

ted to a journey in the wet or exposure to a draft of cold air; but these ordinary influences can only have the effect of determining the location of the disease, the necessary conditions for the development of which must have existed previously.

Symptoms of rheumatism vary according to the severity of the attack. In the acute form of the affection, there are loss of appetite, quick full pulse, rapid breathing, stiffness of movement, and sometimes incapacity to move at all. Cattle, when attacked with acute rheumatism of the muscles of the back and quarters, will often lie down and refuse to rise; and, if not got up by force, they may remain in that position until they die from exhaustion, or from failure of the heart's action owing to the extension of the disease to that organ.

Horses when similarly affected remain in the standing position, with the hind legs drawn under the body, presenting something of the appearance which is apparent in acute inflammation of the fore feet; in fact, we have known this disease to be mistaken for rheumatism of the muscles of the back, and we have heard of the opposite error being made, an attack of rheumatism in the back having been treated as inflammation of the fore feet. The symptoms of rheumatism, however, are sufficiently marked to enable an acute observer to distinguish it from any other affection.

When the inflammation attacks the joints of the extremities, one peculiarity is sufficient to indicate the nature of the malady—we refer to the tendency to shift from one part of the limb to another; the right fetlock may be swollen one day, and the left knee on the following day; and again in a short time the disease may quit the fore limbs altogether, and appear in the hind joints.

In the sub-acute form of rheumatic disease, the frequent change of position is a characteristic symptom; but in the most acute form, when the constitutional disturbance is most severe, the tendency to shift from one part to another is not so commonly noticed.

One variety of rheumatism is especially annoying as a sequel to febrile diseases. A horse, which has recovered from an attack of influenza or bronchitis, suddenly becomes excessively lame from inflammatory swellings above the fetlocks, probably of the forelegs. The disease may yield to treatment to some extent, but, almost as soon as any improvement occurs in one part, the disease assumes a more active form in another; and many weeks may be occupied in trying various forms of treatment with more or less success. In the majority of cases soundness is ultimately restored, and it does not appear that the acute or chronic form of rheumatism leaves behind it any tendency to the malady.

Treatment of rheumatism is generally based on the assumption that the disease is due, in a great degree, to the presence of an excess of acid in the blood and secretions. It is undoubtedly true that there is an excess of fibrinous material in that fluid; and there is also, in most cases, considerable constitutional debility. These conditions point to a consistent plan of treatment; it is necessary to eliminate morbid materials from the system, and to support the vital powers at the same time by generous diet.

Nitrate of potash and also carbonate of potash are valuable remedies in rheumatism, the former especially from its influence on the fibrin of the blood, while, at the same time, it excites the secretive action of the kidneys. Laxative medicines are required in the febrile stage of the disease; and when the fever has subsided, tonics may be necessary, particularly if the animal's appetite is not very good.

Local treatment is indispensable in cases where the joints, or the synovial capsules connected with joints, are involved, and experience is decidedly in favor of blistering the parts at once, in preference to fomenting with warm water or apply a stimulating liniment. The relief which is afforded by a blister is commonly very marked immediately after the remedy has taken effect, and in all instances the repetition of the dressing may be expected to produce satisfactory results. —London Field.

ASTRONOMICAL NOTES.

OBSERVATORY OF VASSAR COLLEGE.

For the computations of the following notes (which are approximate only) and for most of the observations, I am indebted to students. M.M.

Positions of Planets for May, 1875.

Mercury.

Mercury cannot be seen before the latter half of the month. On the 22d it passes the meridian an hour after the sun, and should be looked for after sunset, farther north than the point of disappearance of the sun. It sets later and later every evening, and on the 31st it does not go below the horizon until after 9 in the evening.

Venus.

Venus, although less brilliant, can still be seen in the morning, as it rises at 3h. 30m. on the 1st of May, and comes to meridian 19m. before 10 A. M. On the 31st Venus rises at 3h. 8m. in the morning, and sets at 4h. 44m. P. M.

Mars.

