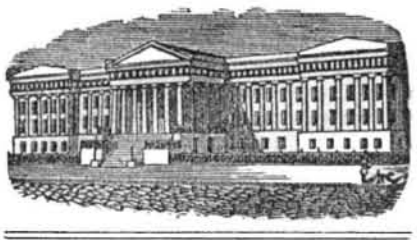


Reported Officially for the Scientific American

LIST OF PATENT CLAIMS

Issued from the United States Patent Office

FOR THE WEEK ENDING JULY 6, 1852.

CENTRE SQUARE—By Nathan Ames, of Sangus, Mass (assignor to Walter Bryent, of Boston, Mass.) I claim, first, the application to an instrument, substantially in the manner set forth, of a geometrical fact, viz., that any circle, touching the sides of a right angle, will be divided into two equal parts, by the line which divides the right angle into two equal parts.

Second, the union of the above with the common "trying square," by means of the bar, as described.

BRIDGES—Abel Bradway & Elijah Valentine, of Monson, Mass.: We claim the combination of the string pieces with the posts, the cross joints, the saddles, the diagonal braces, and the ties of a bridge frame, in such manner that the said string pieces are enabled to move longitudinally under the influence of variations of temperature, or other causes, without injury to themselves or to the parts with which they are combined, substantially as set forth.

CAR SEATS—By John Briggs, of Boston, Mass: I claim a car seat constructed with a double back, which can be folded up or unfolded, by means of the hinged arms, operating as set forth, the two pieces which constitute the back being held together, when open or raised up by the spring lips, substantially as described.

TURNING ENGINES—By J. S. Brown, of Pawtucket, Mass: I claim the clasp, in combination with the slide and saddle, for the purpose of arresting the combined operation of the slide, and pattern, when required.

And I also claim the cylindrical nut, in combination with the standard and tool holder of the slide rest, as described, by which the edge of the tool is brought to the proper position to co-operate with the pattern bar and slide rest, substantially as set forth.

BRIDGES—By J. B. Gridley, of Brooklyn, N.Y. I am aware that diagonal or inclined counter braces, differently arranged, have before been used, such, therefore, irrespective of their disposition and combination, as specified, I do not claim.

But I claim the upper and lower counter braces inclining in reverse directions to one another, for either half of the span, as described, and connecting the double diagonal main brace with the upper and lower chords, united by tie timbers, as specified, producing the important results set forth.

HAND PLANES—Birdsill Holly, of Seneca Falls, N. Y.: I claim, first, the loop on the cap in combination with the plane iron, and the stem of the stock, in the manner substantially as described, to wit, the said loop fitting over, or embracing the plane iron and stem, and allowing the iron to be secured between the cap and the stem, by means of a wedge placed either between the back of the iron and front of the stem, between the front of the iron and the cap, or between the back side of the stem and back part of the loop, the three positions of the wedge forming three different widths of throat, as explained.

Second, providing the cap with shoulders, which, when the cap is placed in the stock of the plane, will fall on suitable resting pieces, provided in or upon the stock, as described.

PATTERNS FOR METAL HUBS, Etc.—By Jasper Johnson, of Geneseo, N. Y.: I claim furnishing the usual pattern with a shield, as described, whereby I am enabled more easily to draw the core and prevent chipping and breaking down thereof.

PORTABLE GRAIN MILLS—By Chas. Leavitt, of Quincy, Ill.: I claim forming the inner stationary cone with a cavity (square or otherwise), as described, for the purpose of readily securing the mill on the top of a post or stump, without the use of bolts or wedges, &c., as set forth.

CHURNS—By N.B. Livingston, of Portland, Ind.: I claim the racks, grooves, and pinions, by which the shaft and beaters are caused to traverse the milk or cream, with a compound vertical revolving and reciprocating motion, after the manner and for the purpose described.

RAILROAD CAR BRAKES—By Wm. Montgomery, of Roxbury, Mass.: I do not claim the mere combination of the plates or surfaces, one of which shall be made to rub against the other and constitute a friction brake.

What I claim is my improved brake, composed of three or any greater number of plates or discs, arranged side by side and on a shaft, and having some one or more of them connected with the shaft, so as to be revolved by it, and the others held stationary, so as not to be revolved, and the whole, except one of the outer ones, made to slide endwise on the shaft, and combined with an apparatus or means of pressing them towards and against one another, substantially as specified.

I also claim the combination of the cross rods, with their friction plates and axle, for the purpose of sustaining the axle in case of fracture of it, as specified.

