Scientific American.

NEW YORK, JULY 15, 1854.

Are the Stars Inhabited?

It is a positive, and not very creditable fact to many men of scientific ability and reputation, that they devote more time to controversy and speculation on subjects of no practical benefit whatever—and respecting which they never can arrive at any correct conclusions, than to subjects of real utility in which every person has an interest. In no instance has this been so clearly manifested as in the controversies respecting the question embraced in the above caption. A short time since a book by an anonymous author was published in London (since re-published by Gould and Lincoln, of Boston) entitled "the Plurality of Worlds," in which it is assumed that our earth, solitary and alone, of all the starry host, is in all probability, the only planet that is inhabited. The author displays much learning and a fine imagination, but so far as the question is a scientific one, it appears to us that it really makes no matter what the opinion of one or ten thousand men may be, as it can neither be settled by argument nor science, in its present state.—If we possessed telescopes of sufficient power to survey the surface of any of the planets the same as we can that of our own, and whereby we can observe objects of life moving unconstrained at distances far beyond the scope of common vision, then no argument would be required to prove or disprove the question of the planets being inhabited, any more than it requires controversy to prove that a drop of water teems with life, when examining it with a microscope. And since we have not instruments to accomplish this, the best thing for astronomers and opticians to do in the premises, instead of quarrelling upon the subject, is to endeavor to construct such instruments as will settle the question beyond the shadow of a doubt. This advice we tender especially to Sir David Brewster, that eminent philosopher who has just replied to the author of the work in question, in a keen and cutting article in the last number of the "North British Review." The author of "the Plurality of Worlds," concludes that the planet Jupiter is nothing better than a huge, pasty mass of mud and water, on which no inhabitants can dwell. Sir David Brewster considers, that although the gravity of Jupiter in proportion to its size, is no greater than that of an equal volume of water, yet, it may be hollow, and its surface as inhabitable as our own globe. If there are inhabitants in Jupiter, the anonymous author concludes, that according to its mass the men are required to be 1649 lbs. weight each, while according to the reviewer, who take the radius of Jupiter—not its mass—as his line of measurement, they are not required to be over $2\frac{5}{4}$ times as heavy as the men on our mother earth. This question could be far better determined were we informed of the particular food of Jupiter's sons, and the abundance or scantiness of its supply, whether it was bread and beef, or tea and toast, as we find that these things have a wonderful effect on the gravity of both aldermen and common citizens on our little planet.

Herschel has suggested that the sun may be inhabited, and that between its luminous atmosphere and its surface, there may be interposed a screen of clouds, whereby its inhabitants may no more suffer from intense heat than those who live in our tropical regions. This may be so, as we all know how much the heat of the sun's rays, in the hottest days of summer, are modified by an interposing cloud, or "a swift passing breeze," We also know that on the extensive table lands of high mountains in the tropics, the glacier and ice field reign as supreme as in the arctic regions, and all this although they are nearer the sun than the adjacent burning plains. The depth of the atmosphere, and its pressure upon the surface of the earth, affects its temperature as much as its relative distance from the sun, and thus it is that many simple questions must enter into the calculation, to determine by reasoning, the complex question of the probability of the stars being inhabited. We believe that neither the sun nor the moon is inhabited. The moon has been found to be destitute of any atmosphere, consequently no living thing can dwell there; at least, none possessing the same functions necessary to life, as the oxygen-breathing creatures of the earth. As the sun has not an atmosphere like ours, we also conclude that there are no inhabitants there. These two orbs appear to perform—according to science—no other duties than those described in the first chapter of Genesis, "let the sun and the moon be in the firmament to divide the day and the night, to be for times, and seasons, days and years, and to give light upon the earth."

It is our belief that some of the planets, and thousands of other heavenly bodies in other systems are inhabited, but we can present no scientific proof in favor of this belief being positively correct, neither can any person present proof that it is untrue. All we can say about it, is, that probabilities are in its favor, for we judge, that as our planet teems with life, so may others. It is a reasonable inference, from what we see around us, that other worlds may be furnished as luxuriantly with life and beauty as ours. We cannot believe that our planet is the only theater of life in the universe—that here alone, among all the starry host, the great Creator has deigned to display his manifold power, wisdom, and goodness.—We cannot believe that our sun, and the suns of other starry systems shine for only one single globe, which, among the rest, is but a speck on the starry ocean. To believe otherwise, would lead us to contemplate a Being who had brought into existence a magnificent assemblage of means, without a corresponding design, and who has prepared habitations fit for the enjoyment of rational creatures, but has failed to people them. To such a view we cannot subscribe; all probabilities are favorable to the view of "the stars being inhabited."

The New Patent Bill.

