

proach Donegal Castle. In the green is a Celtic cross, and round it the merry Irish lads and lassies dance on moonlight nights to the sound of the pipes. Irish industry and Irish art are well shown in this inclosure. Passing under the railroad tracks and the Stony Island Avenue viaduct, we emerge into the main Fair grounds.

In our illustration the Woman's building rises directly in front of the entrance to the Plaisance. The towers of the Fisheries building may be seen in line over the Libby Glass Works, while on the left the homely dome of the Illinois State building is seen. At the extreme left is the Art Gallery, over the other end of the Woman's building is the Government building, and on the extreme right rises the immense Manufactures and Liberal Arts building, with the low dome of the Horticultural building in front.

As the great wheel revolves once more, let us examine the buildings on the right of the Plaisance. The lofty minaret of the Moorish Palace rises in the foreground, while beyond the viaduct is the Turkish village, composed of several isolated buildings. Here are mosques and bazars, and a Turkish street filled with vendors of rugs and cigarettes. In a small booth just beyond the mosque, "Turkish soft drinks" are advertised, but let the stranger beware of these Oriental compounds. Just before reaching the large panorama of the Bernese Alps will be seen the long, low Turkish theater. Our ideas of the dramatic art of the Ottomans will be very much modified after witnessing one of the performances. "A Marriage in Damascus" is very well rendered; a special man—he might under some circumstances be called an interpreter—makes pitiful attempts to give an English version of the dialogue and fails. Beyond the panorama is the Natatorium and the Vienna restaurant, which come in for a large share of patronage. James J. Corbett has just completed an engagement at the Natatorium. The Hagenbeck animal show is well worthy of a visit, and is conveniently situated just beyond the second viaduct. Here Miss Lilly, the dwarf elephant sulks, or rather did sulks, for she died recently, in a corner. The performing animals are really wonderful, and it is a strange sight to see a maned lion riding on a tricycle. He realizes his disgrace, and looks deprecatingly at the audience, as if to say, "How low I have fallen!" The Venice-Murano Glass Co. have a fine building opposite the Libby Company's building, and here they exhibit the manifold steps in the process of making some of the beautiful but fragile Venetian wares. The Blarney Castle next greets our eyes, and the bird's eye tour of the Plaisance is finished just as the wheel lands us at the platform, and the guard calls, "All out," and we pass down the Plaisance, and out to the Sixtieth Street station of the Illinois Central Railroad.

The Plaisance is Nijni-Novgorod brought to our very doors, and the curious street is even better, for the Plaisance contains a more heterogeneous collection of people than the great exchange of Asia and Europe can show, for here are also assembled the natives of America, Africa and Oceanica.

The Dog and the Bicycle.

A Broadway car bowled past Grace Church on a Sunday afternoon. A man stood on the back platform, turning every little while to encourage a big dog which trotted along behind the dashboard and apparently didn't mind the speed at all.

Sunday bicyclers infest Broadway and seem to find the broad iron strip for the cable a beautiful roadway. Behind the panting dog on the car track was a pneumatic-tired bicycle. The rider sometimes got unpleasantly near the big dog, who barked vociferously to show his displeasure, but the wheel kept close to his heels.

Whether the dog knew the sort of tire attached to the wheel or whether he didn't will probably never be known, but as the car slacked up at Thirteenth Street the canine turned, and stepping aside, made a vicious snap at the slowly revolving wheel. His sharp teeth punctured the tire, the pressure drove out the air, and the rider found himself with a collapsed tire and a useless bicycle. By the time the rider discovered what had happened, the dog, relieved of his pursuer, was half a block away. The wheelman took to the sidewalk and pushed his machine home.—*N. Y. World.*

Fish Oils.

The examination of a number of different fish oils demonstrates that the solid fatty acids are made up in the main of palmitic acid, with small quantities of stearic acid; the liquid fatty acids are not identical with any of the known acids: *Asellic acid*, $C_{17}H_{32}O_2$, and *jeoric acid*, $C_{17}H_{30}O_2$, isomeric with linolenic acid, to which the easy oxidation of the oils is due; both of these acids are oxidizable by alkaline permanganate of potassium solution, yielding characteristic oxy-acids; the ultimate analysis of the oxy-jeoric acid gave results indicating the presence of a third acid, possibly isomeric with linolic acid.—*Dr. W. Fahrion, Chemiker Ztg.*

POSITION OF THE PLANETS IN SEPTEMBER.

