

Scientific American

NEW-YORK, AUGUST 27, 1853.

Let Knowledge Increase.

On not a few occasions we have heard persons vainly boast of the quantity of books they had read; we place a higher estimate upon that intellect which makes quality the touch-stone of excellence. There are persons who can chatter a string of nonsense twenty-four hours long—speak against time—but twenty words spoken by a sensible man is of more value than all they say in a whole day. There are books, "of the making of which," as Solomon said, "there is no end;" but of the prodigious quantity which have been published, those of sterling merit form a very small proportion to the number of useless ones. Of the readers of books and periodicals what shall we say? Do the majority read to derive pleasure by increasing their knowledge? Do they seek the teaching of Truth with gladness, or prefer to recline on the lap of Fiction? To the latter question an affirmative, and to the former a negative answer must be returned. It is a sad truth that twenty works of fiction are read for one of fact; this is not very flattering to human dignity. For all this, however, we believe that knowledge is spreading, and that there is a growing desire for it. Some appear to have an exceedingly vague idea of what knowledge is—to such we say, it is simple truth—nothing more and nothing less; there is no knowledge apart from truth.

In our experience, since the Scientific American commenced its career, we have had opportunities of knowing something of an improving taste, and a spreading desire for useful information by many and in many places, where such desires and tastes were not before displayed. We know that myriads derive much pleasure from reading works of fiction—and the majority perhaps always will—and some of these works answer a very good purpose; but we know that the pleasure derived from reading useful works is more solid and lasting, and produces substantial benefits. A taste for useful reading, even if dry, can be acquired and it would be well if every person would cultivate this taste, for the judgment pays it reverence. We sincerely desire, independent of business considerations, to see knowledge increasing; and in endeavoring to extend the circulation of the Scientific American, our feelings are enlisted for the spread of useful information, because we know it does benefit, and in no case can do injury to the people.

"Knowledge is power," and he who is without it at the present day, is like a sheep among wolves, an idiot among sages. Those, especially men in business, unless they read reliable and useful works connected with the progress of science, art, and invention, are continually liable to be imposed upon by plotting Dousterswivels and speculating pretenders.

To Our Readers

Those of our constant readers who have so often and so kindly assisted to extend the circulation of the Scientific American by recommending it to their friends, we know, at this time, will once again put their hands to the plow and break a new furrow, for the reception of the good seed, which has always raised good fruit to both old and young.—Those of our later subscribers, indiscriminately, also to friends to the cause of science, art, invention, and truth, we have no doubt will do much for the spread of useful information, and the benefit of their fellow men.

Will our friends read the chapter of suggestions, and also the new Prospectus, in other parts of our paper, and endeavor to get as many of their acquaintances as they can who are not subscribers to become so at as early a date as possible. We have offered some very excellent prizes, respecting which we will only say at this time, that those who solicit subscribers need not blush, but take pride in recommending a paper which is devoted to truth in art and science, and which is entirely different from any other in our country.

Table Moving, Spirit Rappings, and Science.

We have received a letter from one of our constant readers—J. A. Taft, of Irvine, Pa.—in which he takes exceptions to the conclusions of Prof. Faraday, an abstract of whose experiments we published on page 355. It will be recollected by our readers that Faraday established two things by his experiments, 1st. That the turning of a table by persons sitting around it, with their hands joined and resting on the top, was not due to a current of electricity developed by the bodies of the experimenters. 2nd. That it was caused by the hand pressure of the operators, the mind directing the pressure, and consequently the table's direction." Mr. Taft says he has seen a table moved with himself upon it, and raised nearly six feet high. He has seen it moved when no one was moving it, and has known of a bell (in the dark though) lifted from a table, rung, and thrown across the room. He has also seen many other tricks performed, all done by the spirit of a person named Dunn, well known in that community, who was a very tricky chap while alive, but who, it seems, has become more devilishly tricky and expert since he died.—He has also known of correct messages being received by the spirit rappings, and he can produce good vouchers for the truth of all he writes about. We certainly do not doubt but Mr. Taft believes all that he asserts to be true, and do not require any vouchers, but he asks the following question: "I would like to have some one give a scientific explanation of the thing," and to this we will give an answer, and also make some remarks to the following extract on the same subject, taken from a recent letter of Judge Edmonds, of this city, published in the Courier and Enquirer. Judge Edmonds in his letter says:—

"We are taught that none of these extraordinary things which are witnessed by so many are miraculous, or flow from any suspension of nature's laws, but are, on the other hand, in conformity with and in execution of those laws; that, like the steam engine and the magnetic telegraph, they are marvellous only to those who do not understand them, or are not familiar with them, and those laws, and the means by which they produce such results are as capable of being found out by human research, that the knowledge is not confined to a few, but is open to all, rich or poor, high or low, wise or ignorant, who will wisely and patiently search for it."

