



[Reported Officially for the Scientific American.]

LIST OF PATENT CLAIMS Issued from the United States Patent Office. FOR THE WEEK ENDING FEBRUARY 6, 1855.

SMUT MACHINE.—John Bean and Benjamin Wright, of Hudson, Mich.: We do not claim the leading of a draught through the smut scourers and revolving screen irrespective of the manner of effecting the same.

But we claim supplying air to the fan of a separator, the shoe of which is arranged in connection and at right angles with a smut machine, by causing said air to pass through the smut scourers and revolving screens of said smut machine on its way to the fan, as described, and for the purpose set forth.

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

DOUBLE-ACTING FORCE PUMP.—W. C. & J. S. Burnham of New York City: We claim the general construction of the pump as herein shown and described, viz.: having the casing, D, cylinder, E, and passage, F, arranged as shown, and cast in one piece, and secured upon the upper part of a base or circular chamber, A, having compartments, a, b, c, d, within it, and valves, e, f, g, h, upon its top plate, arranged and communicating with the several passages, as shown and described and for the purpose as set forth.

[See No. 16 present volume Sci. Am. for a description of this invention.]

MANUFACTURING SEAMLESS FELT GOODS.—John H. Bloodgood, of New York City: I claim the method of forming the various parts necessary to the production of seamless articles of felt, by the use of a movable or stationary pattern, in the manner and for the purposes described. But I do not claim the manner of forming the hat or of uniting the several parts, as both are old and well-known processes.

DIAPHRAGMATIC PLATE HOLDER.—D. N. B. Coffin, Jr., of Lynn, Mass.: I claim the peculiar combination and arrangement, substantially as described, of the block frame and bed piece, for the purposes specified, the same being constructed and operated substantially as set forth.

LIFTING-JACK FOR MOVING RAIL CARS.—Nelson B. Carpenter and John Powers, of New York City: We do not claim the jacks, A, separately for they are well known and in common use; neither do we claim the combining in the same machine any mechanical powers for giving a vertical and lateral motion to the object or article to be adjusted, nor do we claim the slide, E, separately or in itself considered.

But we claim the improved jack, constructed substantially as shown and described, viz: connecting two ordinary screw jacks, A, A, by an arch, C, provided with an arch, D, and having a slide, B, fitted on the upper part of the frame, C, the slide being connected to the frame, as herein shown, and operated by a horizontal screw, G, for raising and adjusting railroad cars upon the track, and other analogous purposes.

[For a description of this excellent improvement in lifting jacks, see No. 12, present vol. Sci. Am.]

CURRENT WATER WHEELS.—Richard Deering, Sr., of Louisville, Ky.: I claim the concave flanged screw, in combination with the conical body or center, as for the purposes set forth.

Also, the arrangement herein described of hanging the water wheels and other machinery in framing, adjustably connected with the vessel or scow, whereby they may be raised or lowered, for the purposes specified.

AXLE BOX ROLLERS.—George W. Geisendorff, of Indianapolis, Ind., and Jacob C. Geisendorff, of Cincinnati, Ohio: We claim the giving a positive motion or rotation to the lubricating roller, by the axle of the car wheel, in the manner set forth.

CORN AND COB CRUSHER.—John S. Griffith, of Huntington, Pa.: I claim the combination of platform, p, holders, q, and knives, l, arranged with the crushing frustums and cones, as constructed and operating, for the purposes set forth.

WIRE CLOTH FLOUR BOLT.—F. B. Hunt and Elias Nordyke, of Richmond, Ind.: We do not claim a wire cloth bolt with revolving brushes working within it, for they have been previously used.

But we claim the peculiar means shown for graduating the pressure of the brushes, F, against the wire cloth of the bolt, viz: the loose hubs, I, I, on the shaft, C, being attached by arms, H, to slides, G, which work on the outer sides of the stationary arms, the outer end of the slides, G, being attached to the brush bars, E, which fit in the forked ends of said arms, c, the hubs, I, I, by being moved on the shaft, c, expanding or contracting the brush bars, as desired, the hubs being secured in the proper position by the rods, g, J.

[For a notice of this invention see another page of the Sci. AMERICAN.]

