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Coffee and Milk.

Dr. D. A. Caron, of Paris, has recently been engaged in investigating the effect of breakfasting on this favorite beverage, and from the results, he thinks that he is justified in asserting that most of the nervous and allied disorders which affect the dwellers in large cities are traceable to this source. He further informs us that when the coffee is mixed with milk, its nutritious properties are neutralized because of its fermentation being retarded. Coffee and milk in a bottle were twenty-seven days before they began to decompose, whilst milk and sugar were only three days. It is evident that the astringent properties of the coffee hinder the digestion of the milk; and, at the same time, the caffeine (or active principle of coffee) is set free, and acts on the membrane of the stomach in the same manner as vegetable alkalies, producing most disastrous consequences to the digestive apparatus. He tried many experiments on himself and friends, and found that in a few hours the pulse was lowered from 80 to 68, from that it went down to 56, when he took some food, and it immediately rose to 72. He concludes by informing us that many cases of irritation, nervousness and hysteria have been entirely cured by a gentle course of tonics, and giving up the use of coffee.

Improved Brick Machine.

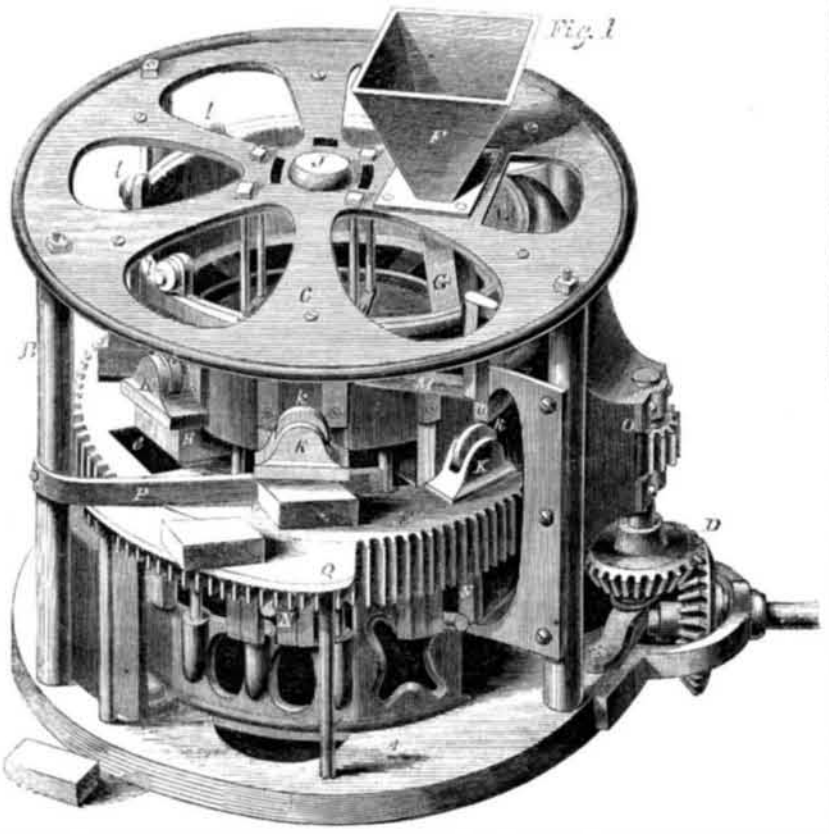
This machine is intended to make bricks from dry clay by pressure, and the various mechanical contrivances of which it is constructed are designed to feed exactly the proper amount of clay into the mold, and to give it a slow, steady pressure from the top and bottom simultaneously. Various thicknesses of bricks can be made in one machine, and a large one, operated by two horses attached to a twelve foot lever, will make sixty bricks per minute.

Fig. 1 represents a view of the machine, and Fig. 2 a top view of the same with the upper cover or frame removed. The same letters of reference indicate similar parts in each. A is the bed plate, B the standards, and C the top of the machine. D is the gearing which gives motion to the whole. E is a large wheel, in the rim of which are a number of rectangular perforations, *e*, exactly the size of the brick to be manufactured. J is the central shaft of the machine. Having now given an outline of the principal parts, we will proceed to describe, first, the feeding device, and then the press or brick-making apparatus.

The feeding device consists in the hopper, F, and spout, G, into which the dry clay is placed; from this it falls into rectangular boxes, H, (Fig, 2) having no top or bottom. These have small bars attached to their backs, having on them studs that work in a groove in the cam wheel or eccentric, I (shown by dotted lines in Fig. 2); this eccentric is fastened to and suspended from the upper frame work, and the boxes moving round it are pushed out over the mold, *e*, when the two plungers are farthest apart, and so delivers the clay into the mold, and are brought back when the plungers begin to be compressed on the mold. The brick-making device is very simple and perfect. There are a series of

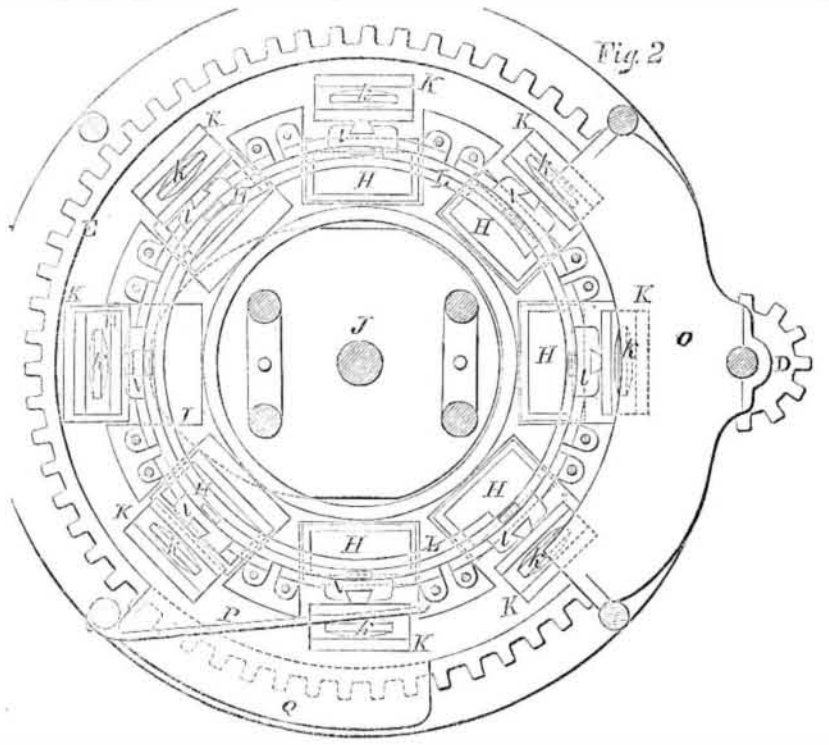
JAYNE'S BRICK MACHINE.