We have already received quite a number of letters from inventors and persons interested in inventions, expressing their opinions and feelings in regard to the new Patent Bill, and our comments thereon, as published in the Sci. Am. of last week. They are unanimous in condemning the objectionable clauses of the bill pointed out by us, and they hope it will not pass in its present shape. But as Congress will perhaps not adjourn until some time next month, the bill may be hurried (as many bills usually are) through both Houses at the end of the session, without due reflection and examination. We hope, however, this will not be so, but inventors who can, without sacrificing their interests, apply at once for patents on new completed inventions, should lose no time in taking advantage of the present low fees, as the prospective ones are so much higher.—We do not advise any person to do this, however, where a hasty application would lead to the sacrifice of any important feature to be claimed.

Although we feel confident that the Bill will not pass in its present form, at the same time, we counsel inventors, mechanics, and all who are interested in patents, in the different cities and towns, to get up remonstrances as soon as possible, against the objectionable features of the Bill, and send them to their respective senators with the utmost dispatch. This is the only proper method of making our Representatives in Congress acquainted directly with the feelings and opinions of their constituents. Petitions can be drawn up from the Bill as published; these should state the objections of the petitioners calmly and clearly, all of which can well be done by intelligent mechanics in every village in our land.

In this age of light, knowledge, and progress, we certainly expect that new laws for the protection of inventors, shall be an improvement upon the old system, this cannot be said for the new Patent Bill; it is an improvement backwards, and is not fit, in its present shape, to become a law for intelligent inventors.

Prompt action is necessary since it is so very difficult to secure any useful legislation from Congress, *and especially so* in favor of inventors interests. The schemes of the scurvy politician have hitherto over-ridden nearly every other interest, and this state of things is growing worse all the time.

Now let us have an improvement or nothing.

Crystal Palace Notes.

Angle Railroad Wheels.—In the Paris correspondence the New York "Daily Times" of the 3d inst., there occurs the following passage:

"One of the most interesting sights in Paris, and one that no American ever thinks of visiting, as he probably never heard of it, is the railroad from the Barrier d'Enfer to Sceaux. It is but seven miles long, and was built as an experiment upon a new system of wheels.—The engine, tender, and hindermost car of the train, are furnished with oblique wheels, under the ordinary upright ones. Where the track is straight, these do not touch the rails; but at the curves, they come into play, rattling along the inner edge of the rails, and preventing the train from running off the track. The road was therefore made purposely tortuous, and the most sudden and seemingly dangerous bends were introduced at frequent intervals.—The two stations are circular, and the train as it receives its passengers, is doubled up into a ring of 50 feet radius. The smallest curve upon the road is 68 feet radius, and over this the train goes at full speed. The corners of the cars are cut off, so that the vehicles, in following the curves, do not infringe upon each other. Sceaux is upon an eminence, which the road ascends spirally, with something like a mile of track—it only going, in advance, a hundred feet. The invention—which, by the way, is ten years old—has proved practically very successful; but it has never been applied to any extent."

Few Americans, no doubt, have heard of the above, just as the said correspondent appears to know nothing of the very same invention in America, and which is to be seen at the south end of the machine arcade, in the Crystal Palace. The exhibitor of the model carriage, with the angle wheels, exactly on the above principle, is I. Dickson, of Carbondale, Pa.—The French railroad on the same principle, has the advantage of being more than a mere model, the track being no less than 7 miles long. We hope that those of our readers who after this may visit Paris, will not forget to profit by the advice of the "Times" correspondent, and not leave that city without seeing the railroad of Sceaux.

Miniature Steam Engine—A very skillfully constructed Lilliputian steam engine has been placed on exhibition in the machine room, on the left side, near the entrance on the east nave. It is a high pressure beam engine, composed of 150 pieces, boiler, stack, &c., all complete, and only weighs 9 drachms, 12 grains. The stroke is 3-16 of an inch, diameter of cylinder 1-16 of an inch, diameter of fly wheel 5-8 of an inch. The cylinder, beam, and cross-head are of gold. This minature working steam engine was constructed by Cyrus Chambers, Jr., of Kennet Square, Chester Co., Pa., a lad 16 years of age. It certainly does great credit to his skill, taste, and patience.

Roofing Slate.—A few years ago all the slate employed for roofing in our country was imported from Wales, but the discovery of excellent slate quarries in Vermont, and other places, have obviated the necessity of sending abroad for such a useful material. In the yard of the Crystal Palace, a number of specimens of American slate are exhibited by two different parties, such as fine blue slates from "Rowland Parry's quarry," by John Brodie, agent, No. 627 Washington St., this city; and blue, green, and red slate by Newell Sturtevant, President of the West Castleton Slate Co. No description of the quarries, or of the districts where these slates have been obtained, accompany the specimens; like too many other articles on exhibition, they are there to look at like merchants' signs in a painter's shop. We have been informed that a number of fine workable slate veins have recently been discovered in various parts of New York State, but we cannot fully vouch for the accuracy of our informant's information. Good slate is very useful for a great many purposes besides roofing for houses, and it affords us no small degree of satisfaction to know that our country possesses an abundant supply of such beautiful specimens as those to which we have alluded.