PROCESSES FOR DEFECATING SUGAR—By Robert & Jno. Oxland, of Plymouth, England. Patented in England May 15, 1851: We do not confine ourselves to the details as given, nor to the phosphates mentioned, as others may be substituted.

We claim the use of aluminate of lime, in combination with the super-phosphate of alumina or of lime, with the phosphoric acid, for clarifying cane juice or syrups, as set forth; but we disclaim the use of phosphoric acid, except in combination with the above named bases.

CUTTER HEADS FOR PLANING—By James M. Patton & Wm. F. Fergus, of Philadelphia, Pa.: We claim our improved elliptical reducing and planing instrument, composed of obliquely acting cutters, secured to an elliptical plate in such a manner that the periphery of the said plate will gauge the depth of the action of the cutters, and also serve to hold down the material operated upon, substantially as set forth.

CORDAGE MACHINES—By J. W. Peer, of Schenectady, N. Y.: I claim the use of grooved scrolls and their combination with pinions and grooved rollers and friction rollers, or equivalents for such friction rollers, to create a regular feed motion and equality of strain, whilst laying or forming in a rope, twine, or cordage machine, the whole being constructed in the manner and for the purpose substantially as described.

DOUBLE ACTING DOORS—By W. Rippon, of Providence, R. I.: I claim the manner, substantially as described, of arranging vertical and horizontal adjustable slats, along the front, top, and back edges of the door, for the purpose of allowing the door being opened in either direction, in or out, said slats being made to operate in the manner specified, by means of the door, levers, or their equivalents, and springs, the whole being constructed and arranged in the manner set forth.

MODE OF GRINDING PUPPET VALVES WHILE THE ENGINE IS IN MOTION—By Enos Rogers, of New York City: I claim the valve provided with spindles free to turn on their lifters, in combination with mechanical devices, substantially such as described, which rotate said valves, when down on their seats, but do not act on said valves, when rising or falling; the whole acting substantially in the manner described.

MACHINES FOR RUBBING STONE—By P. E. Royse, of New Albany, Ind., & Ira Reynolds, of Republic, O.: We claim the arrangement of a revolving centre driving-wheel, with a series of stationary crank shaft pinions revolving on their own axes, whether in combination with the cranks or stationary pins, so constructed and arranged upon a radial line as to give the arms and rubbers a rotary or compound elliptical rotary motion, for the purpose set forth.

CUTTERS FOR THREADING WOOD SCREWS—By T. J. Sloan, of New York City: I claim the method substantially as specified, of cutting away the mass of the metal to form the thread, by means of a burr cutter, in combination with the method substantially as specified, of finishing and smoothing the thread by means of the chaser, as set forth.

THERMOSTAL FOR REGULATING HEAT—By T. J. Sloan, of New York City: I claim the application of the physical principle of the expansion and contraction of substances by varying degrees of heat to regulate and control a mechanism, applied to operate a damper, register, valve, ventilator, or other equivalent device, which mechanism is actuated or propelled by some independent motor, substantially in the manner specified.

PNEUMATIC SPRING—By Elijah Ware, of Roxbury, Mass.: I claim in an air car spring, in which the piston operates upon the disc of rubber or other elastic substance, which forms one side of the air chamber, the combination of the movable diaphragm, constructed of the pieces F F, &c, operating substantially as described, with the rings placed loosely on the same, as set forth.

PLANING MACHINES—By Wm. Watson, of Chicago, Ill.: I claim a reducing plane, composed of a series of oblique irons, arranged substantially as set forth.

I also claim the combination of the before-claimed reducing cutters with smoothing cutters, arranged substantially as set forth.

RAILROAD CAR BRAKES—By L. F. Thompson, of Charlestown, Mass., & A. G. Bachelder, of Lowell, Mass. (assignors to Henry Tanner, of Buffalo, N. Y.) What is is claimed by us is to so combine the brakes of the two trucks of the operative windlass, or their equivalents, at both ends of the car, by means of the vibrating lever or its equivalent, or mechanism essentially as specified, as to enable the brakeman, by operating either of the windlasses, to simultaneously apply the brakes of both trucks, or bring or force them against their respective wheels, and whether he be at the forward or rear part of the car.

SCREW THREADING MACHINERY—By Cullen Whipple (assignor to the New England Screw Co.) of Providence, R. I. Ante-dated May 15, 1852: I claim a fusee, threading cutter for threading screw blanks, substantially as set forth.

I also claim the arrangement of the cutter and blank, in such manner that the adjacent portions of their peripheries shall move in opposite directions during the operation of threading, so that the metal may be cut from the grooves in the blank from the bottom outwards, to allow the chip to be freely discharged, substantially as set forth.