Fig. 1



plungers, K, on the top, each provided with a friction roller, *k*, and are attached at the back to an inner metallic circle, L, by means of a little wheel, *l*, travel over an inclined track, M. There are also a corresponding number of bottom plungers, N, one for each mold, which work in slots in the reverse direction to the top plungers, and so arranged that they separate and meet in union. The yolk, O, is a heavy casting, as strong as possible, and having its edges turned in as seen at *o*, Fig. 1, and these incline towards each other forming

Fig. 2



a circular inclined plane on which the bottom plungers, N, and under which, the top plungers, K, have to travel.

The operation is as follows:—The gearing, D, is turned, and the clay filled into the hopper, F, from which it falls into the boxes, H, and from them into the holes or molds, *e*; they with their plungers, N and K, pass under the inclined edge of *o*, and so a gradual but powerful pressure is given them; the pressure is sufficiently slow to allow the air to perfectly escape, and powerful enough to make a perfect brick. The plungers then rise, thus forcing the brick into the rim of E, where it meets with the guider, P, and that pushes it in to the platform, Q, from which an assistant takes the bricks to the kiln to be baked. The process is continuous, and a most perfect brick is turned out. Any power can be used, and any number of bricks made in the machine.

It is the invention of Joseph W. Jayne, and was patented by him on the 5th of May, 1857. For further information, address the inventor at Philadelphia, Pa., or Wm. B. Betts, St. Louis, Mo.

Californian Ingenuity.

The Mechanics' Fair which we announced as the first to be held in the Golden State, was a decided success industrially and pecuniarily. The show of articles was in every way creditable, and the receipts amounted to $19,275 against expenses of about $11,000. The following is given as a list of California inventions, many of which were the result of much experiment and ingenuity:—

Breech-loading gun; beam engine, driven by weight; bridge models; brick-making do.; coffee-pot; can, non-evaporating; cooperage machinery; elastic hose; fly-killers; fire and steam regulators; gas and gas works; graduating bit; gear-cutting machine; lard lamp; locks; lamp reflectors; mineral oil, from schist; meat chopper; neutralizing valve slide for steam engines; ox shoes, improved; planing machine; quartz crusher, togglejoint; quartz machine; rifles, double-barrel; self-coupling for cars; soap, from soap-root; self-opening and shutting gate; sluice-forks; stoves and piping; safe-locks and alarm safe; sash balance; specie boxes; steam alarm; telegraph, spiritual; vaccinator; wind-mills; washing-fluid; water elevators; yacht rig, improved.

The Breech-Loading Rifles.

The Secretary of War has decided that the report of the Board for the trial of breech-loading rifles at West Point is not conclusive in favor of any one of them as a standard government gun; nevertheless he proposed to give General Burnside a contract for 1,000 of his rifles at the liberal price of $40 each. This would cover one half of the "Breech-loading Rifle Fund," the remainder to be distributed among the other competitors in the order of merit reported by the Official Board.

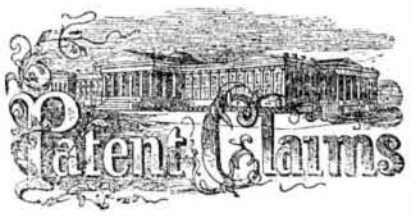
General Burnside declines the contract, and the whole sum, between $70,000 and $80,000, will now be equitably divided in contracts among those of the competing inventors whose rifles seem best adapted to government service.

Our readers will find the report referred to in No. 7 of our present volume.

The Minie Rifle Ball.

The weight of the Minie ball is about one and a half ounces, and the weight of powder for the charge about one-tenth as much. The cartridge is so constructed that, encased in paper, and greased by dipping it in tallow, it slips easily into the barrel till it arrives at the charge. In this respect, the Minie has greatly the advantage in saving of time and labor of forcing down the ball with the ramrod. These balls have a range of ten hundred to twelve hundred yards, with an elevated "back sight" perfectly within the command of the marksman, and just as easily used as any short range or point blank shot.

ARTIFICIAL WHALEBONE.—Edwin Young, of Philadelphia, has sent us some excellent specimens of prepared ratan, which seem to possess all the useful properties of the whalebone.



Issued from the United States Patent Office

FOR THE WEEK ENDING NOVEMBER 10, 1857.

[*Reported officially for the Scientific American.*]

PROJECTILES—Henry Bates, of New London, Conn. I do not claim the attachment to a projectile of a tail, to be inserted with it into a gun, and to be extended after leaving the gun, as I am aware that tails of such character have been applied to gun harpoons for whaling purposes.

I claim first, the employment of a tail, consisting of a spiral spring or coil of wire applied to the bomb or other projectile, as and for the purposes set forth.

Second, Securing the fuse in the fuse tubes of the bomb, by bending the said tubes after the insertion of the fuse therein, as described.

[This improvement will be found described in another column.]

FORMING ROUND TENONS ON WINDOW BLIND SLATS—Thomas C. Ball, of Keene, N. H. : I do not claim the combination of machinery for pricking the staples' holes and forming the journals and shoulders.

But I claim the arrangement and combination of sliding shoulder cutters or their equivalents, and sliding tubular journal cutters, to operate together, substantially as specified.

SAWING MACHINE—Harvey Brown, of New York City : I do not claim a saw or band running over pulleys, without reference to its construction and operation.

First, I claim the ways, H, constructed substantially in the manner and for the purposes as set forth.

Second, I claim the arrangement of gearing for the purpose of moving the carriages, I I I I I, on the ways, H, substantially as set forth.

Third, I claim the pulley, g, with its appendages of the pawl, h, and ratchet wheel, r, in connection with the projection, i, and the dogs, f, by means of the cords or chains, k, substantially in the manner and for the purposes described.