An Enquiry.—In connection with the subject of slate, we present the following brief letter from one of our correspondents:—

Gentlemen:—I should be glad to learn by letter, from some of your numerous readers, if there are any deposits of slates suitable for the roofing of houses, in any of the Western States, and their exact location. Such additional particulars might be communicated as would be likely to interest an enquirer. In return for this information, I would be able to communicate some facts of great interest to the owners of slate quarries, as well as to the readers of the "Scientific American."

William Lomax,
64 South Front St., Philadelphia.

Rice.—Some fine samples of this cereal are on exhibition in the northern department.—One bunch of last year's crop, with the straw attached, has been forwarded by I. H. Tucker, of Charleston, S. C., and another bunch (the only samples that we have seen in the Palace) by Junius Davis, of Wilmington, N, C. Rice is almost the universal food of man; it forms the principal food of the multitudinous inhabitants of China, Japan, the Indies, and Africa. It is a healthy, pleasant, and nutritious cereal, and capable—in its husk—of being carried without damage, on very long voyages. Its cultivation on low, swampy grounds in our Southern States, is unhealthy, it is stated, but in Hindostan the coarse varieties are cultivated with as little danger to health as wheat or rye. South Carolina is our principal rice growing State, and Georgia, we suppose, is the next.—We have noticed, in one or two of our New Orleans, La., exchanges, that rice has been cultivated in that State for nine years, by A. Babin, of Terrebonne. The kind of rice cultivated is the "gold-seed" variety, and was first brought from S. C. It has produced 70 bushels to the acre, is of a fine hard grain, and of a beautiful pearly appearance.

Rice is not exclusively a native of hot climates. A variety of it grows wild as far north as the 54° lat. in Canada. A small lake (Rice Lake) which has received its name from the wild rice growing in its shallow, muddy waters, brings forth abundant crops annually, without the plow or the hoe of the husbandman being employed in its cultivation. This lake is situated behind the Coburg district of C. W., not far from Lake Ontario. The wild rice crops are claimed by a tribe of Indians living in the vicinity, and they jealously guard their natural rice fields from the intrusion of the white man. It is a very palatable grain, but not so beautiful nor fine as the rice of Carolina.

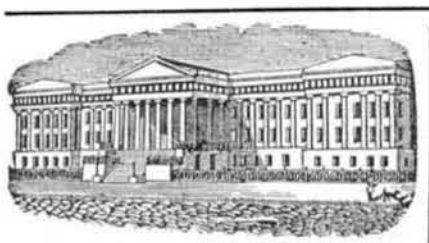
Death of a Venerable Editor.

Thomas Ritchie, or as he was otherwise styled "Father Ritchie," the oldest newspaper editor among us, died on the 3d inst., at his residence in Washington, D.C. No editor in our country was better known than the venerable man now deceased. He belonged to the Democratic State Rights party, and spoke out his opinion of men and things freely, especially while in Washington, consequently he had many enemies while he was in active life, but all who knew him personally esteemed him for his gentlemanly deportment and rare abilities. He died calmly, in the bosom of his family at the advanced age of 76 years.

Shortest Atlantic Passage on Record.

The American Steamship Baltic arrived at this port from Liverpool, on Saturday morning the 8th inst., at 1 A. M., having made the passage in 9 days and 17 hours real time, 9 1-2 days apparent time. It brought the news of the Russians having evacuated all the Turkish territories. The Turks, unassisted by the allied armies, have defeated the Russians in almost every battle.

We have 25,000 miles of Railway in the Union, and $200,000,000 invested in them.



[Reported Officially for the Scientific American.]

LIST OF PATENT CLAIMS

Issued from the United States Patent Office

FOR THE WEEK ENDING JULY 4, 1854.

POTATO DIGGERS—G. J. Bundy, of Lyndon, Vt.: I am aware that inclined fingers in combination with a scoop, have been heretofore employed in a machine for digging potatoes, and to such fingers a vibratory motion has been imparted, in order to separate and discharge the earth, the earth being made to drop through the spaces between the teeth or fingers, whilst the potatoes are forced up the inclined plane formed by the fingers.

I am also aware that for the purpose of loosening the ground or reducing its surface to a finer state than it was previously, there is nothing new in the employing on a mold-board, a horizontal plate and vertical cutters, extending upward from two to three inches therefrom.

I do not claim such inventions, but I claim the construction of the mold-boards of a potato plow, or the making them with slots or passages standing vertically or nearly so, and having their respective planes parallel to a vertical plane passing through the draught beam of the machine, as stated.