I also claim the combination of the vibration feeding trough and screw-driver arranged in such manner that when the driver is pushed forward to turn a blank while being threaded, an unthreaded blank may be in the trough upon the driver ready to drop into place before it, the instant it is drawn back, to allow the previous blank to be withdrawn from the cutter.

I also claim the combination of the vibrating arm or its equivalent, to detach the head of a threaded blank from the bit of the screw-driver, with a discharging punch, or its equivalent, to eject the threaded blank from the rest, the two thus operating, ensuring the discharge of one blank before another is presented.

Lastly, I claim a spring, or the equivalent thereof, in the mandrel of the screw-driver, substantially as set forth, to impart to the bit of the screw driver a slight yielding pressure against the head of the blank, until it finds and enters the nick thereof, in combination with the lever and cam, which afterwards apply to the driver a positive motion to keep it engaged with the blank while the latter is turned to be threaded, substantially as described.

RE-ISSUE.

BEDSTEADS—By Nathaniel Colver, of Abington, Mass. Patented April 24, 1849: I lay no claim to a combination of rest bars or boards, spiral or wound wire springs, a sacking and closing frame used to support a cushion or mattress, such a combination having been employed in the manufacture of sofas and other articles of furniture.

I claim the method in which I construct the foundation of the bed or mattress by means of the above described pliances or their equivalents, to wit, the lacing and the clamps and keys or wedges, so as to render the bedstead portable by being taken apart, or enfolded, the one part over the other, or united together, that is to say, I claim the combination of the two frames or halves of a box, each of said frames or halves consisting of a side, two ends, and bottom or slats, supporting wire, springs and a sacking affixed to its side and two ends, and supported on springs or stuffing, as occasion may require, and these halves or parts so united that when together or unfolded, they form but one box or frame supporting or holding fast the sacking at its entire extremity without any separating or supporting partition in the centre, and this union or junction of the two posts is effected by the above described lacing or its equivalent, and clamps, keys, wedges, or their equivalent.

I lay no claim to any one of the elements of the aforesaid or above described combination, when separate from the rest, but intending only to claim the whole as combinations, constituting a bedstead or foundation for a bed or mattress, to which the parts, as above described, or their equivalents may be applied, as aforesaid.

DESIGN.

PARLOR STOVE—By J. D. Green (assignor to Alex. Morrison & T. M. Tibbitts), of Troy, N. Y.

For the Scientific American

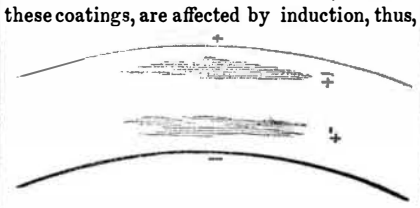
Thunder Storms, Electrical Phenomena.

I received the following letter from Prof. Henry, of the Smithsonian Institution in reply to the account of my aerial voyage from Portsmouth, Ohio, on the 3d inst., and of which I sent you a copy. The hypothesis here laid down, seems to be strongly sustained by the facts, as I witnesed them during that voyage. I would here remark what I forgot to mention in that account, that the electrical discharges in the lower cloud seemed to me, at the time, to be caused the same way that corruscations are caused on the surface of the "Lightning Jar," because the cloud stratum was always broken and imperfect on the upper surface, where these discharges took place —the fluid jumping from one point of cloud to the other. As these facts must be interesting to meteorologists, particularly electricians, and as my account has been published, I will here quote Prof. Henry's letter :—

"SMITHSONIAN INSTITUTE, June 16, 1852.

Dear Sir—Please accept my thanks for the copy of your account of the phenomena observed relative to the thunder storm which you encountered in your last adventurous aerial voyage.

The fact of two clouds, one above the other with a discharge between them, is in accordance with the hypothesis that most of the effects of atmospherical electricity is due to the inductive influence of the electricity of space around the earth and beyond the atmosphere. According to this hypothesis, the atmosphere of our globe is in the condition of a charged Leyden jar, of which the outer coating is the vacuum beyond the air, the inner coating the earth's surface. The clouds in the air, between these coatings, are affected by induction, thus,



the space without being + and the surface of the ground —, then, as a cloud ascends, the upper surface will, by induction, become strongly — and its lower surface +. The same will also take place but with less intensity in the lower cloud, and if the two be sufficiently near, the electricity from the upper will pass to the lower, and this in turn will discharge itself into the earth with loud explosions.