I do not claim the projection, i, the dogs, f, or the chains, k, separately, as they are not new, and may be altered in their form in my mill, and so used in connection with the pulley, g, and its appendage, which is my claim, as above.

Fourth, I claim the entire arrangement of my mill, by which a series of carriages are brought forward on endless ways to an endless saw, and each log upon its carriage being accurately set as it passes the projection, i, and thereby securing accuracy, rapidity and efficiency, substantially in the manner and for the purposes set forth.

CORN HUSKER—Joseph Cawthra, of Rochester, N. Y.: I claim the grooved rollers, l k, saw wheel, 4, and endless apron, p, in combination with the husker 2, grating 3, and curved tooth fan, 1, the whole being constructed as set forth.

DETERMINING APPROXIMATE LATITUDE AT SEA—Edward Cavendy, of New York City : I claim the described method of determining approximately the zenith of the observer, under the circumstances set forth.

EARTH-MOVING MACHINE—John Cowdon, of New Orleans, La. : I claim the combined arrangement of the gear wheels, 3 4 5 6 7 8 9 10 11 13 13 14 15 and 16, and pulleys, 17 18 19 20 44 45 and 46, and the chains or cords, f h and J, all arranged on the shafts as represented, or substantially the same, and for the purpose of giving and regulating the forward motion of the machine and movement of the elevators, in the manner and for the purposes mentioned.

I also claim the construction of the elevators by dividing them into three, more or less, pieces, and arranging the pieces, 31 32 and 33, to the chain, 26, and hook pieces, 34, as specified and represented, or substantially the same, for the purpose of causing them to expand or spread for freeing the dirt from the elevators, when being discharged, in the manner and for the purposes specified.

I also claim the combination and arrangement of the parts with, and employed for carrying the end of the conveyor frame, consisting of the carriage, P, cord, o, and pulley stake, 59, friction rolls, 30 30, and driving pulley, 50, or substantially the same, operated in the manner and for the purposes specified.

I also claim the combined arrangement of the shaft, 37, nut, 38, wheel axis, 39, with the frame-work, 41, as represented, for elevating and lowering the rear end of the frame of the machine preparatory for steering and giving the machine direction, as specified.

DISTRIBUTING APPARATUS IN FLOURING MILL—James M. Clark, of Lancaster, Pa. : I do not wish to be understood to claim a double series of spouts and valves, as that has been done before.

But I claim the adjustable or hinged spout or series of adjustable or hinged spouts, as described, for the purpose of rejecting, mixing, separating, re- olting, or regrinding and re-bolting any portion of the lower grades of flour, as set forth.

Second, I claim the combination of the adjustable or hingedspout, or series of adjustable or hinged spouts, with a single series of slide valves or valve, the circular division, y, the conveyor, J, and scraper, N, as set forth.

HOISTING APPARATUS FOR BRICKS, &C.—John Crawshaw, of Rochester, N. Y. : I claim elevating articles within a vertical trunk by means of the mechanism shown, or any equivalent device, so that the articles will be raised with a continuous motion within said trunk.

I further claim the reciprocating plunger, C, clamps, I I, and arm, n, operated by the cams, E G J, or their equivalents, and used in connection with the dogs, M, the whole being arranged to operate conjointly as and for the purpose set forth.

[For more information about the above we refer to a notice on another page.]

PULLING BEANS—Justus Day, of Murray, N. Y. : I claim the movable head, arranged and operated as described, for the purposes set forth.

RAILS FOR RAILWAYS—Timothy Dwight, of New Haven, Conn. : I claim the rail with its flanch or flanches, in combination with the sill adapted to fit the lower part of the rail, as described; and these I also claim in combination with the screw bolt and nut, as described.

ATTACHING STEAM GAGES TO LOCOMOTIVE BOILERS—J. L. Eastman, of Boston, Mass. : I claim interposing between the gage and the boiler the elastic cushion or spring, so that the jar or vibrations of the engine shall not be transmitted to the gage, as set forth and described.

[This invention consists in the intervention of a spring box and flexible tube between the steam gage and boiler of a locomotive, so that it will not be affected by the shaking of the engine when in motion.]

HOLDING MUSIC, &C.—André Adolphe Gaget, of Paris, France : I claim the construction and employment of the hooks, D, and holdfasts or braces F, in connection with the back, A, for the purpose of binding together the music manuscripts, and other loose papers, substantially as described.

SEEDING MACHINES—Albert Franklin, of Genoa Cross Roads, Ohio : I claim the combination of the wedge-shaped or triangularly-formed discharge openings, h i, of the hopper, C, with the similar shaped cells, m n, in the feed cylinder, B, arranged for operation in the reverse directions to each other, and the several cells in each circular row of said cylinder, forming through a continuous opening, by means of channels, Z, connecting the apex of the one cell with the base of the other, for the purposes set forth.

STOVES FOR BURNING TAR, SAW-DUST, &C.—Samuel Fisher, of Canton, Mass : I do not claim combining with a fire pot or place and air flue or chamber for air to pass through and over the fuel, when the fire pot or chamber has a grate, and a current of air passing up through the grate and the fuel on the same, for in my stove there is no grate, and an upward current running through the entire mass of fuel would consume the fuel too fast, and render the stove liable to explode.

But I claim an improved stove of the kind and for the purpose as described or as constructed, not only with a fuel chamber, without a grate or air passage or passages through its bottom, but with an air chamber, arranged in front of the chamber of combustion, and made to communicate therewith and the external atmosphere and the side flues, whereby air can be supplied laterally to the chamber of combustion, and made to pass over the same, and down into the flues, such air not only supporting slow downward combustion of the fuel, but serving to create draft down the flues, so as to carry off the smoke and combustible gases, and prevent explosion of the stove.

FRUIT GATHERERS—Firman Goodwin, of Astoria, N. Y. : I claim the frame, A, formed of the elliptical and annular rims, a b, and socket, B, the socket having an oblique position relatively with the frame of the outer, a, having the bag, D, attached, and the rim, b, provided with the projections, c c, and openings, d d, as and for the purposes set forth.