To Mr. Taft we will merely say that he asks a very unreasonable question. If he believes that the spirit of Dunn performed the cantraps, why does he ask a scientific explanation of them. If he is convinced that a spirit performed them, he has his explanation. Scientific men have dealings with the material universe only, and they should not be asked spiritual questions. The Judge is a distinguished lawyer, and although he should, it is very evident that he does not know what a "law of nature is, nor does he seem to have a knowledge of the laws which govern the motion of inorganic bodies. A law of nature is a mere operation of matter. Thus an apple thrown upwards will always return to the earth, and this we say is according to the law of gravity, by which larger bodies attract or draw smaller ones to them. We know nothing of a law of nature independent of the operations—the action—of matter, and the results must always be uniform. If these spirit rappings and table movings are in conformity with the laws of nature, like the steam engine as Judge Edmonds asserts, then the results will always be uniform and he can tell us, and everybody, how such operations can be seen, heard, or felt—displayed—by every person and in any place. If these extraordinary things are according to nature's law, Judge Edmonds can give the rules for convincing the public. Neither the telegraph nor steam engine require either reasoning or sophistry to prove their identity—they convince without argument.

The "New York Tribune" has given expression to some very unreasonable ideas respecting scientific men investigating and giving an explanation of such phenomena. The first law of science in respect to inorganic bodies, is that "no body at rest has power to move of itself; nor of itself, when in motion, to change its direction." This is the

law of inertia; we therefore say, a table at rest cannot move of itself, consequently those who say they believe such extraordinary things as table moving, &c, are produced by spirits, present evidence of their own doubts, when they ask for a scientific explanation of them. We do not believe that a disembodied spirit has the least power to operate matter; if it has, then the responsibility of living men must be greatly circumscribed, especially if a spirit gets into a steam boiler; it might explode the boiler, and wrongfully we might blame the engineer for carrying too much steam. The ridiculous stuff published in many papers as the doings of disembodied spirits, such as the nonsense in the Hon. Mr. Talmadge's letter, about our Cato Calhoun's spirit playing on an accordeon, is enough to make fools blush for human credulity. We have never seen a table move without some known power moving it, neither do we know anything about the rappings, because we have considered them beneath our attention. If these extraordinary things, however, are in conformity with nature's laws, as Judge Edmonds asserts—like the telegraph and steam engine, about which we know something—we can easily be convinced of error, and proven to be mistaken; at present we are blue and buff skeptics.

Mechanics' Institutes, and Mechanics Calumniated.

'It is pleasing to listen to the conversation, not merely the attempt to show off, by some conceited, half-instructed disciple of a Mechanics' Institute, with his smattering of everything and knowledge of nothing, volubly and eagerly explaining what he does not understand—one whose accent and language bespeak him "North o' the Tweed."

[The above is an extract from the "New York Daily Times" of the 17th inst. It is taken from the Dublin correspondent's letter on that paper, who makes the above slurring remark in his description of the "Dublin Exhibition." It is very evident that he looks upon a mechanic as an ignorant egotist, and this egotism he attributes to the teachings of Mechanics' Institutes. Education has no doubt a refining influence, but neither an education at Oxford, in England, Trinity in Dublin, or Yale in America, can make a man of sound judgment, and extensive information. There are many men who leave college complete ignoramuses respecting knowledge,—which is facts well-arranged. This is no doubt owing to the kind of professors, under whom they were educated. Every man ought to be estimated by his real worth, and not by the cut of his coat, or the tone of his voice. The men who have been taught in Mechanics Institutes have done more for Ireland than those who have been taught in her Universities; the very Crystal Palace in Dublin exists only because a working man of limited education—a self-made one—willed it. The great men of the world have neither been made by colleges nor mechanics' institutes. These institutions are mere aids to form the man. Shakspeare nor Burns were college bred, but Milton and Pope were.—The best artists of America and England were not raised in college halls. It is a positive fact that nearly every one of our American painters and sculptors, dead and living, cannot be called educated men, but well informed men, which many college-educated men are not. The greatest engineering works in Ireland were carried out by your Mechanics' Institutes' men, such as Thos. Telford, and instead of sneering at the graduate of a mechanics institute, the person who wrote the above would greatly benefit his head and heart if he would place himself for some time under such instruction as he might find in some Mechanics' Institutes that we could name.

