star. He reaches his greatest eastern elongation on the 14th, at 4 h. P. M., when he is 18° 27' east of the sun. This is one of the best opportunities of the year for observing Mercury as evening star. He may be found at elongation and for a week before and after. His light number on the 9th is 71.1, the highest for the year, and he is then at his greatest brilliancy. We give his position at elongation, when he sets an hour and three-quarters after the sun. The observer must command a good view of the western horizon, and commence the

search three-quarters of an hour after sunset. Jupiter, easily visible, will guide him to the little planet he seeks, for Mercury will be found 15° southwest of Jupiter and 9° north of the sunset point, shining in the evening twilight as a first magnitude star, with a wonderful luster, resembling Sirius, though not quite so bright. Any painstaking observer will find this shy and beautiful planet, remembering to use an opera glass as an aid. Mercury is in inferior conjunction with the sun on the 31st, at 9 h. 24 m. P. M., when he passes between the earth and the sun, and becomes morning star.

The moon, two days after her change, is in conjunction with Mercury on the 19th at 2 h. 41 m. A. M., being 4° 39' south.

The right ascension of Mercury on the 1st is 23 h. 34 m., his declination is 3° 25' south, his diameter is 5'.6, and he is in the constellation Pisces.

Mercury sets on the 1st at 6 h. 39 m. P. M. On the 31st, he sets at 6 h. 24 m. P. M.

URANUS

is morning star. He is so near opposition that he is now visible to the naked eye as a faint star of the sixth magnitude, about 18° southeast of Spica, and 3° northwest of Alpha Librae, a star of the third magnitude. Uranus is surrounded by faint stars, making it difficult to distinguish him from his companions; but if a small telescope sweeps the field, he will appear as a disk of a delicate green tint, showing that he is a planet, while the neighboring stars are mere points of light, no matter how high the magnifying power may be to which they are subjected. His position once known, his course can be readily followed with the unaided eye.

The moon, three days before the last quarter, is in conjunction with Uranus on the 7th, at 4 h. 28 m. A. M., being 1° 35' south.

The right ascension of Uranus on the 1st is 14 h. 33 m., his declination is 14° 34' south, his diameter is 3".8, and he is in the constellation Libra.

Uranus rises on the 1st at 10 h. 40 m. P. M. On the 31st, he rises at 8 h. 38 m. P. M.

NEPTUNE

is evening star. The moon is in conjunction with Neptune, two days before the first quarter, on the 22d, at 10 h. 39 m. P. M., being 5° 11' north.

The right ascension of Neptune on the 1st is 4 h. 28 m., his declination is 20° 13' north, his diameter is 2".6, and he is in the constellation Taurus.

Neptune sets on the 1st at 1 h. 2 m. A. M. On the 31st, he sets at 11 h. 4 m. P. M.

JUPITER

is evening star. Even this mighty planet must succumb to a higher power, and the present month practically closes his career as evening star, for after its passage he will be too near the sun to be visible. The moon, three days after her change, is in conjunction with Jupiter on the 20th, at 3 h. 37 m. A. M., being 1° 7' north. The conjunction and resulting occultation will be invisible, moon and planet being below the horizon.

The right ascension of Jupiter on the 1st is 1 h. 33 m., his declination is 8° 37' north, his diameter is 33".4, and he is in the constellation Pisces.

Jupiter sets on the 1st at 9 h. 20 m. P. M. On the 31st he sets at 7 h. 56 m. P. M.

VENUS

is morning star. It will take sharp-sighted eyes to find her, as she rises only 28 minutes before the sun on the 1st and 7 minutes on the 31st.

The right ascension of Venus on the 1st is 21 h. 53 m., her declination is 14° 2' south, her diameter is 10".4 and she is in the constellation Aquarius.

Venus rises on the 1st at 6 h. A. M. On the 31st she rises at 5 h. 33 m. A. M.

MARS

is evening star. He is fading into invisibility and his course is devoid of interest. His right ascension on the 1st is 2 h. 38 m., his declination is 16° 13' north, his diameter is 5".8 and he is in the constellation Aries.

Mars sets on the 1st at 10 h. 53 m. P. M. On the 31st he sets at 10 h. 36 m. P. M.

Mars, Jupiter, Saturn and Neptune are evening stars at the close of the month. Mercury, Venus and Uranus are morning stars.

Recent Decisions Relating to Patents.

CONSTRUCTION OF CLAIMS.

The United States Circuit Court holds that where an applicant acquiesces in the rejection of his original claims by filing a disclaimer, submitting modified claims, and accepting a patent therefor, such claims must be strictly construed. 1.

PATENTABILITY—WANT OF NOVELTY.

