

AN ACCIDENT ON THE GREAT BRIDGE.

The great bridge between New York and Brooklyn was the scene of a painful tragedy on the 30th ult., Decoration Day. At three P. M., when the footwalk was thronged with visitors, enjoying the novelty of the structure and the beauty of the river scene, suddenly, at the west stairway, a woman's cry was heard; she had fallen on the steps. The crowd on the walk above pressed hastily forward to see what was the matter; those in front, at the edge of the stairs, resisted, became locked and packed together, and in this helpless condition were borne forward by the weight of the surging crowd behind and swept down the stairs, crushing upon each other and against the railings—a writhing, bleeding mass of humanity. Thirteen men, women, and children were killed and many injured. Such was the nature of the accident. It was plainly due to the stupidity of the bridge managers. Ordinary common sense teaches that upon such a highway as this, thronged by millions of people, there should be no stairways or other man-traps. Smooth, straight pavements should be provided. The managers have made broad and elegant passages for horses. Now let them do as much for human beings.

Our engraving shows the locality of the accident. The stairs are only twelve feet high. To prevent a recurrence the trustees and engineers are now talking about having dividing rails on the stairs, stationing more policemen, putting up telephones, and other arrangements. So long as the stairs remain the liability to accident will continue.

One of the detectives who was on duty between the staircase and the point where the foot-bridge is narrowed for thirty feet by the passage of the cables, said that he was sure no part of the bridge was better guarded than that where the accident happened. Where the foot-bridge narrows is a favorite stalking ground for pickpockets, for there is always a prospect of a squeeze there, if anywhere. This detective said:

"The crowd was not particularly large during the afternoon, not so large as we had expected, for unusual preparations had been made to guard against disturbances of any kind, and the ordinary police force was about doubled, counting the detectives and special officers. I was watching for pickpockets, when there was a shriek from some women at the New York stairway, and I started that way, thinking that a fight was going on; we had a good many rough characters crossing, but until then the utmost good nature and order had prevailed. Before I got thirty feet I was almost taken off my feet by the crowd rushing behind me from the Brooklyn side. Some ran toward the crush simply from curiosity, others in mere sport and wish to create a little squeeze for the fun of hearing the women scream, and a great many ran and struggled forward, when stopped, because they believed that the bridge behind them was falling down, and their only hope of getting to land was to press forward to New York. Very few seemed to know that the trouble was all in front of them, and not behind. The pressure of the crowd was the most terrible I have ever known; I saw persons with the blood streaming out of their mouths and noses from the squeezing they received. It was wholly useless to try to argue or talk to people, for the real pressure came from hundreds of feet away; you might just as well have shouted at the waves, and, besides, the noise of shrieks, cries, and curses was so great as to drown any orders. Those who tried to hold on to the iron railings at the sides of the bridge were carried along with the crowd, with their hands bleeding and their bodies crushed against the iron work. A platoon of police would have been of no avail."

Distillation of Bituminous Coal.

In an address delivered in Manchester, England, Mr. Walter Weldon, chemist, described the usual methods of burning coal to produce heat, and gave the results of the imperfect and wasteful consumption of coal in the open grate and under boilers. He said that it was difficult to insure the complete combustion of coal even in making a chemical analysis, and in the open grate it is impossible. By dry distillation a ton of coal can be made to yield twenty pounds of ammonium sulphate, worth 3s. 5d. (80 cents). The soot that lodges in the chimneys and defiles furniture and buildings would yield coal tar, the basis of valuable dyes. To these direct pecuniary losses should be added others, as charges for repainting smoked rooms, medicine and doctors' bills, caused by sickness from acid vapors in the atmosphere, and the waste of heat by building the fire at the end of a tube leading into the outer air.

As a remedy for this loss by waste and these injuries to health, Mr. Weldon said that coal should be distilled in close vessels, and all the products of such distillation should be collected. The gas would serve to distill fresh coal and to work gas engines to generate electricity for light. The ammonia would make a superior fertilizer for land. The tar would be manufactured into dyes, and the residuum of coke would be superior for domestic heating purposes and steam making to the original coal.

ASPECTS OF THE PLANETS FOR JUNE.