JUPITER

is morning star. No one will dispute his right to take the first rank on the September planetary record. He is fast regaining that brilliancy which at times is sufficient to cast a shadow and to enable observers gifted with phenomenal eyesight to hope to read newspaper headings by his light. As the revolving earth draws nearer to him, it is safe to say that his surface will be scanned as it never was before. Recent discoveries have aroused an eager interest in this most important member of the system and in everything connected with his movements, the constant changes in his disk, the number, shape, and revolutions of his satellites.

Jupiter is stationary on the 19th, and then commences to slowly retrograde or move westward, holding in this course beyond the end of the present year. This apparent change of movement in Jupiter is due to the superior speed of the earth in its interior course, as both planets circle in the same orbital direction around their common master, the sun.

Jupiter is to be found in the constellation Taurus. There is no need of pointing out his exact position, for his own superiority in light and beauty leaves him without a rival in his field. Still he has interesting neighbors, the Pleiades being a few degrees toward the northwest, while Aldebaran and the group of the Hyades are about the same distance to the southeast. When the month closes Jupiter will rise about eight o'clock in the evening and will be in fine position for observation.

The following are among the most interesting configurations of the satellites of Jupiter, and are selected from the Nautical Almanac. They are for an inverting telescope, and the exact hour to look for them is midnight after the given day:

On the 5th I. is occulted, III. is on the left or western side of the planet, II. and IV. are on the right or eastern side.

On the 9th II. is making a transit, IV., I. and III. are all on the right and quite close to each other and to the planet.

On the 10th III. is making a transit, II., I. and IV. are on the left and quite close to each other and to the planet.

On the 12th I. is occulted, IV. and III. are on the left and II. is on the right.

On the 15th the satellites are perhaps in the most favorable position for being all seen at once by low powers, IV. being on the left hand side and quite separated, II. and III. are on the right and nearer together. The same configuration occurs again on the 29th.

On the 20th I. is making a transit, III. and II. are near together on the left and IV. on the right.

On the 23d II., I., III., and IV. are all on the right.

On the 25th II. is occulted, III. is on the left, I. and IV. are on the right.

On the 29th the configuration of the 15th, as given above, is almost exactly reproduced, and the apparent positions on the two dates are almost exactly identical.

Those who have telescopes of sufficiently high powers may be interested to observe the eclipses of the first three satellites and the transits of their shadows over the body of the planet. In the case of the fourth satellite the position of the nodes is such that the satellite is not eclipsed at present, nor can its shadow be seen.

The moon, one day before the last quarter, is in conjunction with Jupiter on the 2d at 1 h. 10 m. P. M., being $3^{\circ} 56'$ north. Four days after full the moon is again in conjunction with Jupiter on the 29th at 7 h. 31 m. P. M., being then $4^{\circ} 47'$ north. At this time the moon will here be on the eastern horizon, and when Jupiter rises, say one-half hour later, the two will form a charming picture.

The right ascension of Jupiter on the 1st is 3 h. 56 m., his declination is $19^{\circ} 20'$ north, his diameter is $39''.6$, and he is in the constellation Taurus.

Jupiter rises on the 1st at 9 h. 55 m. P. M. On the 30th he rises at 8 h. 2 m. P. M.

VENUS

is evening star. Her apparent distance from the sun increases very slowly as she follows and gains upon the earth. Venus sets at the beginning of the month about an hour and a quarter later than the sun and at the end of the month an hour and a half later. Her light gains in brilliancy about one-fifth during the month, but her southern declination, which increases very rapidly during the same time, will prevent her from being the conspicuous object that we are accustomed to regard her.

From September 8 to September 11 Venus will be within three degrees of Spica Virginis, passing a little more than two degrees to the north of Spica.

The moon when a three days' old crescent is in conjunction with Venus on the 13th at 12 h. 19 m. A. M., being $0^{\circ} 30'$ south. The resulting occultation of Venus will not be visible to us, as both moon and Venus will then be five hours below the western horizon, but on the evening of the preceding day, Tuesday, September 12, the crescent moon, Venus and Spica Virginis will be so close to each other as well to merit attention.

The right ascension of Venus on the 1st is 12 h. 44 m., her declination is $4^{\circ} 12'$ south, her diameter is $12''.8$, and she is in the constellation Virgo.

Venus sets on the 1st at 7 h. 42 m. P. M. On the 30th she sets at 7 h. 8 m. P. M.