Patent No. 254,085, July 21, 1882, to Wesley Young, for an improvement in "plashed hedges," being simply for a wire extending along the base of a hedge near the ground to prevent the passage of small animals before the shoots of the hedge are grown, is void for want of novelty, it being old to use such a wire to keep the plants in position, and to give the hedge increased lateral strength, and it being old to use a wire along

the base of an ordinary fence to prevent the passage of small animals. 2.

The third, fourth, and fifth claims of letters patent No. 233,393, issued October 19, 1880, to Charles Barnes, for an automatic fire extinguisher, which claims are for a valve-releasing device, consisting of wires, a lever, and a fusibly-jointed slide, and the combination of a perforated distributor, a valve located in the distributor, having a stem which projects through the shell of the distributor, and a lever to hold the valve to its seat, are void for want of novelty. 3.

PATENTABILITY—COMBINATION.

Claim 2 of letters patent No. 233,147, issued February 22, 1887, to John Demarest, for an improvement kindred to letters patent No. 170,709, issued December 7, 1875, to William S. Carr, for an improvement in waste valves and overflows for baths and basins: "The tube, *a*, provided with the collar, *i*, and lock nut, *l*, for clamping the slab, *m*, in combination with the tubular stem, *f*, of the valve, *e*, passing through the lock nut, *l*, and means for sustaining the tube, *f*, when elevated, substantially as set forth," is for a mere aggregation of parts without co-operating action, and not for a patentable combination. 4.

EXTENT OF CLAIM.

Claim 1 of letters patent No. 262,169, issued August 1, 1882, to Edward Wilhelm, for an improved locomotive headlight, covers "a reflector provided with an opening behind the burner, whereby light is emitted backwardly into the headlight case for illuminating signal plates or lenses applied to said case, substantially as described." The Circuit Court of Appeals held that, in view of the pre-existing headlights, the claim must be limited to a reflector having an opening near its apex separate from the burner hole or chimney hole of those devices. 5.

In letters patent No. 170,239, issued November 23, 1875, to Lucien S. Crandall, for an improvement in typewriting machines, the specifications show a vibrating platen to give more than one printing center, and type bars with two or more types, and having a forward or backward motion, so as to use two adjoining types on each printing center. Claim 3 is for "the combination of the vibrating platen with the swinging compound type bars, provided with types corresponding to each vibration on printing point of the platen, substantially as specified." The United States Circuit Court decided that the claim covers the combination of the vibrating platen and the type bars with more than one type, and the word "compound" does not confine the claim to bars having both plural types and a double motion. 6.

Letters patent No. 170,709, issued December 7, 1875, to William S. Carr, for an improvement in waste valves and overflows for baths and basins, claim: "The tube, *a*, provided with the collar, *i*, and lock nut, *l*, for clamping the slab, *m*, in combination with the tubular stem, *f*, of the valve, *e*, passing through the lock nut, *l*, and means for sustaining the tube, *f*, when elevated, substantially as set forth." The Circuit Court of the United States held that, in view of the prior state of the art, as shown specially by the patent of July 21, 1874, to J. T. Foley, the patent must be limited to the specific mechanism described. 7.

LICENSE.

C., the owner of letters patent, by a power of attorney appointed Y. his "sole agent" for the "purpose of working and developing the business of the said patents," for and in consideration of a specified royalty "upon every lever fitted upon any railway in the United States," etc., to be paid by Y. to C., "with power for the said Y. to negotiate the sale of said patents upon terms to be agreed upon." By an instrument of writing executed by Y. in his own name, and as his own act and deed, without the consent or knowledge of C., nor his subsequent acquiescence, Y. granted to a coporation, its successors and assigns, "the sole and exclusive right and license under said recited patents to make, use, and sell the improvements therein described and claimed, or intended so to be, to the full ends of the respective terms of said patents," with a proviso that the grantee pay to Y. the said royalty. The court decided that this was an attempted sale by Y. of the entire patents, and, being unauthorized by his power of attorney, was inoperative to pass the title thereto as against a subsequent grantee of C. 8.

1. J. L. Mott Iron Works v. Standard Mfg. Co., 51 Federal Reporter, 81.
2. Young v. Baltimore County Hedge and Wire Fence Co., 51 Federal Reporter, 109.
3. Barnes Auto. Sprinkler Co. v. Walworth Mfg. Co., 51 Federal Reporter, 88.
4. J. L. Mott Iron Works v. Standard Mfg. Co., 51 Federal Reporter, 81.
5. Steam Gauge and Lantern Co. v. Williams, 50 Federal Reporter, 931, July, 1892.
6. Remington Standard Typewriter Mfg. Co. v. Bailey, 50 Federal Reporter, 933, June, 1892.
7. J. L. Mott Iron Works v. Standard Mfg. Co., 51 Federal Reporter, 81.
8. Johnson Railroad Signal Co. v. Union Switch and Signal Co., 51 Federal Reporter, 85.