



[Reported Officially for the Scientific American.]

LIST OF PATENT CLAIMS

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FOR THE WEEK ENDING MARCH 28, 1855.

ROTARY PUMP—Abel Barker, of Honesdale, Pa.: I claim causing the buckets, c c c, during a portion of their revolution, to pass through an enclosed channel, k, and during the remainder of their revolution to pass through the chamber which communicates directly with the central induction opening, f, substantially in the manner and for the purpose set forth.

CLAMP AND MOUTHPIECE FOR LUMBER JOINING MACHINES—C. F. Bauersfeld, of Cincinnati, Ohio: I claim, first, two or more clamps so arranged, and connected as described, as to be simultaneously and equally applied to or withdrawn from the different parts of a portion of furniture to be jointed by the means of a single handle. Second, the parallel motion fixed in any desired position by means of the handle and screw, as described.

PREPARING WOOLEN ROVING—A. E. Bigelow, of Chicopee, Mass.: Having thus described the nature of my invention, and the reasons for the mode of operation which I have invented, together with the mode of construction which I have tried with success and deem the best, I wish it to be distinctly understood that I do not limit myself to such special mode of construction, as the above mode of operation may be obtained by the mere substitution of equivalent means.

But I claim the mode of operation specified, of spinning woolen yarns from previously twisted roving between two feet of diameter, substantially as specified, in combination with the subsequent twisting, in the same direction by ring groove travelers, flyers, or other equivalent devices, substantially as specified.

SPINNING WOOL—A. E. Bigelow, of Chicopee, Mass.: All that I have described the use of flyers for twisting and winding on the rovings, I do not wish to limit myself to the use of flyers in the practical application of my said invention, as any of the known equivalents for the flyer or any improvement thereof which might be hereafter made, may be substituted for a length exactly corresponding to the cutting range of a single stroke of the knife during the advance and return of the cutter bar, substantially as and for the purpose set forth.

Second, the difference in the relative depths of the cams, C and D, in combination with the linked levers, B and V, arranged and operating substantially as set forth.

Third, arranging the highest elevation of each cam upon the wheel, A, at a point between the highest elevation and lowest depression of a cam upon the other side of the wheel, substantially as set forth.

PROCESSES FOR REFINING JEWELLERS' SCRAPS—Levi B. Darling, of Providence, R. I.: I claim the processes described of separating and recovering the gold and silver from goldsmiths' and jewellers' scraps, such as turnings, sweepings, cuttings, filings, which contain both noble and base metals, that is, by melting down the metallic compounds, then stirring in gradually by the mixer, and working the mass without fluxing, then washing with water and treating with sulphuric acid to convert the oxidized products into sulphates, in the manner described.

[This is one of the most valuable inventions which has been patented under the chemical class for a long time.]

COMBINATION OF SPEED AND RESISTANCE GOVERNORS—W. H. Elliot, of Plattsburgh, N. Y.: I do not claim a centrifugal governor, or a resistance governor, when used separately, as I am aware that a governor of the latter character was patented by Gardner, June 10th 1851.

But I claim the combination of speed governor with a resistance governor, in such a manner that each shall exert its own proper effect upon the motive power, producing thereby a compound resultant regulation, without either of the said governors interfering with the action of the other, as set forth.

[See notice of this invention on another page.]

CHAIRS—L. W. Ferris, of Owego, N. Y.: I do not claim a chair wherein the parallelism of the back and foot rest rails is maintained by the arms and seat.

But I claim hinging the seat, at its back, to the back of the chair only in combination with hinging the rails of the foot rest to the lower end of the pieces forming the back so that the seat shall partake of the inclination of the back and foot rest rails, and said foot rest rails move on a sliding center, as set forth.

MODE OF SUPPORTING TABLE LEAVES—H. A. Frost, of Worcester, Mass.: I do not claim the idea of using a brace to support table leaves, as such.

But I claim the application to table leaves of a self acting swing brace or support, which shall operate by its own weight, when the leaves are raised, substantially as set forth.