[A peculiar shaped metallic ring is set in a handle, and has a bag fastened to it, for the fruit to drop in, and it forms a simple and useful fruit gatherer.]

WATER-PROOF SOLES AND HEELS FOR BOOTS AND SHOES—Benjamin D. Godfrey, of Milford, Mass. : I do not claim making a heel separate from a sole, as this is common to leather shoes.

But I claim the employment of a cast heel of india rubber with an entire sole of rolled or sheet rubber, substantially as set forth, as an improvement in the manufacture of rubber shoes.

CORN HUSKER—Samuel A. Gould, of Seneca Falls, N. Y. : I claim the trip lever, E, in combination with the lancet-shaped knife, D, the guide, C, and the slotted lever, B, the whole being constructed and operating as described.

SPRINGS FOR MATTRESSES, CHAIRS, &C.—William Hersee, of Buffalo, N. Y. : I claim supporting or maintaining the spring, A, in a proper vertical position upon the slat, C, by means of the guide pin, B, secured within the spring by means of the head, a, and block, b, the lower end of the pin being fitted, and working in or through the socket, D, in the slat, C, as and for the purpose specified.

[Guide pins are fastened into the slats to prevent the spring from warping; they are placed in conical blocks, and slide through slots or sockets inserted in the slats.]

COOKING STOVES—James R. Hyde, of Troy, N. Y. : I wish it distinctly understood that I do not broadly claim so constructing a stove that heated atmospheric air can be admitted at the same, or at different times, into the fire chamber at different places above or beyond the fuel, from one or both of two separate air-heating chambers, by the use of the dampers by which the admission of cold air into such air-heating chambers is controlled, for the purpose of promoting the combustion in different parts of the fire chamber of the gases evolved by the burning fuel.

I claim the arrangement of the hot air chambers, A B and C, the chambers, A and B, being so constructed that the air can be admitted to or excluded from them, entirely independent of the chamber, C, by means of the registers, c and E, and being provided with apertures, a and b, in the manner and for the purpose specified.

CULTIVATORS—David E. Hall, of Abington, Ill. : I am aware that cultivators have been previously devised, in which shares have been so arranged as to allow a certain degree of lateral movement; but I am not aware that shares have been arranged and applied as shown, to admit of the two movements described, and rendered capable of being adjusted with such facility.

I therefore do not claim, broadly and separately, the adjustable shares, irrespective of the arrangement shown and described.

But I claim the attaching of the shares, P P, to the bars, I I, which have their back ends pivoted in the pendants, H H, and their front ends fitted in the pendant slotted bars, J J, which are attached to the sliding bar, K, the bar, K, being operated by the treadles, M, to give the lateral movement to the shares, and the bars, I, used vertically by the treadles, N, to give them their vertical movement, as described.

I further claim the cutters, Q, pivoted to the bars, o, and over the plates, R, and connected to the rods, l, the whole being arranged as shown for the purposes specified.

[By giving a lateral and vertical motion to the shares under control of the person guiding the cultivator, it is enabled to follow the sinuosities of the furrows; and it also has cutters attached, for cutting up stalks or weeds that may be in the way.]

TURNING SPIRAL FORMS—John C. Hintz, of Cincinnati, Ohio : I do not claim the oppositely-rotating cutters as new in themselves.

But I claim, first, in combination with the adjustable screw-cutting lathe, the described construction and arrangement of the gravitating frame, L, and concentrically and oppositely rotating cutters, K K′, whereby the latter are made to cut in unison, and always over a point in the axis of the piece, in the manner and for the purposes set forth.

Second, In this connection I claim the pair of finishing bits, z z′, operated automatically by means of the screw stem, 1, ratchet wheel, 2, tappets, 3, and spring pawls, 4, as described.

Third, In combination with the adjustable screw-cutting lathe, rotary cutters and gravitating frame, as aforesaid, I claim the described construction and arrangement of the roller, q, and bracket, p, whereby (the brace, O, being disconnected) the said cutters may be vibrated in a (substantially) horizontal plane, at any desired angle to the stuff, for the production of spiral or oblique flutings on a prismatic post, as explained.

FEEDING PAPER TO PRINTING PRESSES—Richard M. Hoe, of New York City : I do not claim feeding sheets of paper to printing presses and analogous machines by means of a feeding cylinder, in connection with a series of endless belts or tapes, and a drop roller, for such device is well known, and in common use.

But I claim giving the drop roller, F, a constant or regular speed, corresponding at all times to that of the other running or working parts of the device, by bringing said roller, F, when in an elevated position, and detached from the cylinder, D, in contact with the impelling roller, O, actuated by the belts or tapes, K, as and for the purpose set forth.

[This is described on another page.]

PATTERNS FOR CUTTING OUT THE UPPERS OF BOOTS AND SHOES—W. W. Merriam, of Oswego, N. Y. : I do not lay any claim to the extension pattern, which can be operated in such manner as to produce the various sizes of patterns.

But I claim the method described of operating the sliding parts of an extension pattern, so as to adjust the same not only to different sizes, but also to change the proportions of the several sizes at pleasure, without regard to the whole, as set forth.

LIFTING JACK—Lucius J. Knowles, of Warren, Mass. : I claim the loose collar, C, having a series of teeth arranged upon its inner face, in combination with a screw head, D, carrying a drop clutch, when arranged and operating in the manner and for the purposes as described.

SPRING HINGE—John Maxson, of De Ruyter, N. Y. : I claim one or more springs acting against an inclined plane curved or otherwise, with a recess at the end so arranged as to close and hold a door, substantially as described.

I also claim, in combination with the above, a coiled spring, so arranged as to assist the feather spring or springs, substantially in the manner described.

GRAIN DRILLS—Joseph Ingils, of Fayette County, Ind. : I am aware that a sced slide has been operated from a zig-zag wheel, and caused to draw or force the grain to the exit; this I do not claim.

But I claim, in combination with the cells G, the feeding blocks, P, vibrating in said cells, and provided with recesses, S, for catching and forcing the grain to the exit openings, as described.