ELLIPTICAL ROTARY PUMPS.—Birdsill Holly, of Seneca Falls, N. Y.: I claim the corrugated or grooved pistons or cogs, in the manner and for the purposes specified.

BURGALARS' ALARM.—Daniel Haldeman, Morgantown, Va.: I do not claim the letting off an alarm in the act of opening a door, nor do I claim an alarm which requires fastening of any kind, either to the door or floor, to ensure its going off, as several of these are already known.

But I claim combining with the trigger, lever or dog, which holds the hammer as a cock, a hinged inclined lever, G, the end of which simply passes underneath the door, and requires no fastening other than it receives by being held by the door itself as it is pushed open, as described.

REPAIRING ROADS.—Alpheus Kimball, of Fitchburg, Mass.: I claim the described machine for making road, consisting essentially of the combination of the plow and scraper, constructed in the manner set forth, and suspended from the lever, H.

Second, I claim pivoting the rear axle and securing it to the frame work in a position oblique to the direction of motion, for the purpose described.

PRESSING HATS AND BONNETS.—S. E. Pettie, of Foxborough, Mass.: I do not claim the pressing of hats by machinery, nor the use of heated materials or damp cloths, as such. But I claim the combination of the curved heated bed-plate, A, with the roller, H, for the purpose of pressing hats and bonnets, whereby I am enabled to use a rolling pressure, in contradistinction from sliding pressure given by smooth-irons, or any other, substantially the same.

STREET-SWEEPING MACHINE.—R. A. Smith and John Hartman, Jr., of Philadelphia, Pa.: We make no claim to the employment of the endless chain of brushes, or the movable inclined plane; neither do we claim of itself the detachable dirt receiver, or the receiver when arranged and operated as in the patented machine of J. Whitworth.

But we claim the described arrangement of detachable receiver, R, beneath the forward portion of the frame, suspended by chains, m and n, attached to hooks, q, on the receiver from the pulleys, F, and windlasses, p, p', so that an empty receiver may be substituted for a filled one with great facility, and the filled receiver removed by a tender, as set forth.

We also claim constructing the rear portion of the inclined plane with wheels or rollers, h, and tail piece of loose sections, l, as set forth, so that the rear of the machine may rest on the ground and conform to the inequalities of its surface.

We further claim the employment of the hinged stand, n, in connection with the driving wheel, W, and loose wheel, D, for operating the endless chain of brushes, as set forth.

CRUSHING AND GRINDING MILL.—Joel Weigle, of Swan Station, Pa.: I claim combining with the crusher, b, and the grinder, c, the casings, d, e, in such a manner that the aid crusher and grinder can be adjusted in a longitudinal direction, and the casing, d, of the crusher be adjusted in a lateral direction, substantially in the manner and for the purpose set forth.

STEAM GENERATORS.—William Montgomery Storms, of New York City: I claim, first, enclosing a thermostat in a steam-tight space, forming a part of the steam-conducting passage to the engine, and from such thermostat forming an exterior and adjustable connection to a cock or valve, as C, located in the exit pipe of the boiler in such manner that being moved by the thermostat it shall direct more or less of the steam through the super-heater; the whole device, by acting in conjunction, thus controlling while being actuated by the temperature of the steam going to the engine.

Second, I claim regulating and tempering the heat in the desiccator by the admission to it, as may be necessary, of water from the boiler, by means of an especial communication, as pipe O, the quantity admitted being governable by the adjustment of a cock, as P', all substantially as explained.

COMBINED CHAIR AND CRIB FOR CHILDREN.—William B. Carpenter, of New York City: I claim the chair, B, in combination with the standards, c, c, and hinged thereto at A, when constructed and arranged so that by the reversal of the chair, as described, the whole forms a high and low chair and crib for children, substantially in the manner set forth.

LOCOMOTIVE TRUCKS.—John Cochran, of Baltimore, Md.: I claim the method of neutralizing or preventing the vibratory tendency of the trucks of locomotive engines, caused by the direct action of the forces which operate the truck driving wheels, by means of the steam or hydraulic brace, substantially as described.