Scientific Men Misrepresented.

"There was a scientific man who published a book to demonstrate that steam power could never drive a vessel across the Atlantic Ocean, and just as the book got out of the press, a steamer came steaming along at the rate of three hundred miles per day, and others have been at it at the same rate ever since, and the scientific book has gone to the oblivious stream."—[Extract of Col. Benton's letter to C. Street, on the Pacific rail-

road, published in the "National Intelligencer"

"It is asserted that Dr. Dionysius Lardner, whose fame has extended over the civilized world, demonstrated to a nicety the impossibility of crossing the ocean in a steamer.—His redoubtable arguments and his inevitable conclusions did not, however, prevent the appearance of the English steamer 'Syrius' at the docks of New York. Practical men with a thousandth part of Dr. Lardner's scientific acquirements were satisfied—the Dr. to the contrary notwithstanding—that there existed no insurmountable impediment; and the consequences we see in the splendid 'lines' that now cross the ocean with the regularity of ferry-boats."—[Journal of Agriculture, (Boston) for August.

[If Col. Benton and the editor of the "Journal of Agriculture" had been careful readers of the "Scientific American," they would not have made the above mistakes, for the Colonel doubtless refers to Dr. Lardner.—He never published a book to demonstrate the impracticability of a steamer crossing the Atlantic Ocean, nor did he ever make an assertion to that effect, it has been attributed to him, and has floated along down time, and through a thousand careless newspapers, but it is not true. On such subjects we regret to say, that we often find many of our leading men very defective in historical knowledge; they speak and write in such a manner as would lead us to conclude that they derived the most of their information from unreliable papers. Dr. Lardner distinctly affirmed the very contrary of what has been attributed to him in the two foregoing paragraphs, as any person can find out for himself by consulting pages 295, 6 and 7, of Lardner's work on the "Steam Engine, Navigation, and Railways."

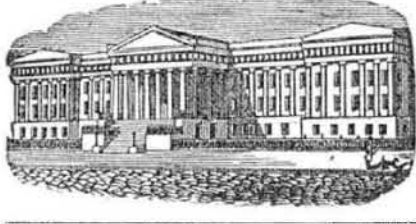
Events of the Week.

GOLD MACHINERY.—We have just received a letter from J. W. Cochrane, of this city, the inventor of the gold quartz crusher which was illustrated on page 364, Vol. 7, Scientific American, who is now in London with one of his machines grinding gold quartz shipped from California. He is convincing the most skeptical that he can take gold quartz in lumps of 30 cubic inches, and with the aid of two men he can pulverize and amalgamate no less than forty tons of it per day. The whole expenses for labor and steam power does not cost over one shilling sterling per ton. He challenges any other machine for \$25,000 to equal it. He is receiving orders for Australia, California, England, and Spain. He believes that Buffum's Amalgamator, which was also illustrated in our last volume, to be without a superior. He asserts that the quartz and mercury should never be ground together; and the reason he gives for entertaining this opinion is, that in grinding the mercury is finely subdivided, mixed with the sand, washed away in the water and lost. The grinding and amalgamating, he asserts, should be performed by separate machines, entirely different in their nature and action.

WATER TANKS OF LOCOMOTIVES.—On page 348, this Volume of the "Scientific American," we noticed an improvement in the construction of locomotive water tanks, invented by A. W. L. Rivers, of Charleston, S. C. The "New York Railroad Journal" noticed the improvement, and said it was not new—that it had been tried on the New York and Erie Railroad, and it was found to possess no advantage. We have received a letter from Mr. Rivers on the subject, and in it he says, "his tank has been successfully tried, and is now used on the South Carolina Railroad, and the Superintendent, N. Darrell, Esq., a man of experience and ability, wishes that all the tenders on the road were built on the same plan." He is positive that the water tanks of the tenders on the Erie Railroad, were differently constructed from his.

Sewing Machines.

The American Sewing Machines noticed in the "Glasgow Chronicle," and other papers in Scotland, as attracting considerable attention, extracts of which were inserted in the Scientific American two weeks since; are understood to be the machines made by Grover, Baker & Co., of this city.