Mars is increasing in apparent diameter, but is also moving farther south in declination, and is not well situated for observation. It rises on the 1st at 11h. 9m. P. M., and can be known by its ruddy light. On the 30th, Mars rises at 9h. 25m. P. M., and sets on the 31st at 5h. 59m. A. M.

Jupiter.

Jupiter is now the most conspicuous planet in our evening skies. It rises on the 1st at 5h. 25m. P. M., and sets at 4h. 26m. the next morning. On the 31st Jupiter rises at 3h. 14m. P. M., and sets at 2h. 21m. A. M. of the next day.

Jupiter has four moons, and they can be seen with a small glass, generally in a line nearly parallel with the equa-

tor of the planet. But sometimes they are invisible by being behind the planet, as in occultations, by being in the planet's shadow, as in an eclipse, sometimes by being in front of the planet, between us and the planets, as in transits.

The occultations and the eclipses can be seen with small instruments, but the transits cannot be seen without good glasses, the little moon being generally so much like Jupiter in color as to be undistinguishable from the planet. On the 7th, the third satellite, which is the largest, will disappear (to be seen with a glass of low power) at 7h. 11m. 41s. (Washington time) by coming between the Earth and Jupiter, in transit. On the 18th, the same satellite will disappear, by going into the shadow of Jupiter, at 7h. 59m. 8s. (Washington time), or by eclipse. On the 25th the same satellite will disappear at 8h. 18m. by being behind the planet, or by occultation.

Saturn.

Saturn does not rise until after 2 in the morning of the 1st, and sets a little after noon. On the 31st it rises a few minutes after midnight and sets at 10h. 30m. A. M. It is far south in declination, and, although coming into better position, is still very unfavorably situated for observation.

Uranus.

Uranus rises on the 1st at 11h. 10m. A. M., and sets at 1h. 26m. the next morning. On the 31st Uranus rises at 9h. 16m. A. M., and sets at 11h. 29m. P. M.

It may be found by sweeping with a small telescope in the region east of the Beehive in *Cancer*.

Neptune.

The diurnal path of Neptune is so nearly that of the sun that it cannot be observed at this time.

Sun Spots.

The large spot mentioned in the last report, as having appeared a second time, made its passage across the disk with no noticeable change in appearance. It was last seen on the western limb, March 29, and did not return again at the time when (by the sun's revolution) it was expected, about April 14. Two clearly defined spots of good size appeared within the eastern limb on April 10, and the photograph of the 14th (none having been taken since the 10th) shows them to be preceded by another of nearly equal size. These three are still on the disk (April 18), the pair having completed about two thirds of their passage. Besides those mentioned, spots have been few and very small during the last few weeks, and no faculae have been observed. A little group, which was first seen on March 29, was of interest, as it was well defined and passed the center of the disk, yet not visible in the last picture taken, that of the 27th.

Silas Henry Hodges.

Ex-Commissioner of Patents Hodges, who was appointed to that office by President Fillmore, and who, for the last fourteen years, has been one of the board of three examiners-in-chief appointed by Congress to hear appeals from the decisions of the examiners, died in Washington, D. C., on April 20. He was a native of Clarendon, Vt., born in 1804, and for some years practiced as a lawyer in Rutland, in the same State. A natural predilection for mechanical science gave him great success in patent cases, and enlisted him in the service of the Patent Office, in which he acquired a high reputation for learning, acuteness, and accuracy. For some years he had been suffering from a painful internal disease, which he bore with patience, continuing his labors with great courage and fidelity. His removal from this life has caused widespread regret, and elicited many indications of the universal respect in which he was held.

Patent Office Changes.

General William H. Brown, the present examiner of trade marks, resigns his position from the 30th of April, in order to resume the practice of the law. He will be succeeded by Mr. J. E. M. Bowen, for several years connected with the interference division of the Patent Office, and now first assistant examiner in the class of mechanical engineering.

A GOOD LOCOMOTIVE.—Passenger engine J. S. Taylor, No. 105, Daniel Kenyon, engineer, running between Paterson, Newark, and Jersey City, has accomplished the remarkable feat of running 80,473 miles without repairs. The main rod brasses during the period have not been filed, and the driving brasses are still in excellent condition for further work.