CONSTRUCTING SHIPS AND OTHER VESSELS.—V. P. Corbett, of Corbettville, N. Y.: I claim the arrangement shown and described of the india rubber or elastic and water proof pad, covering or lining on the back of the inside lining and bracing planking and between the said inside planking and the stiffer or more solid outer timbers or frame work of the hull of the vessel, the same serving to form a stout elastic cushion or pad bearing for the inside planking to rest upon in their union to the outer frame work of the ship, and constituting a planked elastic pad inside casing to the vessel, for operation in the manner for the better accomplishment of the several purposes of protection, freedom from injury and facility of repair, essentially as described.

[This is a most useful invention, which we shall describe in the SCIENTIFIC AMERICAN as soon as several applications for foreign patents are issued.]

STEAM BOILERS.—Thomas Champion, of Washington, D. C.: I claim, first, arranging an annular flue, Q, at the bottom of an upright boiler for receiving the air at its mouth, and conducting it at R, 2, beneath the grate, as illustrated in figure 5 of the drawings.

Second, Making the vertical tube in the form of a double cone, the upper cone being inverted and the two united together at their apices, the same being for the object and possessing the advantages stated.

MANUFACTURE OF PAPER PULP.—Henry Glynn, of Baltimore, Md.: I claim introducing into the pulpy mass soluble soaps of wax or fats, made as set forth, converting the same into insoluble soaps within the pulp by means of soluble salts, substantially as described, for the purpose of preventing forgery, mildew, and the action of insects, rats and vermin.

SCOUNDING BOARD FOR PIANOFORTES.—James A. Gray, of Albany, N. Y.: Of course I do not confine myself to any particular form or number of corrugations, but any number that may be necessary.

But what I claim is the improvement of the sounding board of the pianoforte by corrugating its surface, thereby increasing its sounding surface and giving sufficient stiffness or strength without gluing cross bars on either side.

GRASS HARVESTERS.—Jas. H. Maydole and A. W. Morse, of Eaton, N. Y.: We claim the combination of the adjustable and controllable roller, a, with a grass harvester, substantially as for the purpose set forth.

SEWING MACHINES.—I. M. Singer, of New York City: I claim imparting the feed motion to the needle to move the cloth or other substance, to determine the space of the stitches to be made therein, by a feed hand or its equivalent, receiving the required motion from the mechanism and acting against the needle, in close proximity to or in contact with the cloth, substantially as and for the purpose specified.

MOP HEADS.—James A. Taylor, Alden, N. Y.: I claim to be the original and first inventor of the combination of the handle, A, and the bars, B, D, with the cord, C, or its equivalent, the whole being constructed and combined and operated substantially as set forth, or in any other manner substantially the same.

BUTTER WORKERS.—J. M. Williams, of Blanchester, Ohio: I claim a hollow cone in combination with a conical roller working on its apex, constructed in the manner and for the purpose substantially as described.

GRAIN AND GRASS HARVESTERS.—Cyrus Wheeler, of Venice, N. Y.: I claim the combination of the double-edged cutters, r, r, with the cutter bar, x, x, the braces, z, z, the vibrating cutters, l, l, their shanks, m, m, projections, u, u, the circular ribs, t, t, the bolts, p, p, the springs, a, a, the holes, q, q, the ribs, d, the cavities, y, y, or their equivalents, as substantially set forth, the whole forming the cutting apparatus of the machine.

Second, I claim the revolving or track rake, consisting of its frame, I, its wheel, 3, shaft, 4, pinions, 7, 10, shaft, 6, wheel, 5, teeth, 8, apron, 2, joint, 9, and cap, 11, or their equivalents, arranged and combined substantially as set forth.

COMPOSITIONS FOR BLEACHING AND STUFFING LEATHER.—L. W. Fiske, of Louisville, Ky.: I do not intend to claim the use of the ingredients therein named separately, or in other combinations employed for the same or analogous purposes.

But I claim the improved mode of bleaching and stuffing leather, before described, by using the bleaching and stuffing compounds, made of the ingredients or their equivalents in the proportions and in the mode specified, substantially in the manner and for the purposes set forth.

WORKING LIMING VATS IN TANNERIES.—J. W. Fiske, of Louisville, Ky.: I claim using a close covering for liming and unliming vats, in the manner and for the purposes set forth.