Reported Officially for the Scientific American
LIST OF PATENT CLAIMS

Issued from the United States Patent Office
FOR THE WEEK ENDING AUG. 16, 1853

BEDSTEAD FASTENINGS—By G. W. Baynes, Thos. Hinty, & Minter Jackson, of Glenville, Va.: We claim the combination and arrangement of the tenons, A, A, pins, B, E, tenons D and F, with a screw, for the purpose set forth.

MEAT TENDERERS—By Wm. Beach, of Philadelphia, Pa.: I claim forming a meat maul for the purpose designed, by securing to one end of an oblong block of wood, whose opposite end is formed into a handle a series of rows of tapered teeth of the form described, cast on a plate or driven singly into the wood, as may be desired.

HINGES FOR FOLDING BEDSTEADS—By John Binder, of Chelsea, Mass.: I claim the method described, of constructing a hinge with the circular bearing surfaces, as set forth.

GUN LOCKS—By P. F. Charpie, of Mount Vernon, Ohio: I claim connecting the dog to the hammer by means of a screw passing through a curved slot in the plate, in combination with the packing which encompasses the curved slot, by which combination I am enabled to place the mainspring and dog on the inside of the lock plate, and prevent the admission of moisture within the lock, as set forth.

[See notice of this invention on page 293, Vol. 8, Sci. Am.]

PRINTED CARPETS—By Thomas Crossley, of Roxbury, Mass.: I claim as a new article of manufacture, a single ply printed carpet, made by combining the warps and filling, in the manner described, and subsequently printing them on one or both sides; I having discovered that fabrics woven in this manner could be printed on one or both sides without the colors passing through and discoloring or intermingling with the colors on the opposite side of the fabric.

RUDDER BRACE—By B. F. Delano, of Chelsea, Mass.: I claim, first, the brace connected with the rudder, as described and set forth.

Second, I claim the combination of the brace, with the elliptical tiller, or any other analogous device, for the purpose of actuating the rudder by the application of power to the braces instead of to the rudder itself.

FACING BUILDINGS—By M. B. Dyott, of Philadelphia, Pa.: I claim the method described, of supporting a veneering or facing of thin cast iron or other plates upon their inside, and uniting the same firmly with the external surface of the building, by so fixing the plates in relation to the wall as to leave a sufficient space between them, to allow a cement in a liquid form to be poured in to fill the space and all the interstices of the plate perfectly, solidify around and upon the hooks and other fastenings, exclude the air and all dampness, whereby the veneering is strengthened, protected, and preserved, as set forth.

MACHINES FOR PREPARING SPOKE TIMBER—By A. W. Graheart, of Beavertown, Ohio: I claim the arrangement of the adjustable bed, the bridge or clamp, the sliding guide or gauge, and foot lever, for the purpose set forth.

SOCKET FOR AUGER HANDLES AND BRACES—By A. H. McKinley, of Higginsport, Ohio: I do not claim the enabling the shipping or unshipping of a bit or auger from its stock or handle; but I claim the peculiar arrangement of mechanism by which I enable the shipping and unshipping of the bit and handle of an auger or other boring tool, that is to say, the socket having a circular head and vibrating cap, whose aperture can be made at one position to coincide with the mouth of the socket, and in the other position to oppose its straight edges to the projecting corners of the shank, the cap being retained in the desired position by spring and notch, as described, or its equivalent.

DRAUGHT APPARATUS OF SEED PLANTERS—By Jacob Mumma, of Mount Joy, Pa.: I claim the combination of a tongue, having motion vertically and laterally, with the directing and supporting wheel, as set forth.

DROP HAMMERS—By E. K. Root, of Hartford, Ct.: I do not wish to limit myself to the special construction specified, so long as the same effects are produced by equivalent means.

I claim the method of elevating the drops or hammers by means of a screw having a continuous rotary motion in combination with the mechanism, or its equivalents, for disconnecting the drops or hammers from the screw to permit them to drop, as described.

I also claim the method of disconnecting the drops or hammers by the rotation of the elevating screw which is notched to catch and act upon the finger, or its equivalent, connected with the slide, to force it back and clear the thread of the screw, as specified.

I also claim, in combination with the slide which connects the drop hammer with the elevating screw, and with the finger on the slide, or their equivalents, the employment of a catch lever or its equivalent for holding up the drop or hammer, when it is liberated from the elevating screw, and there to hold it until it is required to be dropped, as described.