SALT EVAPORATORS—H. G. Bulkley, of Kalamazoo, Mich.: I claim the employment, for boiling salt, or for any evaporating process of a similar nature, of a series of pans, arranged in communication with each other, and heated by a pipe or flue passing through them in succession, as described, so as to heat the brine, or other solution, and cause the deposit of the impurities previously to its entering the pan in which the crystallization or final boiling takes place.

SCREW WRENCHES—A. G. Coes, of Worcester, Mass.: I claim the arrangement of the elevating screw, made as a right-hand screw, of the tube, on the external surface of the tube, and so as to extend below the milled head, and the screw, in combination with the arrangement of the screw (made as a left-hand screw) within a socket tube on the handle, as specified,

BENDING FELLIES—Thos. Cox, of Lancaster, Pa.: I claim, first, the combination of the vibrating felly mold with the flanged bending wheel, arranged and operating as described.

I also claim the manner of perfectly bending the last end of each felly and securing it when completely bent upon the mold, viz., by the combined action of the bending wheel and of the wedge clamp, constructed and operating as set forth.

OPERATING SAW MILL CARRIAGES—A. S. T. Copeland, of Pittsburgh, Pa: I claim the combination of the triangularly working shaft, the mechanism for shifting it into and out of gear, with the right and left-handed endless screws, as shown and described,

CREASING AND BEVELING BARRELS—A. H. Crozier, of Oswego, N. Y.: I claim the movable platform and movable cutters, arranged as described, so that the cutters may be moved from the barrel, and free from the crease when the platform and barrel descend and move towards the barrel, when the platform and barrel are raised.

SOFAS, CRIB BEDSTEADS, &C.—Thos. W. Currier, of Lawrence, Mass.: I do not claim the attachment of movable rockers to chairs or sofas: but I claim the combined arrangement of the cam wheels, and the rockers carried by the cam wheels, whereby by rotating the cam wheels the chair or sofa can be raised or lowered at pleasure, and also the rockers brought into play when desired.

PREPARATION OF COLLODION FOR PHOTOGRAPHIC PICTURES—James A. Cutting, of Boston, Mass.: I claim the use of camphor, in combination with iodized collodion, as set forth.

FINISHING PALM LEAF HATS—Dexter Dennis, of Barre, Mass. Ante-dated Jan. 4, 1854: I claim the improved mode of stiffening and finishing a hat, viz., the covering the outer surface of the hat holder with the stiffening composition and applying the hat thereon, and subjecting it to the action of the heating flats, as specified.

I also claim the combination of the round corner flat, with the crown and side flats, so as to operate in connection with them, as specified.

I also claim the improvement of using a hat holder, elliptical or oval, in its horizontal section, in combination with applying to the side flat a spring bar or contrivances that will allow it to spring or move, while the hat holder is revolved, and adapts itself to such hat holder, as specified.

I claim, in combination with the top or crown flat and the elevating and depressing machinery thereof, a fan apparatus to regulate it's downward descent on the hat, as specified.

And in combination with the frame and the crown flat, I claim the toggle and levers, and the projection, the springs and connecting cords, as described, the whole being to enable the frame and the top or crown flat to be operated as specified.

VALVE FOR WIND MUSICAL INSTRUMENTS—C. H. Eisenbrandt, of Baltimore, Md.: I claim arranging the rotating valve on a pivot axis, the extremities thereof pointed or arranged so as to work in the ends of an adjusting screw passing through an elbow support attached to the cap of the air chamber, and the end working in a tightening screw rest; the said valve axis attached to a rotating double-jointed lever device, combined with the finger plate. The said pivot axis rotating valve device being used in combination with a common sewing needle spring, or its equivalent, passing through the yoke or lever rest, the end or point of the spring resting on the upper side of a projection or spur. The whole claimed as described, and used as a combination whereby a perfect trill or shake can be produced, and the same modulated so as to readily afford the crescendo and decrescendo effect, which has never heretofore been accomplished in the valves of brass wind musical instruments.

I do not confine myself to any particular construction of lever combined with the common needle spring, or its equivalent, to produce the new and important effect, as described.

MILL STONE DRESS—Wm. Finkle, of Cole Creek, Ind.: I claim the skirt furrow, isolated both from the leading and from the intermediate furrow or furrows, for the objects before stated, but parallel to the succeeding leader, in order to facilitate the delivery of the meal as it is ground either in connection or otherwise with the flared and deepened entrances of the leading furrows, as described.

LIGHTNING RODS FOR VESSELS—R. B. Forbes, of Boston, Mass.: I do not claim the system of permanent conductors as applied to the mast of a vessel, in the manner well known as that of Sir William Snow Harris, wherein the conductor is carried down the mast and through the hold and keel of the vessel.