CHURNS.—Hazen Webster, of Ogdensburg, N. Y.: I do not claim the device of a disk rotating at the bottom of the churn tub upon a vertical axis, nor do I claim the use of a tubular stem upon such a disk for admitting air beneath it, as these have been used before with the churn of S. P. Francisco, patented, June 19th, 1849; nor do I claim mounting an agitator upon such disk, as the same was proposed by said Francisco.

But I claim in combination with such rotating disk, that form of the agitator which occupies the central portions of the disk, and sweeps toward the circumference in a spiral shape with rounded angles, and is surmounted towards the circumference with one or more vertical breakers, and this I claim, whether used with or without the air passages herein described.

RETAINING CARS UPON THE TRACK.—Geo. P. Ketcham, of Bedford, Ind.: I claim the employment or use of arms, C, applied to the axles, c, d, of the trucks, A, A', the arms of each truck being supported by the rod, d, the above parts being constructed and arranged in the manner and for the purpose as herein shown and described.

[See notice of this invention on another page.]

RE-ISSUE.

CONSTRUCTING A COMBINED CALDRON AND FURNACE FOR THE USE OF AGRICULTURISTS AND OTHERS.—J. L. Mott, of Mett Haven, N. Y. Patented Dec. 1st, 1840; extended, Dec. 1st, 1854; I claim, first, combining a caldrion with a portable furnace having a fire chamber of smaller size than the area of the caldrion, by spreading out and extending the sides of the furnace to form an outer casing partly or wholly surrounding the caldrion, and forming a flue space between the two, leading to the exit pipe, substantially as and for the purpose specified.

I also claim making the casing to form the flue space around the caldrion by elevating and spreading out the plates of the furnace and fitting to and combining therewith sections, substantially in the manner described and for the purpose specified.

ADDITIONAL IMPROVEMENT.

SEED PLANTERS.—J. Graham Macfarlane, of Perry county, Pa. Additional to Letters Patent, dated March 14, 1854: I claim the attaching the box or hopper to the beam and handles by means of holes left in casting the box, or any equivalent device, also in placing the bottom of the lime box below the slide for the purpose of preventing the lime choking the machine and impeding its action substantially as described.

Potatoes have been cultivated at Fort Simpson in 62° N.

Clearing Land.

MESSRS. EDITORS:—In this inventive age, cannot some cheap means be devised for felling timber? The slow process of hand-chopping seems to be unworthy of the spirit of the times. Inventive genius has turned its mind to discovering means for making, but here in this wooded county, our greatest primary want is a machine for destroying. There is not an acre of our Western forest lands that is not dearly paid for in the terrible labor of getting rid of the timber.

We have seen a lifting locomotive hoisting machine in our cities, and it has occurred to us that a circular saw could be so connected as to answer for cutting trees. If even a single cut to the center of the tree, on one side, were all that could be relied upon, it would be a great saving of time and money.

Where the timber is not heavy, the ordinary stump extractor might perhaps be applicable, with some modification. The top seems as if it would help the fall of the tree, when the root is loosened.

Again, when we see vast blocks of iron cut in twain, as thread is severed by the scissors, it inspires hope that something may be contrived, a little in that order of mechanical power, to achieve so valuable an object as the cheap and speedy clearing of forest lands. If there be hope, the SCIENTIFIC AMERICAN can inspire it; and one who has derived priceless benefits from its instruction, ventures to make this appeal to its kindness, trusting it will see in the suggestions offered, both interest to its readers and a probable field of profit to inventors.

ANTHRAX. Philadelphia.

