

(For the Scientific American.)

Remarks on Lateral Motion of the Earth.

Mr. H. Pollard, in No. 18, supposes that the direction of the earth's axis is changing, and regards this change as the cause of "the emergence of the new land, and the submergence of the old." That the greater part of the present dry land was once the bottom of the ocean, is undoubtedly true, but it is just as true that the cause of this emergence and submergence is not the lateral motion of the earth. The direction of the earth's axis does not change, this is an established fact, proved above the possibility of a doubt by all astronomical observations, in all times and all countries.

One of Mr. P's reasons for believing in a lateral motion of the earth, is the well known fact that fossil remains of plants and animals which grow only in tropical and temperate climates, are found near the Arctic regions, indicating a great change of climate. This latter change is, at the present day, generally attributed to the internal heat of the earth itself, the surface of the earth having then not yet cooled down to the present temperature. Mr. H. P. says, the lines of the public surveys, no doubt run on the true or astronomical meridian, vary from the magnetic meridian one degree east for about every twenty years since the surveys were made, and he therefore comes to the most singular conclusion, that the axis of the earth is moving east. If you go aboard a steamer in Liverpool, and find yourself after about twelve days in New York, the conclusion is, New York has moved east towards you, yourself having been stationary. The astronomical meridian never changes, the variations of the magnetic meridian are different at different times, they were for Paris as follows:

Table with columns for year, longitude East, and longitude West. Data includes years 1580-1805 and longitudes from 11° 30' to 22° 5'.

It may here be stated, that besides these, the secular variations, there are daily variations, which are for Paris as follows: during the night the needle is nearly stationary, at sunrise the needle commences moving west, till about 5 P. M., when the needle moves back east till 9, 10, or 11 P. M. These variations are greater in summer than in winter, from April to September 13 to 15 minutes, from October till March 5 to 6 minutes, on some days 25 minutes, on others only 5 to 6 minutes. South of the magnetic equator, these variations are in opposite directions, the north pole moves east from morning till 5 P. M.

A. Z.

Baltimore, Jan. 30th, 1855.

[Our mind never has been able to receive the internal heat theory of the earth, as affording an explanation of evidences which have been furnished in abundance, of the cold arctic regions being once the abode of elephants, and other animals now belonging to the tropical regions. It has always appeared to us to be irrational; probably the cause will yet be discovered.]

Life Boat Ships.

MESSRS. EDITORS—With reference to an article in the SCIENTIFIC AMERICAN two weeks ago, upon the "Safety of Ships," allow me to correct your rendering of my suggestions for the same, on page 131. It will there be seen that I proposed the adoption of one longitudinal keelson of plate iron, and two transverse bulkheads only of the same. These are all the partitions necessary to divide the hold into six compartments.

Since writing to you first upon this subject, I find that the mover of this improvement for constructing life boat Steamers—Mr. Griffiths—advocates its immediate adoption, in his Nautical Magazine. I am glad to find you, as well as our highest naval authorities, so well agreed upon the importance of embodying this principle in any new legislation by Congress upon this subject.

PRACTICAL OBSERVER.

East Broadway, Jan. 28, 1855.

I claim the extra hitch plate, c, in combination with the depressed bridge, a, and perforate bridge, b, as set forth. I claim the adjustable bridge pin for the normal strings furnished with a screw and the notches and channels on its two sides, so that the normal strings can be regulated in their relative distances from the octave strings either vertically or laterally, as set forth. I claim making the buff stop of two qualities of leather, a hard and a soft, for producing the harp effect, as set forth.

REIN STAFF SCREWS FOR SHIP CARPENTERS.—John Hobbs, of Hallowell, Me. I claim the arrangement of the screw stems, C, D, and E, F, passing through the rein staff, A, B, the sharp threaded screws, G and H, forced into the timber or side of the vessel by the lever, I, inserted in the aperture, K, and the nuts, G, G, moved by the lever, I, to force the rein staff towards the vessel, together with the set down, L, on each screw, for the purpose of inserting wedges between it and the edge of the plank, to bring the plank into place for splicing on the side of the vessel.

CARRIAGE WHEELS.—Washburn Race and Birasill Holly, of Seneca Falls, N. Y. I do not claim a hollow cast iron or metal hub. I claim the compressed tenon in combination with the annular cavity, in the manner and for the purpose set forth.

BUGGERS.—Russell Jennings, of Deep River, Conn. I claim so constructing the cutting edges of a double twist auger bit, that the vertical scores shall follow the chisel, i. e., so that the cutting edges of scores and chisel shall never intersect the worm or helix of the shaft at the same point.

