Twenty-two syndodic periods of Mercury are nearly equal to 7 years, 41 more nearly equal to 13 years, and 145 almost exactly equal to 46 years. After a November transit, therefore, one is possible in 7 years, probable in 13 years, and almost certain in 46 years. The May transits are less numerous, on account of the planet's different position in regard to the earth. The repetition cannot occur after 7 years, and is by no means sure after 13 years. The nineteenth century includes 13 transits, 4 May transits and 9 November transits, that of November 10, 1894, completing the record.

As Mercury is too small to be visible to the naked eye when crossing the sun, a transit was not observed until years after the invention of the telescope, Gassendi being the first to witness the phenomenon in 1631.

Transits of Mercury have little practical importance. They give data for measuring the planet's diameter, and for accurate determination of his orbit. Those, however, who have access to telescopes, and are in the right locality, will find the observation of the smallest member of the solar brotherhood, as he makes his way, like a tiny black ball, over the face of the mighty sun, an event as impressive as it is curious and interesting.

The right ascension of Mercury on the 1st is 3 h. 20 m., his declination is 20° 25′ north, his diameter is 10″.8, and he is in the constellation Aries.

Mercury sets on the 1st at 7 h. 55 m. P. M. On the 31st he rises at 3 h. 33 m. A. M.

JUPITER

is morning star. He has parted from Venus, and is making his way westward from the sun, and while approaching the earth is increasing in size and brilliancy. He rises on the middle of the month about three hours before the sun, and is wonderfully beautiful, as he shines on the dark background of the sky in the small hours of the morning.

The moon, two days after her last quarter, is in conjunction with Jupiter, on the 3d, at 9 h. 57 m. A. M., being 4° 36′ south.

The right ascension of Jupiter on the 1st is 22 h. 53 m., his declination is 8° 8′ south, his diameter is 34″.6, and he is in the constellation Aquarius.

Jupiter rises on the 1st at 2 h. 38 m. A.M. On the 31st he rises at 0 h. 52 m. A. M.

SATURN

is evening star. He is on the meridian on the 1st at 8 h. 12 m. P. M. Observers who follow his course carefully will notice a change after the 12th. He no longer approaches Regulus, but commences to move eastward, or in direct motion, as it is called, and continues to move in this direction until the close of the year. All who have access to telescopes should improve the opportunity for beholding the planet deprived of his rings.

The moon, the day after the first quarter, is in conjunction with Saturn, on the 16th, at 7 h. 5 m. P. M., being 3° 27′ north.

The right ascension of Saturn on the 1st is 10 h. 51 m., his declination is 9° 37′ north, his diameter is 17″.8, and he is in the constellation Leo.

Saturn sets on the 1st at 2 h. 43 m. A. M. On the 31st he sets at 0 h. 48 m. A. M.

NEPTUNE

is evening star until the 27th, and then morning star. He is in conjunction with the sun on the 27th at 11 h. P. M., and is then out of the reach of the most powerful telescopes, for he is not only hidden in the sun's rays, but is at his greatest distance from the earth.

The right ascension of Neptune on the 1st is 4 h. 16 m., his declination is 19° 42′ north, his diameter is 2″.5, and he is in the constellation Taurus.

Neptune sets on the 1st at 8 h. 47 m. P. M. On the 31st he rises at 4 h. 23 m. A. M.

VENUS

is morning star. There is nothing eventful in her course during the month as she slowly travels toward the sun. She was indeed the queen of the stars, when last month, near conjunction, she appeared side by side with Jupiter in the golden glory of the dawn, but she rises now only an hour and a quarter before the sun, and it will soon be hard to find her amid the brightness of the solar rays.

The moon, three days before her change, is in conjunction with Venus on the 5th, at 8 h. 41 m. A. M., being 2° 54′ south.

The right ascension of Venus on the 1st is 0 h. 25 m., her declination is 0° 55′ north, her diameter is 13″.8, and she is in the constellation Pisces.

Venus rises on the 1st at 3 h. 37 m. A. M. On the 31 st she rises at 3 h. 7 m. A. M.