DECISIONS OF THE COURTS.

United States Circuit Court—Southern District of Ohio.

PATENT BUNG.—PHILIP GEIER vs. AUGUST GOETTINGER.

(In equity.—Before SWING, J.—October term 1874.)

Letters patent to Philip Geier, of February 23, 1869, for "Improved Method of rendering Wooden Bungs Impervious to Liquids and Gases," construed and sustained.

SWING, J.: The patent recites that Philip Geier alleges that he invented a "new and useful improved mode of rendering wooden bungs impervious to liquids and gases." In the schedule the patentee says he has invented "a new and useful improvement in wooden bungs," and says: "My invention consists in rendering wooden bungs impervious to the passage of gases, or beer or other liquor, through the pores of the wood by means of any suitable substance. The drawing shows a bung with a coat of the impervious material. Then the substance used is described, as also its manner of application. This claim is: 'A wooden bung rendered impervious to the passage of fluids through the pores of the wood by means of the described or other suitable substance.'"

I think, from the patent, specifications, and drawings, that the invention of the patentee consisted in a wooden bung rendered impervious to the passage of gases or beer or other liquids. This is the thing he has produced. This is the end he has accomplished, and a fair interpretation and application of the language used cannot well bear any other construction. The patentee points out the method by which his invention is produced, and the material used—to wit, by the application of impervious material to the end of the wooden bung. He also describes a particular material, which he regards as most suitable, but claims the use of any suitable substance for accomplishing the result. The presumptions of the law are in favor of the patent and the utility of the invention; but, aside from that, the testimony establishes clearly the utility of the invention. The testimony shows that many experiments had been made, prior to complainant's invention, to produce such a thing; but they had failed to produce one adapted to the use for which they were desired.

So far as the prior use of the respondent is concerned the testimony does not show that his experiments were more successful than many others, for it shows that the bungs which he manufactured did not answer the purpose, and the use thereof was abandoned.

It is attempted to be shown in the testimony, however, that the invention had been used by other parties than those set up in answer; and it is also attempted to be shown that the invention had been described in printed publications. If the testimony clearly established either of these propositions, we might, perhaps, grant the respondent leave to amend; but they do not so clearly establish either point as to warrant the court to permit such an amendment at the hearing of the case. Such testimony cannot, therefore, be considered by the court, except for the purpose of showing the state of the art at the time of complainant's invention, and such knowledge would in no wise affect the construction which I have given to the patent.

If the pleadings properly raised the issue, I should not think the patent void by reason of the claim being too broad.

The respondent having admitted the manufacture or the invention of the complainant, by the use of substances which are within complainant's patent, is, therefore, guilty of an infringement; and, as no reference is desired, and the damage shown is but fifteen cents, a decree for an injunction will be granted without costs.

[Dunkum and Foraker, for complainant.

Shouler & Smith, for defendant.]

Recent American and Foreign Patents.

Improved Side Hill Plow.

Charles Henry Stratton, Monroeton, Pa.—This is an improved reversible or side hill plow, so constructed as to turn the furrow perfectly, and to work equally well upon inclined and level land, so as to do away with all dead furrows. The mold board is made in two parts, and so arranged that the one part may swing or turn below, and the other above, the landside of said plow.

Improved Seed Dropper.

Elias M. Morgan, Belleville, Ill., assignor to Henry Rentchler, of same place.—This invention consists of an improved piston and aperture for the distribution of seed or grain. By the revolving of a shaft, the piston works up and down through the cup. The piston is made in two sections, so put together as to form the adjustable seed openings by means of recesses in their edges. The cup, through which the piston works, is provided on either side with a groove, headed by a V-shaped recess, which strikes off the seed as it is measured at each motion of the piston, and also said recesses gather the grain or seed in toward the center or groove, and the seed thus driven to the center is held in a position to escape breakage, as the plane surface on the upper part of the piston enters the aperture.