SATURN

is evening star, but is rapidly approaching the sun. Its distance from the earth is increasing and has nearly reached its maximum. During the greater part of the month Saturn may be said to be lost in the sun's rays. It sets quite soon after the sun throughout the month, at the beginning one hour and twenty minutes, at the end only twenty minutes or so.

The moon when two days old is in conjunction with Saturn on the 12th at 12 h. 47 m. A. M., being $1^{\circ} 48'$ south.

The right ascension of Saturn on the 1st is 12 h. 45 m., his declination is $2^{\circ} 25'$ south, his diameter is $14''.8$, and he is in the constellation Virgo.

MARS

is evening star at the beginning of the month and morning star at the close. He is in conjunction with the sun September 4, 4 h. 13 m. A. M., at which time he changes from evening to morning star. At the same time he is at very nearly his greatest distance from the earth and shines with only about one-fortieth of the brightness of a year ago. Mars, though morning star, may be said, like Saturn, to be lost in the sun's rays, for even at the end of the month he rises only forty minutes before the sun.

The moon, a few hours before the change from old to new, is in conjunction with Mars on the 9th, at 8 h. 50 m. P. M., being $2^{\circ} 7'$ north.

The right ascension of Mars on the 1st is 10 h. 49 m., his declination is $8^{\circ} 42'$ north, his diameter is $3''.8$, and he is in the constellation Leo.

Mars sets on the 1st at 6 h. 32 m. P. M. On the 30th he rises at 5 h. 10 m. A. M.

MERCURY

is morning star at the beginning of the month and evening star at the close. He is in superior conjunction with the sun on the 20th at 3 h. 16 m. A. M., when he changes to the eastern side of the sun to commence his short career of evening star. An experienced eye might possibly pick up Mercury at the beginning of the month, but generally he will be invisible to the naked eye.

The moon one day before its change from old to new is in conjunction with Mercury on the 9th, 5 h. 58 m. A. M., being $1^{\circ} 59'$ north.

The right ascension of Mercury on the 1st is 9 h. 44 m., his declination is $11^{\circ} 42'$ north, his diameter is $6''.0$, and he is in the constellation Leo.

Mercury rises on the 1st at 4 h. 15 m. A. M. On the 30th he sets at 5 h. 56 m. P. M.

URANUS

is evening star, not very far removed from the sun, especially at the close of the month, and invisible to the naked eye.

The moon four days before the first quarter is in conjunction with Uranus on the 14th, at 1 h. 55 m. A. M., being $2^{\circ} 14'$ south.

The right ascension of Uranus on the 1st is 14 h. 22 m., his declination is $13^{\circ} 41'$ south, his diameter is $3''.6$, and he is in the constellation Virgo.

Uranus sets on the 1st at 8 h. 44 m. P. M. On the 30th he sets at 6 h. 54 m. P. M.

NEPTUNE

is morning star. This remotest member of the solar system is to be found about as far to the northeast of Aldebaran as Jupiter is to the northwest, but he will require optical aid to pick him up.

The moon on the day of her last quarter is in conjunction with Neptune on the 3d at 10 h. 0 m. A. M., being $5^{\circ} 45'$ north, and five days after full is again in conjunction with Neptune on the 30th at 3 h. 31 m. P. M., being $5^{\circ} 53'$ north.

The right ascension of Neptune on the 1st is 4 h. 49 m., his declination is $20^{\circ} 55'$ north, his diameter is $2''.6$, and he is in the constellation Taurus.

Neptune rises on the 1st at 10 h. 45 m. P. M. On the 30th he rises at 8 h. 47 m. P. M.

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

THE HARVEST MOON

is the full moon which occurs nearest to the autumnal equinox. This year the autumnal equinox is on the 22d of September. The sun enters Libra and autumn commences September 22, 2 h. 55 m. P. M. The September moon fulls on September 25, 3 h. 23 m. P. M., and is, therefore, the harvest moon. The full moon next following, that is, the October full moon, is called the Hunter's Moon. The phenomenon known as the Harvest Moon is the, so to speak, coasting of the nearly full moon along the horizon at the time of rising, in consequence of which for several days preceding and following the day of full, the nearly full moon will have smaller intervals between its successive risings than at any other period of the year. This year the phenomenon of Harvest Moon will be particularly marked, and the lowest interval possible in New York, namely, 23 minutes, will be reached.