[Two patents have been taken out for circular saws to fell standing timber—one by Jas. Hamilton, of this city, June 26, 1835, and the other by Walter Hunt, also of this city, on the 6th of January following. These are the only inventions of which we have any knowledge, that have been proposed for felling timber by machinery. They no doubt were defective in principle and action, or we would have heard more about them. A common circular saw could not fell standing timber, because the power applied to it, as great as that for driving the largest locomotive. Machinery for cutting down standing timber, must embrace very peculiar features, as every person knows, who is acquainted with chopping. Most trees can be cut so as to fall in three directions; while a perfectly straight tree can be made to fall in any direction. In felling a tree, it is necessary to make the first cut of such a form as will incline it (the tree) in a given direction; this is done by the wide cut made by the axe, which causes the greatest weight of the tree to settle to the one side. There is no fear of binding an axe in the cleft, by hand chopping, but a circular saw would bind, if it cut horizontally before it penetrated six inches deep. It would be necessary therefore, in employing a circular saw for cutting standing timber, to make it so operate, as to cut its way in, by sawing a wedge-shaped block out. Six years ago, a very ingenious mechanic of this city consulted us respecting an invention of his for cutting down standing timber by the use of a circular saw. When we had examined his model, we immediately answered: "you were not brought up in the backwoods." "How do you know that?" he replied. "By your model; your saw will bind in its cut before it penetrates to the depth of six inches." He was convinced of this by a very few words of explanation. A smart chopper will cut down trees of from one to two feet in diameter, of clean light timber, as fast as a portable engine and saw could be moved about in the woods and placed in position to operate. We would not wish to be understood as asserting that machinery could not be invented to cut down trees for the clearing up of land, but this can only be attempted with any hopes of success, by persons acquainted with the difficulties to be surmounted, and who can form a sound opinion of the economy of the two methods—machine and hand labor. The man who invents the first successful machine for cutting down standing

timber economically, will, we think, make a fortune, but he has no easy task before him; yet what is it that our countrymen cannot do in the invention of machinery, when their minds are set upon it?

The Lancaster Gun.

MESSRS. EDITORS:—In the casting of cannon balls, it has been found impossible to have every part of the ball of equal density; therefore its center of gravity cannot be made to coincide with its center of magnitude. In consequence of this it will not leave the mouth of the cannon in a line mathematically true, unless the line joining its center of gravity and its center of magnitude coincide with the axis of the bore of the gun.

The oval grooved gun is designed to correct this error, by giving a circular motion to the ball, similar to that which a rifle gives to a bullet; let us see whether it will answer the required purpose. Every point of the ball, center of gravity included, will rotate round the axis of the gun, while the ball is moving out of the barrel, and this rotary motion, combined with the forward motion of the ball, will cause each individual point to describe a screw. But all the engineers in the universe cannot make the center of gravity continue this screw motion after the ball leaves the muzzle. In whatever direction the center of gravity is moving, in that direction the ball will go. The error would be small, yet I should suppose it would be nearly as great as in the common gun.

Now, if the learned graduates of Woolwich will listen to so humble a person as myself, I think I can tell them how to shoot at the Russians without any error from unequal density of the different parts of the ball. Let every ball be floated in mercury, and that point which rests uppermost marked; then, when the cannon is to be loaded, let the marked part be nearest the muzzle.

J. NEWCOMB. Sudlersville, Md., Feb. 2, 1855.

[The principle of the rifle consists in "giving the bullet a rotary or spinning motion round its axis, and keeping that axis as near as can be coincident with its line of flight or progressive motion; thus enabling the bullet to overcome any undue deflection, by presenting its irregularities of weight and form in circular succession to the friction of the atmosphere, during the whole course of its flight."

Robins, in speaking of the deflection of a bullet from a smooth bore, says: "If it be asked what can be the cause of a motion so different from what has been hitherto supposed, it may be answered, that the deflection in question must be owing to some power acting obliquely to the progressive motion of the body, which power can be no other than the resistance of the air. And this resistance may, perhaps, act obliquely to the progressive motion of the body, from inequalities in the resisted surface; but its general cause is doubtless a whirling motion acquired by the bullet about its axis; for by this motion of rotation, combined with the progressive motion, each part of the bullet's surface will strike the air in a direction very different from what it would do if there was no such whirling; and the obliquity of the action of the air arising from this cause will be greater, according as the rotary motion of the bullet is greater in proportion to its progressive motion."

It appears to us that conical bullets can be cast of a uniform density, but these, in a smooth bore, will not do so well as in a rifle.

Papier Mache Manufactory.

The progress in the manufacture of papier mache, since its introduction into this country, has been most remarkable. A company was started in this line in Boston two years ago, when the art was in its infancy, and now they are doing an immense business and sending articles from their extensive establishment all over the Union. There are now two large factories in Roxbury, Mass., in constant operation, and another factory of great size is soon to be erected.