If I could have an opportunity of being with you at starting, with a proper supply of apparatus, I would be pleased to suggest a series of observations. There is a gentleman now connected with the Smithsonian Institute, who would be willing, had he an opportunity, to make an excursion with you for the purpose of observation. Very truly, your obedient servant, JOSEPH HENRY, Sec. S. I.

John Wise, Esq., Aeronaut."

Lancaster, Pa., June 26, 1852.

Sal Ammoniac.

A great deal of the sal ammoniac which comes to this city, (New York) is manufactured in Edinburgh, Scotland, out of the refuse materials of the gas works.

The Edinburgh Gas-works are situated in the valley of the Canongate, which runs from west to east towards the sea. The chemical works, where the products of the gas-works are turned to account, are distant about two miles from the latter, and the gas-works are at a lower level. The Calton Hill is interposed between the two manufactories; and at a former period the gas liquor was carted in barrels to Bonnington on the Water of Leith, where the chemical works are situated. Recently, however, the gas liquor has been lifted over the shoulder of the Calton Hill by an ingenious force-pump, and the difference of level is then sufficient to carry the liquor to Bonnington, which, though higher than the Canongate is lower than the Calton Hill.

The liquor separates into two strata; the lower and heavier being tar; the upper and lighter, an impure aqueous solution of carbonate and hydrosulphuret of ammonia; this is called the ammoniacal liquor. It is the less valuable of the two liquids, and is treated as follows :—To separate it from a portion of tar which always accompanies it, it is subjected to distillation. The distilled liquid is in greater part converted into salammoniac, but a considerable quantity is also manufactured into sulphate of ammonia.

The first step in the sal ammoniac process is, the neutralization of the distilled liquor with hydrochloric acid, which as well as sulphuric acid is made at the works. The neutralized solution is then pumped into large caldrons, where it is concentrated till it has reached the crystallizing point. It is then drawn into large vats or troughs, where, as it cools, it deposits multitudes of small feathery crystals, consisting of rows of minute octohedrons or allied forms attached to each other. In cold weather beautiful large cubes of sal ammoniac are sometimes produced.

The feathery crystals are transferred from the troughs to a drying apparatus, consisting of a shallow oblong open box, made of stone, and heated by a furnace below. The dried salt, in a state of granulation resembling brown sugar or salt, is then mixed with charcoal-powder, which is intended to reduce any oxide of iron present, so as to prevent a brown color being given to the sal ammoniac when raised in vapor. The salt after this treatment is subjected to sublimation. The subliming vessels are shaped exactly like a man's hat, arranged in the furnace with the crown downwards. They are some three feet in depth, and two and a half in diameter. When charged with salt they contain a quantity of material sufficient to demand a week's unceasing application of heat for its sublimation. Each pot is covered by a metal dome or cupola, which is luted on with clay, and has an aperture in the centre through which the salt is allowed to sublime away, for some period after the commencement of the process. This occasions a considerable loss of material, but no other way is known of securing a hard, coherent sublimate. There seems reason to believe that the presence of moisture in the imperfectly dried salt, is the cause of its condensing at the commencement of the process as a spongy mass. At all events a firm cake does not form till after some time. The workmen proceed empirically, and when they judge that a sufficient interval has elapsed, they close the central aperture in the metal dome by a plug of clay, and the sublimation continues for a week. The hemispherical cakes of salammoniac thus produced, are rasped on their outer surfaces to remove any crust or coloring matter, and broken into wedges, which are packed in barrels and sent all over the world.

Extension of a Patent.

On the petition of Robert Newell, of New York City, praying for the extension of a patent, granted to him on the 25th of September, 1838, for an improvement in manifold permutation locks, for seven years from the expiration of said patent, which takes place on the 25th of September, 1852.

It is ordered that the said petition be heard at the Patent Office on Monday the 6th of September, 1852, at 12 o'clock M.; and all persons are notified to appear and show cause, if any they have, why said petition ought not to be granted.

Persons opposing the extension are required to file in the Patent Office their objections, specifically set forth in writing, at least twenty days before the day of hearing; all testimony filed by either party to be used at the said hearing, must be taken and transmitted in accordance with the rules of the office, which will be furnished on application.

THOS. EWBANK, Com. of Patents.

Washington, July 7, 1852.

Snake Bites.

The tincture of *lobelia*, given in doses of a table spoonful every few minutes, is said to be a perfect cure for the bite of a snake if taken in time. The person bitten should tie up his leg tight as quick as possible above the wound. It is well known that one or two of our southern correspondents have stated that if a person is bit by a snake, an antidote for it, is at once to chew a good piece of tobacco in the mouth, lay it on the bite and tie up. Brandy is also said to be a cure for the bite, if applied quickly outwardly and inwardly.