FIRE PLUGS—Lucien Moss, of Philadelphia, Pa. : I claim the arrangement of the fire plugs, so that a gas pipe may be introduced within the metallic or other non-combustible casing surrounding the water pipe, or plug proper, said gas pipe being so arranged with openings or burners that the flame and heat produced thereby, caused by the gas flowing from them, being ignited may be made to act upon the water pipe, and cause the water therein to be thawed, if it should, by accident, or from neglect, have become frozen, or to produce within the metallic or other non-combustible casing, a temperature that will prevent the water in the plug proper from becoming frozen during times of extreme cold.

PLOWING MACHINES—Henry Moeser, of Pittsburgh, Pa. : I do not claim, broadly, the operating of a gang of plows on an endless chain, transversely or obliquely to the line of draught.

But I claim, first, The arrangement and combination of the transverse beam, F, connecting links, a a, chains, H H, driving pulleys, K K, pulleys, J J′, and wheels, G G, or any other equivalent devices, when operating in relations to each other and to the steam carriage, as set forth and for the purpose described.

Second, The arrangement of the guiding bar, N, supported on the transverse beam, F, and the forks, f f, on the plow carriages, or any other arrangement substantially the same, for the purpose of guiding the plow carriages, as described.

CUTTING BREAD—James Naughton, of Cincinnati, Ohio : I claim the arrangement of the swinging plate, h h, gage plate, g, and set screw, C, when arranged with the spring, 5, and curved lever, J K, for gaging the thickness of the slice of bread cut, and discharging it from the machine by the action of the lever, f f, on the curved lever J K, all as and for the purposes specified.

PROTECTING TREES FROM CANKER WORMS, &C.—A. T. Nute, of Roxbury, Mass. : I claim my improved method of protecting a tree from the ascent of canker worms, the same consisting in applying finely pointed metallic wires or one or more strips of card teeth to the same, substantially as described.

BULLET MACHINE—Wm. H. Ward, of Auburn, N. Y. : I claim, first, Arranging the feeding clamp and mechanism for operating it, in such a manner that the limit of the backward motion remains unchanged, while the forward motion is regulated by the amount of wire required to form the blank as set forth.

Second, The combination of the adjustable stop, k, the wire, and the mechanism for carrying the wire forward, for the purpose of regulating the length of the feed, without changing the limit of the backward motion of the feeding mechanism.

Third, The method of regulating the size and density of each blank before it is severed from the wire by means of a pair of compressing forceps, or their equivalent.

Fourth, The employment of two pairs of cutting and grasping forceps, or their equivalent, for dividing the wire, so arranged and operated as to grasp the wire as described, and sever it between their adjacent faces.

Fifth, The combination of the oil box arranged as described, with the cutting forceps, for the purpose set forth.

Sixth, The combination of the discharging collar, with the punch, and the mechanism for opening the dies, for the purpose of releasing the bullet from the dies, and discharging it from the machine.

Seventh, Arranging the joint between the two pair of forceps, so as not to be in the same plane, for the purpose set forth.

Eighth, Arranging the groove around the cavity in the die as described, so as to allow the air to escape from the die and prevent the passage of the lead into the groove.

Ninth, Making the opening in the die of less diameter than the base of the bullet, and of the exact size of the blank, for the purpose set forth.

Tenth, The method of gaging the blank, and forming the base of the bullet by means of an annular projection in the base of the die.

Eleventh, The method of forming bullets of variable weight and of the same external form, with the same set of dies and punches, by constructing the die with a projecting annular base, so that the punch can be entered into the blank a greater or less distance, and thus expand the recess in the base of the blank, so that it will accurately fill the die, and thus form a perfect bullet.

PRINTING PRESSES—Stephen Wilcox, Jr., of Westerly, R. I. : I claim, first, The adaptation of the eccentric segment, B, to the stationary bed, A, when said segment is held to the bed by radius bars, C C, and operating substantially as set forth.

Second, The elastic fly bending round the platen and operating as described.

HUSKING PALM—D. E. Shaw, of Ross County, O. : I do not claim a husking peg to be worn across the inside of the fingers.

But I claim the husking palm, to be used on the palm of the hand for husking and breaking off the butts of corn, constructed and operating substantially as described.

INSTRUMENT FOR SURVEYING AND CALCULATING AREAS—J. M. Lilley, of Greenville, Va. : I claim the combination of three scales, A, B, C, and quadrant, E, as used for the purposes already set forth.

PLOWS—Horatio Stanley, of Green, Pa. : I claim the construction of the plow frame, with the rollers, as described, and so constructed that any number may be attached to the same axle-tree by means of the frame, F g. 2, constructed as described, or any other substantially the same.

GRINDING MILL—Charles Tripp, of Ann Arbor, Mich. : I do not claim a burr formed of a series of saws for grinding, for such device has been previously used, and although perhaps preferable thus constructed is not absolutely necessary in my improvement, as burrs constructed in other ways, and of a different material, such as stone, may be used with success.

But I claim the adjustable rests, G, placed between the projections, e, and the plate, C, constructed substantially as shown, and provided with the discharge throats, I, in combination with the burr, F, it being understood that I do not confine myself to the ring, H, and other parts shown and described, for adjusting the rests, G, but claim such means or any other means arranged to effect the same purpose.

[A notice will be found on another page.]

WINDOW SASH—Francis Thrasher and H. B. Horton, of Akron, O. : We claim the locking friction strip, for the purpose of raising the window with ease, and sustaining it at any height, substantially as set forth.

CLAMP FOR CENTERING HUBS FOR BORING—John Thrasher, of Avon, N. Y. : I claim the combination of the vibrating arms, I I, links, J J, and screw, L, constructed and arranged substantially as described, for the purpose of centering and holding the hub while it is being reamed or bored and reamed.

LAST HOLDERS—A. J. Tewksbury, of Haverhill, Mass. : I claim the ball and socket joint, A and E, in combination with the spring bolts, B and G, substantially as set forth and for the purpose specified.

GENERATING ANHYDROUS STEAM—Wm. M. Storm, of New York City : I laim the arrangement of means substantially such as set forth, for rendering steam anhydrous, without the exposure of the tubes or drying vessel to the direct action of the fire or hot products of combustion.

REVOLVING SNOW EXCAVATORS FOR RAILROADS—J. Urmy, of Wilmington, Del. : I claim, first, The obliquely set side paddle wheels, C C, whose axis lies in a plane, vertical to, and at right angles with the track and diverges downward from a point over the center of the track, and whose arms, radiating in a plane at right angles with said axis, have upon their extremities edged or toothed paddles, e e, so arranged as that each one shall, when at the lowest point of the plane in which it revolves, be in a horizontal plane and oblique to the rail of the track, substantially as and for the purposes set forth.