Nor do I claim either the common chain or rod conductor, nor the mode or modes of applying the same.

Nor do I claim to make the conductor of fixed lines of metal, and to extend down the mast to near the lower mast head, and from thence down the after swifters to the ship's side.

Nor do I claim to make that part of the conductor extending down on the after swifter or shroud as one long tube of metal.

But I claim composing it of a system of socket tubes and slide tubes, and confining the same to one of the shrouds or the rigging, and over and against the outside of the hull, and either to the copper sheathing thereon or down to such a depth on the hull that the lower end of the conductor shall always remain immersed in the water under the ordinary rolling or pitching of the vessel while at sea, as specified.

SUBMARINE BATTERY—Joseph Frey and D. B. Burnham, of Battle Creek, Mich.: We claim our arrangement of guns in the hull of a boat under water with port holes and gates, in such a manner as the guns may be loaded and fired at pleasure.

QUARTZ CRUSHERS—Heman Gardiner, of New York City: I claim, first, suspending the basin at the center by a fixed shaft above a bed, as described, whereby, while every part of its circumference is in turn depressed by an arm, and roller, or their equivalents, revolving on the shaft, the lowest part of the basin where the greatest weight is, always rests upon the bed, and the shaft is relieved of the greater portion of the weight of the basin and its contents.

Second, the supplemental ball suspended or attached as described, from the pulley, or its equivalent, revolving above the basin, so that it is always in contact with the inclined part of the basin, where the quartz or ore is most thinly distributed.

STEAM BOILERS—Thomas Greer, of Philadelphia, Pa.: I am aware that vertical, coiled, and horizontal tubes have been used in boilers, and therefore do not claim them.

But I claim, first, a series of angular tubes, arranged and for the purpose as specified.

Second, I claim the horizontal tubes in combination with the angular tubes.

MILK STRAINERS—Joel Gleason, of Geneva, N. Y.. I claim the combination of the packing with the hinged catches, the strainer being supported on the pail by means of the packing, in combination with the catches, and the packing being fixed to the body of the strainer, by locking the tin on to the packing on the underside of the body of the strainer, as shown, all operating as set forth.

PUNCHING RIVET HOLES IN HOSE—John R. Hayne, of Pittsburg, Pa.: I claim the use of the sliding table and the pressing board, in combination with the rack work, the lever, and the finger, for the purpose of moving forward the leather on the sliding table during each stroke of the punching gate, and in combination with the punching gate and punches, as set forth.

REGULATING THE MOTION OF STEAM ENGINES—Wm. C. Hibbard, of Boston, Mass.: I claim, first, the "Isochronal Eccentric," as described, as a device to be used in machines for moving steam valves, or for other similar purposes.

Second, I claim the combination of the isochronal eccentric with a governor or regulator, in such a manner that the governor or regulator shall control the amount of its eccentricity, and thus by the variable movement of the valves, regulate the velocity of the engine, as described.

READING AND WRITING STANDS—Enoch Hidden, of New York City: I do not claim a stand with an adjusting screw on the top of the pillar; nor do I claim a double-jointed bracket; nor do I claim a desk with a box part attached, for containing writing materials, &c., with a hinged top and means of retaining the same at any angle. Nor do I claim the attaching of a jointed bracket, as a lamp or candle holder.

But I claim, first, the combination of the double-jointed bracket and screw, for adjusting the position of the desk, both horizontally and vertically, as set forth.

Second, the application of the sliding clasps with an india rubber or other elastic band for securing books, papers, &c., in the position desired, as set forth.

Third, the mode described of fixing the bracket supporting the lamp or candle holder, admitting of adjustment at every angle the desk may be placed in.

SPIKE MACHINES—Fenton Humphrey, of Boonton, N. J.: I claim, first, the manner of pointing, by which I obtain a change in the place of labor on the rollers at every revolution, as described.

Second, the general construction, arrangement, and combination of the levers, for the specified purposes.

SEED PLANTERS—Samuel Ide, of East Shelby, N. Y.: I claim the series of connected chambers or recesses around the center of the rotating cog wheel, constructed as described, whereby a uniform and continuous distribution of the seed is effected.

CATCH FOR VAULT COVERS—J. K. Ingalls, of Williamsburgh, N. Y.: I claim the additional lip or nose, with the recess for the eye of the cover to fit into and hold the catch, unlocked, as arranged in relation to the other parts of the catch or lock, and operated as set forth.

WASH BOARDS—P. H. Keck, of Morgantown, Va.: I claim the construction of the wash board with the chamber, and closely fitting slide, in combination with the channel and openings for furnishing a constant supply of water to the clothes, as set forth.

ORE STAMPING MACHINES—J. F. Laird, of Philadelphia, Pa.: I claim the arrangement of the lifters by being so placed as to operate on the periphery of the tappet head for the purpose of giving the stampers a partial rotation without requiring other mechanism, as set forth.