Lastly, I claim, in combination with the slide which forms the connection with the elevating screw, and with the catch that holds the said slide when liberated from the elevating screw, or their equivalents, the employment of the rebound latch, which liberates the parts by the rebound when the drop or hammer strikes, as specified.

TRIP HAMMER—By Wm. Van Anden, of Poughkeepsie, N. Y.: I do not claim elevating the hammer shaft by means of cams; neither do I claim the friction rollers, irrespective of the particular manner of arranging or attaching them to the hammer shaft, as shown.

But I claim, first, attaching a collar to one end of the hammer shaft, said collar working loosely over a shaft which has a spring attached to it for the purpose of forcing down the hammer shaft; the shaft being provided with a set screw, or its equivalent and lever, arranged as described, by which, upon properly adjusting said set screw, or its equivalent, the hammer may be made to descend upon the block or anvil with greater or less force, as described.

Second, I claim the employment or use of the friction rollers attached to a vibrating frame, arranged as shown, for the purpose of relieving, instantaneously, the cams from the pressure of the rollers, when the highest points of the cams have passed the lowest centers of the rollers, thus preventing the wearing of the cams at their highest points, as set forth.

[See description of this invention on page 204, Vol. 3, Sci. Am.]

BREECH LOADING FIRE-ARMS—By J. P. Schenk (assignor to J. P. Schenk & A. S. Saroni) of Boston, Mass.: I do not claim uniting the breech to the barrel by means of right and left screws, portions of which are cut away to enable the one to enter the other, the two being secured together by a partial revolution of one of them, as this has been done before.

But I claim the combination of parts for the purpose of operating the movable breech constructed and operating as described.

HILL SIDE PLOWS—By W. H. Babbit, of Waynesburgh, Pa.: I claim constructing and arranging head in the hinge which connects the beam of the plow with the upright, so as to lock said hinge by means of a bolt behind the pivot of said hinge, and by a lever behind said pivot, for the purpose of making the bearings in said hinge adjustable, as set forth.

SCREW WRENCH—By A. G. Coes, of Worcester, Mass.: I am aware that the movable jaw has been moved by means of a screw, I do not claim such to be my invention, but I claim the combination and arrangement of the screw tube, its external and internal screws, the screw on the shank, the annulus, and its left screw, as applied to the sliding jaw, the whole being made to operate together, as set forth, enabling a person to readily move the sliding jaw on the shank with a velocity compounded of the velocities of motion of two left screws on two right screws, as described.

SHIP BLOCK—By Wm. & S. G. Coleman, of Providence, R. I.: We claim the described mode of constructing the hook and eye staple of the ship's block, and supporting it within, and by means of the cheeks without, any extension of it around and in contact with the sheave pin, and whether each of the cheeks is made whole or in two parts, as specified, and in combination therewith we claim the mode of sustaining the sheave pin, and connecting the two parts of each cheek, viz., by a metallic rod extended through them, and directly under and against the sheave pin, as specified.

MACHINERY FOR PEGGING BOOTS AND SHOES—By A. C. Gallahue, of Allegheny City, Pa. Antedated Feb. 13, 1853: I claim, first, the sliding lever, having a hook thereon for entering the staple of the last, which, passing through slots in the uprights of the turn-table, secures the last to said table, by the introduction of the wedge, as set forth.

Second, I claim the turn table mounted on the sliding table, which works on ways upon the moving table, and is actuated by springs, for the purpose of keeping the edge of the sole at all times in contact with the gauge, when this is combined with mechanism for giving the turn table a semi-revolution at the point where its center is brought opposite theawl, by the motion of the table, that regularity in inserting the pegs may be secured.

Third, I claim the combination of the spring, lever, catch, or their equivalent, sliding wheels, racks, miter wheels, by which a semi-revolution is given the turn table (while the pegs are being inserted around the heel) by the shifting of the cog wheel from rack 7 into 8, on the release of the lever from the catch, and the return of said cog wheel to the rack 7, on the release of the spring from the catch, by which means it acts on the upper side lever, as set forth.

Fourth, I claim the cam and rod, secured to the hammer and helical spring, by which a graduated driving stroke is given the awl and its rod, in combination with cam 2 rod H (upon which slide the hammer), and helical spring, by which a driving stroke is given the peg driver alternately with that of the awl and its rod; it being understood that I do not claim the general feature of a hammer and rod carrying an awl, and spring for driving the awl operated by a cam, as this has been done heretofore, but the particular mode or combination in which they are used, as claimed.