Second, The central paddle wheel, E, revolving in a vertical plane at right angles with the track, in combination with the obliquely set side paddle wheels, C C, the whole arranged substantially as and for the purpose described.

SUB-SOIL PLOWS—John Wood and Reuben North, of Rochester, Wis. : We are aware that a sub-soil attachment to plows is very common; also, that a thin, fixed blade has been arranged under the bottom of the surface plow, therefore we do not claim such attachment as our invention.

But we claim the combination of the auxiliary or sub-soil share, and its adjustable standard, with the adjusting lever and its attachments, when the whole is constructed and arranged in the relation to the main share and beam, as described, and for the purpose set forth.

[A full description, with an engraving, will be published in the SCI. AM. in a few weeks.]

MACHINERY FOR DRESSING WARPS—Saml. Campbell, of Whitestown, N. Y., assignor to John C. Whittier, of Northbridge, Mass. : I claim the method of dressing warps by means of brushes above and below each section of yarn, said brushes being alternate in their movement, and constructed to come in contact with, and leave the yarn gradually by the mechanism described, or any other substantially the same.

LATERAL FEED MOTION FOR SAWING MILLS—K. R. Olmstead, of Chicago, Ill. : I claim the combination of a lever and cam or eccentric with an inclined plane, set rod, wheels, and racks, constructed, arranged and operated substantially in the manner and for the purposes set forth.

DIGGING PLOWS—Ezra Peck, of Deer Park, N. Y. : I wish it to be understood that I do not claim a rolling cylinder with either straight or curved teeth, as this has before been used, but I am not aware of any tooth having before been constructed and shaped in the manner shown so as to enter the earth with only a very small expenditure of power as the cylinder progresses.

I claim the coulter, g, and its horizontal shear, 7, in combination with the cylinder, k, of teeth, l, the whole constructed and acting substantially as specified.

HARNESS BUCKLES—John Prendergast, of Boston, Mass. : I do not claim a buckle formed with a bridge for support of its tongue, when the front end of the tongue is arranged with respect to the body of the buckle as above specified.

But I claim in constructing a buckle with a supporting bridge for its tongue, and with the end of its tongue bent upward as specified, is forming such tongue with a recess or shoulder, b, in order that the strain on the tongue may be so borne by the body of the buckle as to relieve the joint of the tongue from the strain and wear thereof that would result therefrom.

SIGNAL LANTERNS—J. R. Pierce and Leavitt B. Austin, of Oswego, N. Y. : We claim the combination of a traversing chimney and lamp, so arranged as to avoid the bad effect of the lamp's smoke in signal lanterns in the manner set forth.

SEEDING MACHINES—Ephraim Russell, of Coatesville, Pa. : I claim, first, The combination of the screw friction clutch with the cam wheel, in the manner described.

Second, The adjustable jointed conveyor spouts when constructed in the manner and for the purpose specified.

PROTECTING TREES FROM CANKER WORMS, &C.—P. C. Rowe, of Boston, Mass. : I am aware that for such purposes an encircling plate or roof has been applied around the trunk of a tree; also, that cotton batting or loose fibrous material has been wound around and fixed to the body of a tree, consequently I do not claim such means of preventing the ascent of canker worms,

But I claim my improved tree protector made as described, viz., with the encircling roof or cover of metal or other suitable material, and one or more circular or surrounding fringers suspended from the said roof and around the tree substantially as described.

HORSE SHOE NAIL MACHINE—John Wootton, of Boonton, N. J. : I claim, first, The employment of the nail rod itself as a ratchet, constituting part of a ratchet motion, by which it is fed longitudinally to the machine, substantially as described, thereby insuring infallibly a proper length of feed, and dispensing with the necessity of gages to regulate the feed movement.

Second, Giving to the punching apparatus a motion laterally to the nail rod, in addition to the longitudinal movement of the rod substantially as described, so as to produce a combined longitudinal and lateral feed motion.

[For information about this invention we refer to page 83.]

QUILTING FRAMES—H. N. Dewey (assignor to B. L. Hill & Co.) of Berlin Heights, O. : I do not claim an adjustable quilting frame as such.

But I claim the vertically adjustable arms, B B, having spring jaws for adjusting the bars, C C, as set forth.

LARD RENDERING KETTLES—Allen Lapham (assignor to himself and J. B. Bennett) of Brooklyn, N. Y. : I am aware of the patent of J. J. Bate, Oct. 21, 1856, wherein is claimed the combination of a double steam kettle, with an annular chamber, and I therefore disclaim any part of his invention.

I claim in combination with a steam kettle, a vertical hollow steam cylinder supported upon pipes, D D, as described, whereby I am enabled to concentrate great heat upon the material rendering, thereby saving fuel, and making the kettle easy of access for the purpose of cleaning, as set forth and specified.

SEWING MACHINES—E. H. Smith, of New York City : I do not claim a shuttle from which the loop of needle thread is drawn, at every stitch, as shown in the patent of Joseph Bond, Jr., of May, 1865.

But I claim the discordal shuttle constructed as set forth, and made to control the loop of needle thread substantially in the manner described and represented.

CANDLESTICKS—James Spratt, of Cincinnati, O. : I claim the method of securing a candle by the conical ferule, b, adapted within, to be drawn over the candle and tightly clasp its butt, and screwed or otherwise attached to the sconce, a, substantially as set forth.

RE-ISSUES.

PLOWS—George Watt, of Richmond, Va. Patented Dec. 9, 1856 : I claim the curved standard, with its front or concave side rounded off, and its curved surface extended to intersect the mold board along its upper edge, x x x, substantially as and for the purposes set forth.

DIAPER PINS—Joshua Heilmann (assignor to Ignatius Sturn) of New York City. Patent dated July 21, 1857. I claim the combination of the sliding curved pin, C, with the shield or case, A, substantially in the manner and for the purposes described.

SEED PLANTERS—G. W. Brown, of Galesburg, Ill.