LOOKING SPINDLE DOOR LATCHES.—W. H. McNamee, of Philadelphia, Pa. I claim the guides, G, and the rim, F, of the escutcheon; the shelf, A, on the face plate, and the upright stem, inclosed with a spiral wire working through the shelf piece, A; the projecting arm, C, on the spindle and the forked bolt, D; the whole combined for the purpose of a latch and lock, as described.

MACHINE FOR FELTING HAT BODIES.—S. S. Middlebrook, J. B. Blaklee & Chas. F. Blaklee, of Newtown, Conn. I claim the employment or use of the two beds or plates, E, J, corrugated on their inner surfaces, substantially as shown, the upper bed or plate, B, having an up-and-down, and also a lateral vibratory movement, given it by the cams, C, or their equivalents, and the lower bed, J, being elastic or yielding for the purpose of subjecting hat bodies to a rolling motion under requisite pressure, and thereby thoroughly felting the same, as described.

SEWING MACHINES.—John B. Nichols, of Lynn, Mass. I claim the machine of a binding guide with a sewing machine, meaning to claim the combination of mechanism, whereby the operations of directing or applying the binding to the edge of any material and sewing it thereon, are conducted by an automatic process.

FRAME OF GRASS HARVESTERS.—Aaron Palmer, of Brockport, N. Y. I claim connecting the wheel, A, the cutter beam, B, and the tongue, C, to the frame, D, in the manner described, whereby the same operates as a lever, of which the axle of the wheel, A, is the fulcrum, and by which means the cutter beam rises and falls independent of the wheel, thereby adapting itself to undulating surfaces; and by which means the draught of the team holds the cutter beam snug to the ground, thereby causing the machine to cut close and smooth.

LANTERN FRAMES.—E. F. Parker, of Proctorsville, Vt. I claim passing the guard wires of lantern frames through suitable holes in the corners or uprights, by which means soldering at such points may be dispensed with, as described.

CABLE STOPPERS.—Jesse Reed, of Marshfield, Mass. I do not claim stopping the motion of a chain cable by subjecting it to pressure between two plane surfaces. I claim the device, by which the same operates as a lever, of which the crank, G, and the upper jaw, H, whereby the latter is allowed to accommodate itself to the varying size of the links, and the operation of stopping the chain is assisted by the friction of the chains itself upon the upper jaw.

FORCE PUMP.—Henry Rogers, of Ferrisburgh, Vt. I claim the combination of the suspended valve bucket with the stationary hollow plunger, or of the suspended hollow plunger with the stationary valve bucket, when so constructed, arranged, and operated as to serve automatically to clear the delivery pipe of water, and for the purposes set forth.

HARVEST CUTTERS.—David Russell, of Brewsterburgh, Ind. I claim the combination of cutters with an endless chain or chains operating as described and for the purposes set forth.

PORTABLE FIRE ARMS.—A. O. H. P. Sehorn, of Murfreesboro', Tenn. I claim the combination of the box, springs, S and S', coils spring, I, hammer, N, and casing, P, constructed, arranged, and operating as set forth, when used in connection with an external case, C, H, for the purposes specified.

WORKING FRANKLINITE ORE.—Theodore Sellack, of Greenwich, Conn. I claim the process of reducing Franklinite ore to obtain iron and the white oxide of zinc therefrom, by working it under a light heat, in a vertical walled low cupola furnace, substantially as described.

CARRIAGE WHEELS.—Jno. Skelley, of Brooklyn, N. Y. I claim constructing the wheel as shown and described, viz., having a concentric ring or band, B, constructed of wood, as shown, and secured by metallic bars, E, E, on its sides said ring or band being at any proper point between the hub, A, and rim, B, of the wheel, and having the half spokes, F, secured between the rim and ring or band, the whole spokes passing through said ring or band, for the purpose as shown and described.

STRAW CUTTERS.—G. L. Squier, of Chicopee, Mass. I do not claim, separately, the circular cutters or knives, for they have been used for analogous purposes. I claim the combination of the circular cutters or knives, B, B', and finger plates, E, E', with the lingers, A, attached to them, which said cutters and finger plates are secured the proper distance from each other on their shafts, B, B', by means of the rods, D, D', and nuts, C, C', as shown and described.

CULTIVATOR TEETH.—Joseph Stockdale, of Ypsilanti, Mich. I claim the reversible cast iron plate, marked fig. 3, with the groove on the under side, marked letter K, round cast-iron strip on the upper side, marked letter L, and the application of the top of the cultivator tooth in the groove, foresaid, and also the application of the wrought-iron belt or shank, passing through the said plate, as described.