CONTROLLING DRAUGHT IN BRICK AND LIME KILNS—J. Leeds, of Philadelphia, Pa.: I claim controlling or regulating the draught of lime, brick, or other kilns, by means of a double dome, in the under one of which the openings are at its outer edge, and in the center of the upper one, so as to force the draught from the center to the outside of the kiln, as described.

I also claim, in combination with kilns controlled by the double domes, the main or auxiliary chimney for increasing the draught in the kiln, as described.

PADDLE WHEELS—W. H. Muntz, of Norton, Mass.: I claim the arrangement consisting in attaching each of the said paddles or floats to wheels or rims, wherein that to which the broad surface of each of the paddles is attached is of greater diameter than the other, and the position of the paddle is in or about in a line parallel to a radial line or one drawn through the center of the wheel shaft, and the face of the paddle is oblique to the plane of this line, which stands perpendicularly to the axis of the shaft.

HORSE POWERS—John A. Pitts, of Buffalo, N. Y.: I claim the boss, and set screws, in combination with the bridge piece, for the purpose of adjusting the spur gear and bevel wheels to the main driving wheel to prevent binding or cutting, as described.

CAST IRON CAR WHEELS—Benj. Severson, of Philadelphia, Pa.: I do not claim any part of the rim nor hub, nor connecting them with a solid web. Neither do I claim common corrugations nor brackets.

But I claim a cast-iron web deeply corrugated where it joints to the rim, with the corrugations gradually lessening in depth as they approach towards the center of the wheel, so as wholly to disappear at or near the hub when it is used for the purpose of uniting a rim and hub, and has its central part strengthened by means of brackets, in the manner and for the purposes set forth.

BRICK KILNS—J. S. Speights, of Baltimore, Md.: I do not claim constructing the kiln with air passages between the fire beds.

I claim the long grates with air passages, which extend clear through the kiln below them, and have doors to admit the air at either or both ends, in combination with small air passages between them, having lateral openings to throw the air under the middle of the fire, as described, for the purpose of regulating the admission of the air to any part of any grate, or every grate, so as to regulate the combustion, and thereby regulate the heat in all parts of the kiln.

BEVELING PLANE—M. J. Wheeler, G. W. Rogers, H. W. Pierce, and M. B. Fidey, of Dundee, N. Y.: We claim attaching the two bevel cutters to two wings, which are hinged by a three flanged hinge, or otherwise, so secured to the body of the plane as to be capable of swinging a certain distance around a common pivot or axis, for the purpose of being adjusted to set their faces and the edges of their cutters at any angle to each other, and to the face of the fence.

HANGING BELLS—J. B. Young, of Harper's Ferry, Va.: I claim the construction of a bell having attached thereto an arm, formed on a tube, having working through it an actuating lever combined with a gravitating piston striker working through a barrel or socket attached to the elbow and arm. The whole used together with the tympanum and combined in its application with the door of a dwelling or otherwise, as set forth.

CEMENT COMPOUND—Wm. H. Poindexter, of Fayette Co., Tenn., administrator de bonis non, of J. R. Remington, dec., late of Macon Co., Ala.: What is claimed as John R. Remington's invention is the use of cotton seed ashes or the ashes of any other oil-yielding vegetable substance as an ingredient of a cement, as set forth, whether it be mixed with rosin and earthy matters or with oil and earthy matter.

KNITTING MACHINE.—Henry Burt (assignor to Newark Patent Hosiery Co), of Newark, N. J.: I claim, first, the hollow bar, or its equivalent, in combination with the extended ends of the sinkers for the purposes described.

Second, I claim the radius bar, constructed and operating as described, in combination with the cylinder and the collar, for the purpose set forth.

PURIFYING OILS—Thos. Drayton, of Brooklyn, N. Y. (assignor to G. W. McCready), of New York City: I claim the described mode or process of using the materials described, for the purpose of purifying oils and producing a burning fluid,

SEWING MACHINES—Wm. Butterfield (assignor to himself and E. M. Stevens), of Boston, Mass.: I do not claim the combination of a needle slide and hooked needle, wherein the slide is made to operate so as to close or cover the hook, and prevent it from catching in the fabric, while it is being drawn through the same.

Nor do I claim any arrangement of applying the closing slide of a hooked needle to the same slide of a needle as is the barb or hook, so that such slide may slide in a groove in the needle, (or carrier thereof) parallel to the motion of the needle.

I claim in the chain stitch sewing machine operating a hooked needle or hook to draw the thread through the material to be sewed, the "rest cast off" in its combination with the hooked needle, and as applied to and made to operate with it and the material to be sewed, and in the loop of thread, as specified.