Fifth, I claim giving the peg tube and driver a side motion, independent of the awl and awl rod, by means the cam and lever, or their equivalent, for the purpose of bringing the peg directly over the hole punched in the sole of the shoe by the withdrawn awl, as set forth.

Sixth, I claim the combination of the cam and stirrup, with the swung peg cutter, by which the peg wood is split with the grain of the wood from below, by the knife, and at the same time forced in the tube, it being understood that I do not claim the general feature of a peg cutter forming one side of the tube through which the peg is drawn, but only the particular mode of applying it as claimed.

OVEN DOORS OF COOKING STOVES AND RANGES—By Gibson North, of Philadelphia, Pa.: I claim the application of an adhesive coat of enamel or other substance answering the same purpose, to the inside of the oven doors of ranges or cooking stoves, as described.

BOAT OR SCOW—By A. R. Tewksbury, of Boston, Mass.: I claim the method of constructing a boat, viz., by attaching its sides and ends to its bottom by water-tight hinges, in combination with connecting the edges of the sides and ends by water-tight flexible gorges, as described, so that the boat may be unfolded, or the sides and ends be turned down into the plane of the bottom, thereof, as explained.

DISCHARGING BREECH LOADING FIRE-ARMS—By Henry Stanton, U. S. A.: I claim the method described, of firing the charge of breech-loading arms by the breech itself, in the act of closing, thereby dispensing with the ordinary lock, and greatly simplifying the construction of arms and diminishing correspondingly their cost and liability to get out of order, and increasing their durability and efficiency.

I also claim the method of igniting the charge by shearing through the fulminating compound attached to the cartridge, as set forth.

DESIGN.

COOKING STOVE—By J. W. Van Cleve (assignor to James Greer & Co.), of Dayton, O.

Who Feeds England.

England is so deeply engaged in manufactures, that she brings a large portion of her breadstuffs and provisions, as well as the raw materials for her manufactures, from every part of the world. During the first twenty-seven weeks of the present year, the importation of flour and wheat alone, into the ports of Great Britain was equal to 16,104,752 bushels wheat. This quantity was brought from for-

ty eight different ports, in all climates. The list begins with the northern port of Russia, (Archangel) and ends with Peru. It includes almost every European State—includes Egypt and the west of Africa, the Phillipine Islands and the Brazils, Australia and the United States of North America.

American Association for the Advancement of Science.

[Continued from page 390.]

INDICATIONS OF THE WEATHER AS SHOWN BY ANIMALS, INSECTS, AND PLANTS.—A very interesting paper on this subject was read by W. B. Thomas, of Cincinnati.

“When a pair of migratory birds have arrived in the spring, they immediately prepare to build their nests, making a careful reconnaissance of the place, and observing the character of the season that is coming. If it be a windy one they thatch the straw and leaves on the inside of the nest, between the twigs and the lining; and if it be very windy they get pliant twigs and bind the nest firmly to the limb, securing all the small twigs with their saliva. If they fear the approach of a rainy season, they build their nests so as to be sheltered from the weather. But if a pleasant one, they build in the fair, open place, without taking any of those extra precautions.

But insects and smaller animals furnish us with the best means of determining the weather.

Snails do not drink, but imbibe moisture in their bodies during a rain. At regular periods after the rain they exude this moisture from their bodies. Take, for example, the “Helix Alternata,” the first fluid exuded is the pure liquid. When this is exhausted, it then changes to a light red, then deep red, then yellow, and lastly to a dark brown. The Helix is very careful not to exude more of its moisture than is necessary. It might exude it all at once, but this is not in conformity to its general character, as this would prove too great an exertion. The Helix alternate is never seen abroad, except before a rain, when we find it ascending the bark of trees, and getting on the leaves.

The Helix, Arborea, Identata, Ruderati, and Minuta, are also seen ascending the stems of plants two days before a rain. The Helices Clausa, Ligera, Pennsylvanica and elevata generally begin to crawl about two days before the rain will descend. They are seen ascending the stems of plants. If it be a long and hard rain, they get on the sheltered side of the leaf, but if a short one they get on the outside. The Luccinea have also the same habits, differing only in color of animals, as before the rain it is of a yellow color, while after it is a blue.