FURNACES FOR ZINC WHITE.—J. G. Trotter, of Newark, N. J. I claim the manufacture of white oxide of zinc, whether from native ores or metals, the use of the atmospheric air supply pipe, L, flues, M, M, heating chambers, H, H, and J, and series of aperture, h, h, in the sides thereof, or substantially like parts, for the purpose of conveying into the oven, a great number of infinitely small jets or blasts of heated atmospheric air (independent of the blast of atmospheric air supplied through the ash pit of the furnace to support combustion), for the purpose of more thoroughly consuming the gases from the ore and carbon.

MAKING INDIA RUBBER CLOTH.—H. G. Tyler and John Helm, of New Brunswick, N. J. We claim the process described of making elastic fabrics without a previous preparation of threads, strips, or sheets, or the coating of the cloth by cement.

CYLINDRICAL BOXES.—Elisha Waters, of Troy, N. Y. I do not claim in general the combination of wood and paper in the manufacture of all descriptions of boxes. I claim, in the manufacture of cylindrical boxes, making the sides of said boxes of paper tubes, and the ends of wooden disks, substantially as and for the purpose set forth and described, whereby I am enabled to produce at once a better and a cheaper box, by making each part from the most suitable material and in the cheapest manner.

WAXING THREAD IN SEWING MACHINES.—Salem Wilder, of Lynn, Mass. I claim so applying the wax holder to the frame or arm of the machine, and the needle and the eye of the needle carrier, that the vertical movements of the carrier shall cause the thread to be moved or drawn up and down through the wax holder and its elastic bottom, whereby the saturating of the thread becomes improved, as specified.

SAWING MACHINES.—Finney Youngs, of Milwaukee, Wis. I claim, first, the employment or use of two pairs of guides, C, secured to the ends of levers, D, D, and arranged as shown, or in an equivalent way, so that said levers will be operated by the movement of the carriage, and each pair of guides brought alternately in contact with the saw near its cutting edge, the levers, D, D, being operated simultaneously

I claim the extra hitch plate, c, in combination with the depressed bridge, a, and perforate bridge, b, as set forth. I claim the adjustable bridge pin for the normal strings furnished with a screw and the notches and channels on its two sides, so that the normal strings can be regulated in their relative distances from the octave strings either vertically or laterally, as set forth. I claim making the buff stop of two qualities of leather, a hard and a soft, for producing the harp effect, as set forth.

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LIST OF PATENT CLAIMS Issued from the United States Patent Office.

FOR THE WEEK ENDING JANUARY 30, 1855.

IMPLEMENT FOR BORING WELLS.—I. J. W. Adams, of Sharptown, Md. I do not claim the hollow auger, G, for that has been previously used.

But I claim the employment or use of the spring g, attached to the handle, F, of the swinging or suspended auger, G, arranged substantially as shown, viz., with a knob or projection, h, on its outer surface, which knob or projection catches into a cavity in the under surface of the bail, F, for the purpose of holding the auger in its proper position while being operated.

[A notice of this invention may be found on another page.]

CLARIFYING GLUE.—William Adamson, of Philadelphia, Pa. I claim the employment of the material specified, for the purpose of clarifying glue, gelatin, size, &c.

HOT AIR FURNACES.—A. H. Bartlett, of King's Bridge, N. Y. I do not claim, of itself, in a hot air furnace, preventing the admixture of deleterious gases, generated on hot metallic surfaces, with the warmed fresh air, by means of jacketed air spaces interposed between the surfaces exposed to the action of the fire and the air to be heated; nor yet providing an escape pipe or passage to carry off the deleterious gases.

But I claim, first, in combination with the arrangement specified, of the serpentine fire and air flues, or courses, C and D, providing each horizontal flue with an escape easing or jacket connected by branch or otherwise (each horizontal casing) with a gas pipe or pipes uniting them with the chimney, as shown and described, whereby a sure and quick escape is established for the deleterious gases at each horizontal flue to travel where the fire and air are retarded in taking their upward course, and the air being heated, consequently more exposed to absorption of deleterious gas, and whereby the stratum of air being heated, and traveling in succession the several horizontal flues, D, is protected from admixture with it of the deleterious gas throughout its entire exposure to heat in the furnace, as described.

Second, I claim the arrangement of the fire flues, C, and air heating passages, D, specified, and traversing at right angles to each other when combined with division plates or their equivalents, so arranged that the one stratum or current of air to be heated passes upward throughout the several hot air passages or channels in a serpentine course, similar to but at right angles with the course given the flame simultaneously passing upwards in the fire flues, C, over, under, and between the hot air passages or flues, D, as shown and described.