Patent dated May 8 1855: I claim, in combination with the hinged frames or hinge-joint, the locating of the conductor's or driver's seat in rear of the supporting axle, so that as he moves forward or back on his seat, the rear frame may act as a lever for lowering or raising the seeding part of the machine, and thus throw it into or out of the ground as circumstances may require in turning around or passing over any obstruction substantially as set forth.

DESIGN.

BAROMETER CASES.—T. R. Timby, of Medina, N. Y.

A Batch of Information.

MESSRS. EDITORS:—A Polish gentleman once told me that a liquid salt (perhaps fluid borate of soda) was sold in Poland, which could be used with a brush and was employed over the whole of the inside of rooms, and rendered them completely fire-proof, in place of alum water, or solution of iron or tin.

There appears to be, a want of some article to fasten manuscripts in place of vulcanized india-rubber, which I have found to perish soon. Could not a strap of Chamois leather be easily contrived, say half an inch wide, attached to one side, and passed through an eye, similar to the elastic or French gloves?

Your article, "Steam Power versus Wind," reminded me of a conversation I had with a person in Tarrytown, who remarked, he had a freighting vessel there which made its passage almost equal to steamboats. On enquiring about her construction, I found she was built somewhat of a scow shape, drawing little water, in fact like the ice boat, working upon the surface and not displacing much water, and kept to the wind by an ingenious center board, which the helmsman can raise or depress at pleasure.

I think you are mistaken about an artificial ultramarine being produced from cobalt. The cost of the cobalt blues is more than ten times that of the average of artificial ultramarine, so much so that great pains have been taken to rid the same of the purplish hue which it has, so as to make it resemble cobalt, which, when pure, is the only pure blue color known among artists, and is much more costly for glass and porcelain pigments than any other, as I know, selling them both to consumers.

If marble is simply a carbonate of lime, why cannot it be imitated somewhat like the plaster of Paris or sulphate of lime, and in place of tedious sculpturing, why cannot cuts be made, like those of bronze? S. N. DODGE.

[Our correspondent's letter is full of varied information; therefore, we have pleasure in adding to it a few remarks of our own. The liquid glass sold in Poland is soluble silicate of soda; it is much used on the continent of Europe, and might with advantage be employed here. There is a variety of ultramarine made from cobalt combined with alumina, but the best is manufactured from alumina, silica and soda, with a little sulphur, in fact it is the artificial production of the mineral lapis lazuli.

The reason why marble cannot be very successfully imitated, is that its beauty depends upon the slowness with which it has been deposited and the pressure to which it has been subjected; we must attain some mechanical equivalents for these forces, or we shall never be able to compete with the rocks of Mother Nature, and, as yet, we do not possess them.

Effect of Saleratus on the Teeth.

Dr. S. Baker, of Portsmouth, N. H., has sent us three human teeth, one of which is perfect, another has been steeped in a solution of cream of tartar and it is slightly corroded, while the third, that has been immersed in saleratus, is completely eaten into holes. We do not, however, think this is a fair test, as we perfectly well know that in baking, it would be decomposed, and the alkali which it contains would form some less virulent compound with one of the constituents of the bread, most likely an acetate of potash, in which case the teeth would not be much injured.

Carbonate of potash or saleratus cannot be in itself so very injurious; for in Britain, where teeth are proverbially good, there is a great quantity of baking powder used, one of whose chief constituents is this same salt.

The dentists are evidently on the wrong track in trying to discover the cause of decay in American teeth, and we have an idea that were they to turn their attention to the climate and general habits of life among us, they would be nearer the mark. Let them try.

Important Patent Case.

UNITED STATES CIRCUIT COURT — SOUTHERN DISTRICT OF NEW YORK.

Before Hon. Charles A. Ingersoll, Justice.

NOV. 11.—*Alfred T. Serrell vs. Denmark P. Collins and Abijah Pell.*—This was a suit for the infringement of Letters Patent, granted by the United States to the plaintiff, Alfred T. Serrell, for a machine for making wood mouldings, in which he claims as his invention, the combination of moulding cutters with an adjustable feed ring or rings, in such relation to each other that the ring or rings shall travel in a line with the deepest cutting member of the moulding cutter and be capable of maintaining that relation under the varying circumstances of a change of form or size of moulding.

The original patent of Mr. Serrell was issued on the 16th day of May, 1848. His claim in the original patent was limited to a combination of three things: that is, the feeding device, rotating cutters, a stationary plane. He soon found that persons infringed by using only two of the three parts, that is, the feeding device and cutters, omitting the stationary plane, which was not essential to the use of the other two parts; he therefore bought suit against such alleged infringers and was defeated upon the ground that he had claimed only a combination of three things, while the alleged infringers had used only two of those things in combination, and therefore had not infringed the claim, although he was equally the first inventor of the two things alone in combination.

Mr. Serrell, in view of this defect in his patent, thereafter surrendered it and obtained a re-issue on an amended specification; and the present suit was brought upon the reissue against the defendants for using the two parts in combination: that is, the feeding device and revolving cutters in combination.

The defendants set up in defence the Woodworth Patent and a machine stated to have been made by Horace V. Seigler and one Howe, in which a feeding roller with sharp spikes in it had been used as a feeding device in combination with cutters, before the invention of Serrell, and also, that Serrell's invention was not patentable; but the defendants failed in their attempt to maintain any of their defence, and after a severely litigated trial of six days, the jury rendered a verdict in favor of the plaintiff and his patent, and found $2,000 damages against the defendants for what they had used the invention during the time between the reissue of the patent and the commencement of the suit—leaving them still liable for what they have used it since the commencement of the suit, and also are to be restrained by injunction from further use of it. This verdict also establishes the validity of the patent.

For the plaintiff, George Gifford. For the defendants, Charles M. Keller and Peter Van Antwerp.

Mi or Cinnabar.