I also claim the improvement by which the rest cast off is rendered capable of adapting itself to any ordinary thickness or variation of thickness of the fabric or article to be sewed; such improvement consisting in the described mode of operating it by the spring applied to the carrier lever, and made to operate on the lower end of the recess, as stated.

I do not claim the application of a spring to the bobbin for the purpose of enabling the bobbin to fall or turn backward, and to take up the slack of the thread.

But I claim the combination of the bobbin holder, with the spring, the friction disk, and the axle on which the holder turns, the same enabling an empty bobbin to be removed from the holder, and a full one put in its place without disturbing the connection of the spring with the bobbin and friction plate or disk.

SELF-ACTING CHEESE PRESSES—S. W. Ruggles, of Fitchburg, Mass. (assignor to himself, A. R Smith, and J. O. Austin): I am aware that cheese presses, wherein the power applied to effect the pressure is the weight of the cheese, the movable frame and apparatus connected therewith, have been before invented and patented. One such having been patented in Dec., 1831, by one Crane or Cram, of Hanover, N. H., while another was patented by Bethuel Gillet & Lyman Allis, August 26, 1851.

I do not claim either of the devices as patented; my invention being an improvement on the self-acting cheese press, which has an inner movable frame, a movable platen and a system of levers or toggle joints.

Nor do I claim an arrangement of pressure levers, as exhibited in the cheese press patented Aug. 15, 1837, by Sullivan White, such levers not only having their fulcra supported by the top girts of the movable frame and their inferior arms working against the platen or follower, but their superior arms resting and sliding against pins or rollers applied to the stationary frame; the said arrangement being not only cumbersome, but attended with much friction in its operation.

But I claim the general construction and application of the pressing power or mechanism, as described, or the arrangement of the pressure bars or struts, and the arms or pitmen, and their application to the remaining stationary and movable parts of the press, as specified whereby the press is made to operate as explained and to great advantage and power, and with little friction, and is reduced to a very desirable and compact form.

EXCAVATING EARTH—John Taggart of Roxbury, Mass, (assignor to himself and Richard Pitts, of Dorchester, Mass): I do not claim the combination of a hand windlass with the line, whereby such line would be wound upon the windlass by the power of a person applied to its spokes or levers.

Nor do I claim the combination of a friction brake and brake wheel with a windlass.

But I claim the combination of the gravitating weight and its line, with the windlass barrel, and the brake wheel, so as to operate automatically and rotate both windlass and brake wheel, and not only take up the slack of the rope, while the scoops are being elevated, as described, but at the same time to set the brake wheel ready for the action of the brake, when it becomes necessary to drop the scoops in order to discharge their load.

I do not claim the employment of a single line and two branch lines applied respectively to the two scoop levers and independently of their boom.

But I claim the arrangement of the branch lines of the line, so as not only to operate through the ends of the scoop levers, but also through guiding or sheave passages of the boom, such an arrangement of the branch lines producing an increase of draught on the scoop levers during the operation of closing them. as specified.

I also claim, in combination with the described arrangement of the line through the sheave openings of the boom, and the two scoop levers or about their sheaves, as specified, the union of the branches into one line in connection with the carrying such line through a compensating passage of the boom, and permitting it to slide freely through the same, as described, the same being for the purpose of enabling the scoops to close together or upon an object whenever the movement of one of them during the operation of closing them together, is arrested by contact with an obstacle, as explained.

I am aware that a single scoop has been applied to a boom, and that boom made to slide through a slotted horizontal rocker shaft projected over the side of a scow.

I am also aware that double scoops have been applied to a boom or an upright frame made to have vertical movements, and to work through a derrick or platform.

I do not therefore claim any such applications of a boom of a single scoop, or the supporters of a set of scoops. Neither do I claim the combination of a rocker tube or eye, with a rocker frame, as described, and for the purpose of obtaining a compound movement.

But I claim the combining the boom and the working ropes of it and its scoops with a crane, as specified, so that the scoops may be free to be moved not only vertically, but also in any direction either towards or away from, or laterally with respect to the crane and its platform, whereby while the scoops are grasping a stump or other article adhering to the mud or earth, a lateral movement of the crane may be employed to effect leverage on the scoops in a lateral direction, so as to aid in disengaging the stump or article grasped by the scoops, and to effect this without injurious strain on the boom or the parts through which the boom slides.

RE-ISSUE.

PEGGING BOOTS AND SHOES—J. J. Greenough, of New York City. Patented originally Jan. 17, 1854: I claim the automatic combination constituting my improved pegging machine and composed of the following elements, or their mechanical equivalents, enumerated in the succeeding claims, and comprising the peg cutter, peg driver, center guide, shoe movement, etc.

I also claim the cutting of the peg from the peg blank by a lateral motion of the cutter against the side of the blank, the cutter assisting to hold the blank in position while it is driven as described.