MARS

is evening star. The event of interest in his course is his very close conjunction with the moon on the 9th at 10 h. 45 m. P. M., when he is only 1′ north of the moon, an almost inappreciable distance. The two days' old crescent and the tiny red planet, almost touching it on the north, would be a most interesting phenomenon, but at the time of its occurrence moon and planet are below the horizon, and the celestial picture can be seen only in the mind's eye.

The right ascension of Mars on the 1st is 4 h. 23 m., his declination is 22° 19′ north, his diameter is 4″.2, and he is in the constellation Taurus.

Mars sets on the 1st at 9 h. 6 m. P. M. On the 31st he sets at 8 h. 44 m. P. M.

URANUS

is evening star. His right ascension on the 1st is 13 h. 48 m., his declination is 10° 33′ south, his diameter is 3″.8, and he is in the constellation Virgo.

Uranus sets on the 1st at 4 h. 28 m. A. M. On the 31st he sets at 2 h. 28 m. A. M.

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

Beauty as a Means of Health.

Before one of the New York working girls' clubs, Dr. Louise Fiske Bryson recently gave an address upon this subject, reversing in more ways than one the usual order of copybook aphorism. While acknowledging the impossibility of any protracted happiness without virtue, and the maintenance of beauty's fine edge without goodness, the doctor affirmed that systematic efforts to be beautiful will insure a fair degree of health, and that happiness is the best safeguard against vice. The difference in appearance between one woman and another, it was stated, is more than anything else an affair of style—that beauty of beauties so hard to define and so easy to recognize, which makes the girl of no-colored hair, features of indifferent turn, and lines none too perfect, infinitely more attractive than other maids of faultless curves and innumerable strong points not cemented by this magic quality. Style may be defined, for want of something better to express it, as an attractive manner of holding the body, a firm, graceful way of doing things and of moving about. It is the visible sign of inherent power and reserve force. It is the outcome of long, deep breaths and the use of many muscles. The prayer of the New York child, "Lord, make us very stylish," when viewed aright, is recognized as an aspiration based upon sound scientific principles and worthy of universal commendation.

Proper breathing is the first art to cultivate in the pursuit of beauty. The lungs have their own muscular power, and this should be exercised. The chest must be enlarged by full, deep breathing, and not by muscular action from without. Inflate the lungs upward and outward, as if the inflation were about to lift the body off the ground. Hold the shoulders on a line with the hips, and stand so that the lips, chin, chest, and toes come upon one line, the feet being turned out at an angle of sixty degrees. It is wrong to make the bony structure do most of the work in keeping the body upright. The muscles should hold it in position. In walking, keep face and chest well over the advanced foot, and cultivate a free, firm, easy gait, without hard or jarring movements. It is impossible to stand or breathe aright if the feet are pinched. When correct posture and breathing are interfered with, the circulation is impeded, and deleterious substances in the blood tend to make the complexion bad. This is one of the many evils of tight shoes. To be well shod has a marked influence on style. The feet symbolize the body in their way as much as the hands. A clever shoemaker says that in a well-fitting shoe the human foot feels like a duck's foot in the mud. It is held firmly in place, but nowhere compressed. Nothing can exceed the vulgarity and hygienic wickedness of a shoe that is manifestly too tight. For misery-producing power, hygienically as well as spiritually speaking, perhaps tight boots are without a rival. Next to the search for style pure and simple as a means of health, the care of the complexion and the cultivation of the right kind of expression are of great importance. The first is largely a matter of bathing and the general hygiene of the skin, while the second—a good expression—is best secured by the constant preference of higher thoughts over lower ones. This is the essence of intellectual living, and is fortunately within reach of us all.

Beauty that is lasting and really worth while is more or less dependent upon a good circulation; while a good circulation is made possible by correct pose, proper breathing, and the judicious care of the skin, something else is also necessary to insure the normal quality and activity of the blood. And this something consists in a combination of sunshine and exercise in the open air. Town dwellers have too little of these blessings, partly from circumstances and partly from lack of wit. Exercise is the most important natural tonic of the body. Without it there can be no large, compact, muscular frame. It is as essential to physical development as air is to life, and an imperative necessity in the maintenance of beauty. To keep the complexion and spirits good, to preserve grace, strength, and ability of motion, there is no gymnasium so valuable as the daily round of housework, no exercises more beneficent in their results than sweeping, dusting, making beds, washing dishes, and the polishing of brass and silver. One year of such muscular effort within doors, together with regular exercise in the open air, will do more for a woman's complexion than all the lotions and pomades that ever were invented. Perhaps the reason why housework does so much more for women than games is the fact that exercise which is immediately productive cheers the spirit. It gives women the courage to go on with living, and makes things seem really worth while.