For a few days before a rain, a large and deep indentation appears in the H. Thyroideus, beginning on the head between the horns, and ending with a jointure at the shell. The Helices Solitaria and Zeleta, a few days before a rain crawl to the most exposed hillside where, if they arrive before the rain descends, they seek some crevice in the rocks, and then close the aperture of the shell with glutinous substance, which, when the rain approaches they dissolve, and are then seen crawling out.

The leaves of trees are even good barometers; most of them for a short, light rain, will turn up so as to receive their fill of water; but for a long rain, they are so doubled as to conduct the water away.

The Rana, Bufo and Hyla, are also sure indications of rain, for, as they do not drink water, but absorb it into their bodies, they are sure to be found out the time they expect rain.

The Locusta and Gryllus are also good indicators of a storm. A few hours before the rain they are to be found under the leaves of trees and in the hollow trunks.”

RISE OF WATER IN SPRINGS BEFORE RAINS.—An interesting paper on this subject was read by Prof. Brocklesby, of Conn.

“In the westward portion of the town of Rutland, Vt., is a lofty hill, rising to the height of about 400 feet above the Otter Creek valley. Near the summit of the hill a small spring bursts forth, the waters of which are conveyed in wooden pipes to the barn yards of two farm-houses situated on the slope of the hill; the first being about a quarter of a mile distant from the spring, and the

second nearly one-third of a mile. At the latter house Prof. B. once resided.

The waters of the spring are not abundant, and during the summer months frequently fail to supply the aqueduct. Such was the state of the spring when he arrived at Rutland, for the summer had been extremely dry, the brooks were unusually low, and the drought had prevailed so long that even the famed Green Mountain had in many places begun to wear a russet livery. The drought continued, not a drop of rain falling, when one morning the servant, coming in from the barnyard, affirmed that we should soon have rain, as the water was flowing in the aqueduct—the spring having risen several inches. The prediction was verified, for, within two or three days, rain fell to a considerable depth. In a short time the spring again sank low, and ceased to supply the aqueduct; but one cloudless morning, when there were no visible indications of rain, its waters once more rose—flowing through the entire length of the aqueduct—and ere twenty-four hours had elapsed, another rain was pouring down upon the hills. On inquiry, it was ascertained from the residents in the vicinity that the phenomenon was one of ordinary occurrence, and that, for the last twenty years, the approach of rain was expected to be indicated by the rising of the spring.

Interested by these facts he sought for others of the like nature, and requested through the public prints information on this subject from all who happened to possess it,—and also collateral points which were conceived to have important relation to this phenomenon. He was rewarded by the knowledge of only one additional instance, existing in Concord, Mass., where a spring that supplies a certain brook is said to rise perceptibly before a storm. Mr. Munroe, who lives near the stream, afforded the following information:—

“The subject has not, so far as we are aware, fallen under the notice of any close observer of the facts you inquire about; the most that is known being this: that the bed of the brook, during a long drought, having become dry, the stream is known to start again before any rain, and the belief is that rain is to be looked for immediately upon the appearance of Dodge’s Brook.”

The cause of this phenomenon has been attributed by some, to the fall of rain at distant sources of the spring previous to its descent in the vicinity of the spring itself; but he believed the true solution was to be found in the diminished atmospheric pressure which exists before a rain.

The waters of a spring remain at any given level, because the atmospheric and hydrostatic pressure combined, exactly counterbalance the upward force of the jet. The spring will, therefore rise either when the force of a jet is increased, while the atmospheric pressure continues the same, or when the latter is diminished, while the former remains constant; and the elevation is greatest of all when the decrease in the density of the atmosphere occurs simultaneously with an increase in the strength of the jet.

If the explanation given is correct, we arrive at the curious discoveries that the springs and fountains of the earth are natural barometers, whose indications may, perhaps, be worthy of notice in future physical investigations.

The Great India Rubber Case.

Some inquiries have been made of us respecting the recent Patent Trial India Rubber Case, at Newport, R. I., about which a number of our daily papers have made regular reports without being able to give the least clue to the uninitiated relative to what the trial is about. Some people have thought it not a little strange that Horace H. Day should be the plaintiff in this case, as owner of Chaffee’s patent, which was extended by Mr. Ewbank, and against the legality of which extension Mr. Day issued a long manifesto, subscribed by some distinguished lawyers. We would state that the trial is not to test the validity of the patent, but is to settle some bargains connected with the inventor and the owner of the patent.

The cholera is now raging fearfully in some places of Denmark. In Copenhagen, 300 died of it in one day.