VENUS

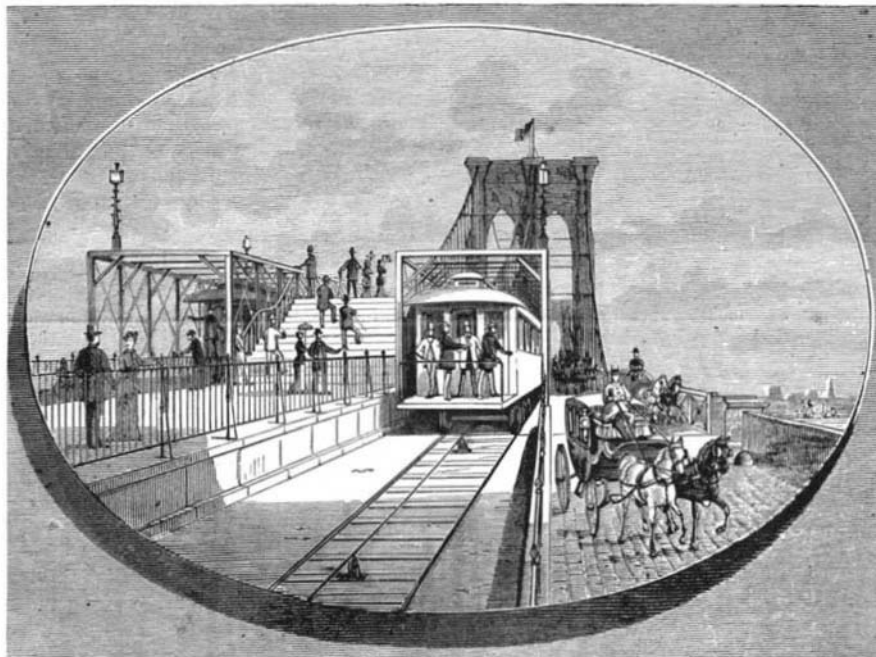
is morning star, winning the place of honor on the list for the beautiful picture she paints on the morning sky, and for contributing the largest share of incidents to the June planetary record. As she retraces her steps toward the sun, moving eastward, she passes Neptune on the track moving eastward.

The planets are in conjunction, or in the same right ascension, at eight o'clock on the morning of the 8th, being only ten minutes apart at the nearest approach. They will be near each other when they rise about three o'clock on the morning of the 8th, an hour and a quarter before sunrise. Venus may be readily recognized, but Neptune is invisible even in large telescopes. Therefore the conjunction must be seen in the mind's eye, where imagination brings out the scene in brighter coloring and magnified dimensions. The fairest of the stars in gibbous phase hangs side by side with the tiny, ill-defined orb, dwarfed by distance to proportions feebly representing the huge sphere that ranks third in size among the members of the solar family.

Venus, having paid her respects to Neptune, next encounters Saturn in her course. She meets him on the 19th at seven o'clock in the evening, when she passes thirty-five minutes north of him. The planets are then below the horizon and invisible, but on the morning of the 20th, bright-eyed observers may easily find them. They rise about three o'clock, more than an hour before the sun, Venus being a little northeast of Saturn, and three and a half degrees south of the sunrise point. After the conjunction, while Venus grows fainter and smaller as she approaches the sun, Saturn increases in size and brightness as he increases his distance from the sun, and approaches the earth.

The right ascension of Venus is now 2 h. 42 m., her declination is 14° north, and her diameter is 12'.

Venus rises on the 1st about nine minutes after three o'clock in the morning; on the 30th, she rises about six minutes after three o'clock.



SCENE OF THE LATE ACCIDENT ON THE GREAT BRIDGE.

MARS

is morning star. At the beginning of the month, he is the first of the four planets ranking as morning stars to appear above the horizon. The order of succession is Mars, Venus, Neptune, Saturn. The ruddy planet is really coming into notice, and may be found shining as a small red star in the constellation Aries, being more readily picked up as there are no stars of note in his vicinity. He wanders undisturbed on the celestial track until the 26th, when he is overtaken by Neptune at eleven o'clock in the evening. The two planets are then in conjunction, Mars passing 1° 7' north. The conjunction is invisible as far as Neptune is concerned, but it illustrates the adage that "Things are not what they seem." Both planets are moving westward, and though Mars in reality is nearer to us and travels faster, he is apparently overtaken by Neptune, who passes him and reaches opposition two months earlier.

The earth revolves twice in her orbit while Mars revolves once in her orbit, and then it takes her fifty days to catch up with him and come into line or complete a synodic revolution. In the case of Neptune, the earth revolves once in her orbit, and only requires two days more to come into line with him and complete a synodic period. It must be remembered that we are viewing our brother and sister planets from the earth, which is a moving observatory, and though the movements of the "wanderers" in the heavens are apparently anomalous, they are in reality as symmetrical as clock work.

The right ascension of Mars is 1 h. 59 m., his declination is 11° 14' north, and his diameter is 4·8'.