In a general way the great secrets of beauty, and therefore of health, may be summed up as follows: Moderation in eating and drinking; short hours of labor and study; regularity in exercise, relaxation, and rest; cleanliness; equanimity of temper, and equality of temperature. To be as good looking as possible, and to be physically well, one must in general be happy. And to be happy, it is necessary to carry out ideas of personal taste and preference, as many of them as can be put into definite form without infringing upon the rights of others. Happiness has a distinct æsthetic and hygienic value. In itself it will secure perfect poise and respiration. To be happy is a duty just as style is a duty, and both are in great measure an affair of intellect and management. The old order put the cart before the horse; it said: "Be virtuous and you will be happy," a rule with many exceptions. But the old order changeth. And the modern gospel postulates happiness and material prosperity as the basis of morality. Other times, other manners. The ardent pursuit of good looks sums up the best there is in hygiene, and becomes a legitimate and praiseworthy means of health. The world has yet room for two or three truths, of which not the least is the fact that the definite desire for personal beauty—which was in the beginning, is now, and ever shall be—constitutes in itself a perfectly proper and meritorious inspiration to effort, especially in a country where the shades of Puritanism linger as a sad inheritance, and where disinterred Buddhism claims too often the frail neurasthenic for its own.—*Medical Record.*

DECISIONS RELATING TO PATENTS.

ASSIGNMENTS, LICENSES, MORTGAGES OF PATENTS.

Supreme Court of the United States.

WATERMAN *vs.* MACKENZIE *et al.*

An assignment is an instrument in writing, conveying either (1) the whole patent, comprising the exclusive right to make, use, and vend the invention throughout the United States; or (2) an undivided part or share of that exclusive right; or (3) the exclusive right under the patent within and throughout a specified part of the United States.

Such an instrument vests in the assignee a title in so much of the patent itself, with a right to sue infringers, alone in the first and third cases, and jointly with the assignor in the second.

Any other transfer is a mere license, giving the licensee no title in the patent and no right to sue at law in his own name for an infringement.

A grant, by the owner of a patent, of the sole and exclusive right and license to manufacture and sell the patented article throughout the United States, does not include the right to use such patented article, at least if manufactured by third persons, and is, therefore, a mere license.

The recording of a mortgage of a patent right in the Patent Office is equivalent to a delivery of possession and makes the title of the mortgagee complete toward all other persons, as well as against the mortgagor; and the mortgagee is the only person who can thereafter sue for an infringement of the patent by third persons.

Mr. Justice Gray delivered the opinion of the court.

To Remove Tattooing.

Mr. T. W. Dodd, of Walsingham, England, writes as follows in the *Chemist and Druggist:*

"Twenty years ago I removed three very indelible tattoo marks on my hand. Certainly it left a scar, but now it is scarcely perceptible. The operation was performed by applying nitric acid with the stopper of the bottle (a better instrument would be a glass rod pointed, to carry the acid), just sufficient to cover the stain, so as to avoid making a larger scar than needful, the acid to remain about one and a half minutes, until the *cutis vera* was penetrated and a crusted appearance shown, then washed off with clean cold water. In a few days after this treatment a scab forms, which contains the tattoo mark or stain; remove it, and should inflammation supervene, poultice and bathe with warm water. In this way the skin with the stain is not only removed almost painlessly (I mean tattoo marks about the size of peas), but the nitric acid at the same time to a certain extent seems to decolorize the stain. Of course large tattoo marks, greatly extending over the surface, must necessitate the operation being performed differently.

Dr. Variot, of the Paris Biological Society, advises the following method: Tattoo the skin, in the usual way, with a concentrated solution of tannin, following the original design. Then apply a crayon of nitrate of silver until the part tattooed with the tannin blackens. Wipe off excess of moisture and allow matters to take their own course. Slight pain continues for two to four days, and after two months the cicatrix which results will almost disappear.—*Amer. Druggist.*