I also claim the combination of parts composing the universal movement carriage, consisting of a disk supported upon the arm of a horizontal lever, so that it can be raised or lowered surmounted by the device for holding the work, having a free motion in all directions, as described.

I also claim the center guide for directing the movement of the shoe or other article in the course indicated by the pattern of the sole for the purpose of keeping the line of the pattern, as specified, so as to keep the line of the pattern coincident with that of the awl and peg driver.

I also claim so constructing, arranging, and operating the shoe carriage that each point of the sole which is to receive a peg shall be brought successively to the same point under the stationary pegging standard, so that the pegging shall be effected without interruption entirely around the shoe or other article, as described.

I also claim, in combination with the movable carriage, the stationary pegging standard made adjustable or the equivalent of that adjustment, so that the pegs can be driven at any distance from the edge of the sole or center of motion of the carriage holding the material to be pegged, as set forth, so that a new pattern will not be required to drive a second row of pegs within the first row.

I also claim driving the pegs by a tool having a positive motion, as described, in both directions.

GUN LOCKS—James Hults, of Berlin Township, Ohio: Patented originally dated May 16, 1854: I claim giving such a shape to the tumbler or to the sear, or their equivalents, that the sear will not catch, and safely hold back the cock in a cocked position, except when it is acted upon by a perfectly rigid force—and in connection with the said peculiar arrangement of the tumbler, and the sear, I also claim the combination of the jointed levers with the sear, in such a manner that said levers will rigidly act upon the sear, and cause it to safely hold the cock when it is thrown into a cocked position, as set forth.

I also claim the set screw, arranged in such a manner in relation to the jointed levers and the sear and the tumbler, that its adjustment to a greater or less extent, will render it necessary to exert a greater or less degree of power upon the trigger, to detach the sear from its hold upon the tumbler, when the cock is in a cocked position, as set forth.

DESIGN.

TEA OR COFFEE POT—Wm. Hattersley and Charles Dickinson, of Newark, N. J.

NOTE.—Several of our clients will notice their names in this week's list of patents. Great activity prevails among inventors, and it is gratifying to notice increased energy in the Patent Office in the examination of cases.

Patent Cases.

INDIA RUBBER.—The case Horace H. Day, versus the New England Car-Spring Co., was suspended on the 5th inst., after being before the U. S. Circuit in this city for about six weeks. The cause of suspension was the death of one of the jury. All the expense of this trial has been lost to the parties in the case.

MOWING MACHINES.—At Canandaigua, N. Y., on the 7th inst., before Judge Hall, U. S. Circuit Court, the case of Howard versus Forbush and others, for infringement of the patent of W. F. Ketchum, was concluded, after a trial of four days, in favor of the plaintiff. The jury decided that the reissued patent of April 1851, of W. F. Ketchum, was good, and was a corrected copy of the original one of July 1847. The Jury also decided that the machine of Forbush is embraced in Ketchum's claims, and is an infringement of his re-issued patent.

We cannot vouch for the correctness of the above report, but publish it as a telegraphic dispatch from Canandaigua, sent by some person unknown to us.

[For the Scientific American.]

Correction—Steam and Fire Regulator.

In examining the engravings and published description of our Steam and Fire Regulator for steam boiler fires, which appeared in your issue of May 20th, 1854, I find the engravings do not convey a correct idea of the construction and operation of our invention. The point to which we would call your attention, is the relation which the diaphragm bears to the piston and cylinder. Your description says, "the bore of the cylinder must be as much greater than the piston as will allow of the diaphragm assuming the position thrown at S and S, figures 2 and 3." Now this position is not properly shown by the cut. The space between the piston and cylinder being relatively too great. Perhaps I might convey a clearer idea of the amount of space necessary to be left between the piston and cylinder, by saying that the space between the piston and cylinder should be exactly equal to double the thickness of the material used for a diaphragm. The design being to have the area of fluid pressure against the unsupported part of the diaphragm reduced to the smallest possible quantity. By proper care in this respect a diaphragm will bear, say 110 lbs. to the square inch, without straining or stretching in the least. Yours, &c., E. Z. PRATT,

Sec'y Clark's Patent Steam & Fire Regulating Company, 208 Broadway.

Congressional Favors.

We are indebted to Senators James, Fish, Seward, and Douglas, for speeches and other Congressional documents of value to us. Our thanks are also due to General Walbridge, J. A. McDougall, and R. H. Stanton, for repeated favors in the same line.

A Meteor.

We were the observers of a ball of fire about the size of a full moon, which shot across the heavens over our village on Thursday evening, June 29th, at ten o'clock. We first heard a rumbling noise, which was followed immediately by a ball of fire moving from South to North. The extreme hot state of the atmosphere may have had something to do with its appearance. —[Barnwell (S. C.) Sentinel.