Mars rises on the 1st about a quarter before three o'clock in the morning; on the 30th, he rises a few minutes before two o'clock.

NEPTUNE

is morning star. He meets Venus on the 8th, and overtakes Mars on the 26th, events that have been already described. At the end of the month he is the first of the morning stars to appear above the horizon.

The right ascension of Neptune is 3 h. 9 m., his declination is 15° 56' north, and his diameter is 2·5'.

Neptune rises on the 1st at half-past three o'clock in the morning; on the 30th, he rises at half-past one o'clock.

SATURN

is morning star, and contributes but one incident to enliven the records of the month, his conjunction with Venus on the 19th, previously referred to. He is now partially hidden in the sun's bright beams, but he will soon emerge from seclusion, and, clothed in glorious apparel, will grace the summer nights with his serene radiance.

The right ascension of Saturn is 3 h. 57 m., his declination is 18° 37' north, and his diameter is 15·6'.

Saturn rises on the first soon after four o'clock in the morning; on the 30th, he rises about half-past two o'clock.

JUPITER

is evening star. Though drawing very near the sun, and approaching his greatest distance from the earth, he will be a bright and beautiful object in the evening sky during the month. Never in his departing glory has he put on a more attractive aspect. No observer can behold him gracing the twilight sky and serenely shining without being impressed by the majesty and princely dignity of his presence. While near proximity to the sun obscures every other planet but Venus, Jupiter shines with a brilliant luster in the near presence of the great orb he closely resembles. A period of intense activity is passing on the Jovian borders. The great spot has disappeared, but the wondrous belts take on every manner of varied form, and every tint of the rainbow, thus bearing testimony to the tremendous commotions that agitate his chaotic mass, and that millions of years hence will make the giant orb a fit abode for animal and vegetable life.

The right ascension of Jupiter is 6 h. 24 m., his declination is 23° 21' north, and his diameter is 32·6'.

Jupiter sets on the 1st at a quarter after nine o'clock in the evening; on the 30th, he sets at a quarter before eight o'clock.

URANUS

is evening star. On the 10th, at one o'clock in the morning, he is in quadrature with the sun, half way between opposition and conjunction.

The right ascension of Uranus is 11 h. 21 m., his declination is 4° 58', and his diameter is 3·6'.

Uranus sets on the 1st at one o'clock in the morning; on the 30th, he sets at a quarter after eleven o'clock in the evening.

MERCURY.

is evening star until the 7th, and morning star the rest of the month. On the 7th, at 11 o'clock in the evening, Mercury is in inferior conjunction with the sun. After this event, he passes to the sun's western side and swells the list of morning stars to five members, including Mars, Venus, Neptune, Saturn, and himself.

The right ascension of Mercury is 5 h. 17 m., his declination is 21° 52' north, and his diameter is 11·16'.

Mercury sets on the 1st at eight o'clock in the evening; on the 30th, he rises about a quarter after three o'clock in the morning.

THE MOON.

The June moon fulls on the 20th, at twenty-three minutes after eleven o'clock in the morning, Washington mean time. The old moon is in conjunction with Mars and Venus on the 2d, and with Neptune on the 3d. The slender crescent less than a day before new moon is close to Saturn on the 4th, being two minutes north at four o'clock in the morning. Unfortunately for terrestrial observers, the sunlight hides the beautiful phenomenon from mortal view. This conjunction, as well those of March, April, and May, show how nearly the moon's path coincides at present with that of Saturn, and how near the conjunctions are to occultations. Saturn is occulted in his geocentric position, that is, as seen from the center of the earth, nine times during the year, though in no case is an occultation visible in Washington. The conjunction of the moon and Saturn on the 9th of April, a simple conjunction in Washington, New York, and New England, was a superbly beautiful occultation as observed in Illinois and Iowa. The new moon of the 5th is near Mercury on the evening of her advent, at her nearest point to Jupiter on the 6th, near Uranus on the 12th, the day of the first quarter. She pays her respects to Neptune for the second time on the 26th, and ends the month's work with a second conjunction with Mars on the 30th, three days after the last quarter, planet and crescent making a picture fair to see on the morning sky.

At a German ultramarine manufactory, managed by a pupil of Liebig, the director has observed that for forty-four years none of his workmen have ever suffered from consumption. He attributes their immunity to the fact that the process of manufacture involves the constant production of sulphurous acid, by the burning of sulphur. Accordingly he suggests a new method of treatment for consumptive patients, by bringing them into an atmosphere moderately charged with sulphuric acid.