The first of these is the ancient and the last the modern name for the same substance, which is a mineral of beauteous shining red color, and is an ore of mercury or quicksilver. Artificially prepared cinnabar is much preferred to the native, as a pigment, because of its freedom from earthy impurities, and it has long been an object of chemical manufacture, and is generally known as vermillion. It is a compound of sulphur, with mercury, each in equivalent proportions. To manufacture it, about five or six parts of mercury are added to one of melted sulphur, and when thoroughly combined and constantly stirred, heat and light are evolved, and a violent cracking and spitting indicate the termination of this part of the process. The result is a dirty, blackish red mass; this crude product, after being pounded, is mixed with a small quantity of sulphur, this is placed in a glass flask until it is about half full, when it is closed with a charcoal stopper. The flask is then placed on a bed of hot sand (kept hot by a slow drawing furnace), and is left to remain thus red-hot for some hours, at the end of which time the cinnabar is found sublimed in the flask.

In Amsterdam, where it was first made, they still pursue a similar method to the one they have always done, but the one we have given is the essence of them all. Of all kinds of vermilion now made, the Chinese is the best, being sold for about six times the price of home made; it has a rich, almost inclining to carmine color, and no foreign substance can be detected in it, except a little glue.

At the present time we apply the term minium to red lead, which is made by roasting lead in a slow reverberatory furnace having a broad hearth so that a great surface can be exposed to the action of the heated air. It is kept continually worked up and down until the whole mass changes to the well-known color of red lead. Minium is often used to adulterate vermilion, and it is a fair supposition that the reason why our ancestors called them both by the same name was that they did not know which was which.

Supposed Meteorite.

On the 17th of June last, there fell, about ten miles southwest of Ottawa, Ill., a quantity of cinders. The weather had been showery, but there was no thunder or lightning. There appeared to be a small black cloud hanging over the spot where they fell; the larger ones were imbedded in the earth, while the smaller ones were only half buried. On the 17th of September, this year, a mass of lava "the size of a barrel," says the *Sunny South*, of Aberdeen, Miss., fell about ten miles from that place, and at the time it excited a great deal of attention for miles around. The former of these, we have every reason to believe, and we think that the appearance of the cinders point to a terrestrial rather than a celestial origin; but, we think, that the editor of the *Sunny South* has drawn upon his imagination a little and colored the facts of our first instance. We should much like to know how large the piece of lava was that fell at Aberdeen; for a piece the "size of a barrel" is very indefinite and unsatisfactory.

Sewers.

When from a little village, there arises in a few years, a large city, one of the first and most important considerations ought to be the sewerage of the place, as on this depends the well-being in mind and body of its inhabitants. No city ought to be built where there is not a sufficient fall for its sewerage, and it will be found in the plans of all ancient cities that the builders knew of this advantage, although often their waste ran through the open streets. Yet, in the history of the past, there is nothing the subject of so much praise and elegant description as a "city set on a hill," and one of its chief advantages was its facilities for getting rid of the sewerage material. In all places drains are an important consideration wherever any number of persons are congregated together, and as health is our dearest blessing, it should be first attended to. One of the most valuable means of doing so is to take care that near our dwellings, or in the places where we meet, there are no heaps of decaying animal or vegetable substances which can impair our health, or render us unfit for the discharge of our duties, as most assuredly they do.

American Breech-loading Guns.

Mr. Eastman's six breech-loading cannon, recently imported from America, were tried on the Arsenal Wharf, Woolwich, under the supervision of Lieutenant-colonel Wilmot, superintendent of government gun factories at Woolwich, and having been twice fired with a double charge of blank cartridge—namely, 20 lbs. of powder—they were examined, and found to have stood the test satisfactorily. From their enormous weight (17 tuns) they did not evince the slightest recoil.—*London paper.*

Nail Machine.

This machine punches the nails from a rod, which has been previously rolled to a peculiar shape, to produce a number of partly-formed nail blanks, of which several are arranged side by side, with their length parallel to the width of the rod. The peculiar form to which it is rolled gives it in certain parts of its longitudinal section the appearance of a ratchet, and the invention consists in employing the nail rod itself as part of the ratchet motion which feeds the machine. The invention also consists in giving the punches a series of movements back and forth to the nail rod, and a similar intermitting motion along the rod, so that a greater number of nails than the number of the punches may be cut from the width of the rod. John Wootton, of Boonton, N. J., is the inventor of this machine.

Bombs.

An improvement in these projectiles was patented this week by Henry Bates, of New London, Conn., which consists in attaching to the butt end of a bomb, or other projectile of similar character, a spiral spring or coil of wire, which, when the projectile is placed in the gun from which it is to be discharged, is compressed together, and lays close to the projectile, but when it is discharged is caused, either by reason of its own elasticity, or by the resistance of the atmosphere, to extend itself, in the form of a tail, some distance in the rear, where, by the resistance it meets with, it serves to direct and steady the course of the bomb. He has also so improved the fuse tubes that they cannot be blown into the bomb on the discharge of the gun, and so set fire to the bomb before it has accomplished its flight.

Elevator.

This invention is intended to raise bricks, stone, mortar, and other materials, to an elevation, without the use of ladders, baskets and pulleys, and the like. It consists in a hollow vertical tube the hight required, and in the bottom of this the articles to be raised are fed; one man or more may turn the handle of the crank, and by suitable and simple mechanism the contents will be raised. It is continuous in its action, and is the invention of J. Crawshaw, of Rochester, N. Y.

Feeding Paper.

Richard M. Hoe, of this city, the inventor of the celebrated printing press, has this week patented an improvement in the feeding device of cylinder presses, by giving the drop roller, or the one that pulls the paper to the type, a positive instead of an intermitting motion, depending on contact with the printing cylinder, such as it formerly had. He gives it a positive motion, independent of any other part.

Grinding Mill.

This invention employs a grinding burr or stone in combination with adjustable rests, whereby articles or substances may be ground very rapidly, and by very simple means. It is mainly applicable for grinding food for stock, although it can be applied to other useful purposes. It is the invention of Chas. Tripp, of Ann Arbor, Mich.

COMMISSIONER HOLT'S decision, as published in our last number, is attracting general attention already. We have received letters strongly in praise of its ability and liberality. It encourages inventors to set themselves to work under the conviction that their rights will be properly cared for at the Patent Office.

REMOVAL.—We regret to state that Capt. Herbert has been removed from the position of Chief Examiner in the Patent Office. He was a useful and much esteemed officer, and we sincerely hope that the causes which have led to his removal may be set aside, and he be restored again to his former position.

The highest speed ever made on the ocean was by the clipper ship *Flying-Scud*, 460 miles in twenty-four hours.