[For a brief description of this useful improvement in furnaces, see No. 12 present Vol. SOL. AM.]

CAR VENTILATOR.—T. Babbitt, of New York City: I claim the arrangement of a wind wheel, as described in connection with a wire gauze disk or screen revolving in a tank of water, the air passing through the said disk previous to entering the car, in the manner and for the purpose set forth.

SEED PLANTERS.—John Blackwood, of Franklin Co., O.: I claim the additional hopper to catch the seed which falls off of the slide after it passes the brush, substantially as described.

SEED PLANTERS.—Job Brown, of Lawn Ridge, Ill.: I do not claim, separately, the distributing plates, I, for they have been previously used.

But I claim the combination of the cups, F, placed obliquely on a rotating cylinder, in combination with the distributing plates, I, the above parts operating in the manner and for the purpose shown and described.

[See notice of this invention on another page.]

FOUNTAIN BRUSH.—D. H. Chamberlain and John Hartshorn, of Boston, Mass.: We do not claim the combination of a fountain or reservoir with a brush or marking implement. Nor do we claim a tapering valve applied to a long rod and working in a socket or tapering hole made through the bottom of a fountain holder, the long rod extending through the fountain thereof. Nor do we claim a movable pin inserted in a conical tube extending into the body of a brush, and arranged at the lower end of a fountain tube or reservoir, such pin, in order to increase the flow of the marking fluid into the brush, being raised by pressing the brush downwards against an object.

What we claim is arranging or applying the brush, B, the valve, C, its rod, E, and the socket tube, F, together, as described, so that not only shall the brush be fixed directly to the valve and be movable backward and forward and around with and by it, but the socket be made so to encompass the valve and brush that the marking fluid may flow down around the external surface of the brush before penetrating into its interior, the same affording important advantages in cleansing the valve and maintaining the flow of marking liquid.

We do not claim the application of a piston to the reservoir, so that by the movement of such piston the reservoir may be filled with or emptied of marking fluid.

We claim so combining with the slide, B, and the fountain, A, a mouth tube, F, open at both ends, that such tube may not only serve to enable a person to supply the reservoir with paint or marking fluid, as described, but also to enable him to move longitudinally or rotate the rod, E, and its valve and brush.

And we claim the float, H, in combination with the opening at the inner end of the tube, F, and as arranged to move on the slide rod, E, and within the tube, A, and to operate therewith substantially in the manner and for the purposes as stated.

Plows.—Alfred Doe, of Concord, N. H.: I claim, first, two separate furrow boards arranged to vibrate perpendicularly, independent of the point and share, so as to turn alternately right and left furrows on level or inclined land, with equal facility; operating in combination with a swivel point and shares arranged to vibrate under the land side with the body or front portion of the furrow board, substantially as described.

Second, in combination with the swivel point shares, body and one of the furrow boards mentioned in the above claim, I claim a sub-furrow board arranged to vibrate perpendicularly, so constructed as to turn a subsoil furrow in one direction upon the top of the furrow just plowed in the opposite direction, thereby making it serve as a common plow, in one direction, and a subsoil in the other, substantially as described.

DIES FOR COP TUBE MACHINES.—James Eaton, of Townsend Harbor, Mass.: I claim in machines for making cop tubes, the method described of securing the step to the die for the purpose set forth.

DOUBLE-ACTING FORCE PUMP.—George Fowler, of Northford, Conn.: I claim the combination of the solid piston with the cylinder and reservoir, when the piston is inserted from the lower end of the cylinder, and worked by a parallel side rod, or shaft outside of the cylinder, whether for single or double-acting pumps, so as to constitute it an efficient lifting pump, without suction valves, and the whole is constructed, combined, and arranged, substantially as set forth.

YOKE OF SHIRTS.—Hezekiah Griswold, of Hartford, Ct.: I do not claim the insertion of gores upon the shoulders of shirts or other garments, that being old.

I claim, in shirts, the compound yoke, substantially as and for the purpose set forth.

CLOVER HULLERS.—Johnathan Hibbs, of Tullytown, Pa.: I claim combining with the concave shell two flanges diverging from a central point, and so acting as to divide the chaff from the fresh fed straw during the time that the former is passing a second time round the cylinder, substantially as described.

PIANOFORTES.—Alexander Hall, of Lloydsville, O.: I claim sinking the middle octave bridge, a, below the level of the normal strings, so as to be clear of their vibrations, as set forth.

I claim, in combination with the depressed bridge, a, the perforations in the bridge, b, on the level with the top of bridge a for the purpose set forth.