Improved Horse Hay Rake.

James E. Taylor, Westminster, Md.—The invention relates to novel means whereby a horse rake may be conveniently operated with the foot of driver, no matter what may be his size or length of leg. It consists in an adjustable foot piece very advantageously arranged on a vertical rod, so that it can be graduated at pleasure, while the rod itself also subserves another purpose.

Improved Piano Stool.

Charles A. A. Düringand John Leck, New York City.—This invention consists of an inwardly curved or convex back support, attached in an adjustable manner to a piano stool or other seat, to be set exactly to the height of the small of the back.

Improved Car Coupler.

James S. Hagerty, Baltimore, Md.—This invention relates to certain improvements in coupling the pole to a horse car so as to enable it to be held up by the car, and thus take the continuous strain from the necks of the horses; also in a bent rod affixed to the pole and serving the double purpose as a retainer for the coupling pin and a handle wherewith the driver may manipulate the tongue in reversing his team.

Improved Manufacture of Sheet Wax for Flowers.

Mary Jane McColl, Hohokus, N. J.—Sheets of wax are prepared by cutting out of a cake of suitable color the parts or grounding of the leaf to be produced—as, for instance, in the case of a geranium leaf, from a cake of green wax, the shape of the dark green part of the leaf. This leaf-shaped piece is introduced into a cake of wax having the color of the surrounding part or fringe of the leaf, which cake has previously been heated to such a temperature that it is near the melting point, so that the differently colored cake leaf may readily sink therein, and be fully surrounded or embedded by the heated wax. The whole is then allowed to cool off, when the cake is cut into the sheets in the usual manner, said sheets exhibiting, at uniform thickness, the various differently colored leaf patterns or imitations embodied therein. These sheets are lined or backed by a sheet of wax, to give the required degree of strength, and are thus supplied to the trade.

Improved Gang Plow.

James B. Hunter, Ashley, Ill.—To the right hand plow beam the draft is attached. The left hand plow beam is bent inward and bolted to the side of the other beam. A U-shaped bar is secured to the axle, and to its bend is secured the lower end of a standard, the upper end of which passes up through the tongue, and is secured to said tongue by a bolt, several holes being formed in said standard to receive the said bolt, so that the tongue can be conveniently raised and lowered upon the standard to adjust the plows to work deeper or shallower in the ground.

Improved Brick Kiln.

Peter Edward Smith, Liscomb, Iowa.—This invention relates to certain improvements in brick kilns, and it consists in the combination of a transverse wall having dampers, with a central longitudinal hollow wall containing flues which lead to a common chimney. It also consists in the combination of detachable fire boxes with the stationary fire boxes in the outer wall, and with the flues in the hollow wall.

Improved Plow.

Albert Hampe, Staunton, Ill.—The plowshare is produced of four sections, which fit closely at the joints, and are of such shape and size as to correspond to the degree of work and strain bearing on them. A plate extends laterally and parallel to the lower edge of plowshare, being curved in similar shape and welded to the landside. The point has a horizontal base and a dovetailed recess or notch to receive the forward end of the landside and of the plate. This causes the landside and share to be supported rigidly in position, and to safely endure comparatively great strain and leverage.

Improved Seed Drill and Planter.

Lysander L. Haworth, London, Ohio.—By this peculiar plow a narrow channel is formed in the soil to receive the seed, which is dropped into the said channel through the cavity between the side parts of the plow, and is covered by the falling of the soil as the plow advances, the soil being pressed down upon the seed by the wheel. For working in sod land, a curved runner with a sharp forward edge is attached to the plow, or is used instead of said plow.

Improved Chimney Cowl.

Andrew J. Robinson, Troy, N. Y.—In the revolving section of the exhaust pipe, through which ventilation is to be effected, a partition is placed obliquely, for causing the stream of air passing through to traverse the upper part, to afford greater space for the air coming out of the exhaust pipe.

Improved Truss.

Delaney King, Salamanca, N. Y.—This consists of a pad formed of four, more or less, hinged fingers the position of which is controlled by an adjustable ring.