CULTIVATORS—H. D. Ganse, of Freehold, N. J.: I claim, first, that shape of the upright parts or fenders described, in its application to the purposes described, by which the fore most point of each fender is elevated to or above the surface of the ground, and the lower or cutting edge inclines backward from that point, in the manner described, so as to secure the result described.

Second, the combination of said fenders with the mold boards and wheels in the manner described, the invention of which mold boards and wheels I do not claim.

SCREW WRENCHES—L. D. Gilman, of Troy, N. Y.: I make no claim to the teeth on the sliding bar of the wrench. But I claim the arrangement of the adjustable toothed plate with its springs, the toothed shank of the adjustable jaw, and the eccentric with its strap attached to the toothed plate, the several parts being operated in the manner as described and shown.

PACKING JOURNAL BOXES—Warner Croot, of Troy, N. Y.: I claim the combination and arrangement of the packings, ring and apparatus for tightening the same within the box, substantially as described, so that the packing in the inner end of the box can be tightened at the end, and the box be kept tight without being pierced with holes, as specified.

OPERATING VALVES IN DIRECT-ACTING STEAM ENGINES—W. H. Guild & W. F. Garrison, of Brooklyn, N. Y.: We do not confine ourselves to the particular form of the valve arrangement of the ports further than is necessary to the within described operation.

We claim giving to the valve the whole or part of the movement necessary to effect the change in the direction of the engine piston by means of the steam acting upon a piston, B, which is arranged and applied to work perpendicularly to the valve within a cylinder, D, attached to a cap fitted to the back of the valve, and is supported against the pressure of the steam by a rocker, e, or its equivalent, by which it is caused to operate substantially as set forth.

[See a description of this invention on another page.]

LOOMS—David S. Harris, of Coventry, Rhode Island: I do not claim the shuttle guard, as I am aware that shuttle guards, substantially similar to that I have shown have been employed, attached fixedly to the lay, or if movable, requiring to be moved by hand, and I do not confine myself to the use of a shuttle guard constructed precisely like that described.

But I claim the connection of the shuttle guard in any way substantially as described, with the belt slipper, in such a manner that when the loom is in gear the guard may stand over the shuttle race in such a way as to prevent the shuttle flying out of the loom, when the loom is out of gear, the thing may be raised out of the way of the attendant to enable threads to be picked out or drawn through the reed, or such other manipulations to be performed as may be necessary.

[On another page may be found a notice of this valuable improvement in Looms.]

FIRE PROOF SAFES—R. G. Holmes & W. H. Butler, of New York City: We are aware that a compound of alum and clay has been used as a fire-proof filling for safes; also that brick, soft stone, layers of pumice and other porous substances have been used for an interior fire proof lining or shield for the like purpose; likewise that, in connection with various soft porous fillings between the inner and outer cases of the safe, tubes containing alkaline solutions have been interspersed; none of such therefore do we claim, nor yet, as a more antiphlogistic compound, the combination of an alkali with alum.

But we claim a new and useful improvement in alum fillings of safes or other fire-proof structures, essentially as specified, combining with the alum filling an alkali, in such proportions as that the alum, in becoming heated or melted, has a part of its acid neutralized by the action of the alkali, when the said filling is interspersed with, and supported or restrained from settling down by cells, a, of porous material, or frame work of porous substance arranged substantially as described.

[This invention is one of importance to safe manufacturers, and the well known reputation of Messrs. Holmes & Butler, as safe manufacturers will be greatly enhanced by adopting this new filling.]

ILLUMINATING VAULT COVERS—Thaddeus Hyatt, of New York City: I do not wish to be understood as making claim broadly to the securing of glass directly within a soft metal sheath, nor to the securing of glass within a metal case to be in turn secured within a metal socket, as these have been known when applied as specified.

I claim the method of securing glasses in the apertures of metal plates or other surfaces by surrounding the glass with a hoop or belt of lead, gutta percha, or other equivalent yielding substance, and forcing the glass so surrounded into the aperture or recess, substantially as and for the purpose specified.

LOOMS—Wm. S. Irish, of Middlebury, O.: I do not claim the harness frame uprights, cams or shoes; but I claim the method of raising the harness to the immediate application of the cams to the shoes or projections of the harness, substantially as set forth.

GRATE BAR—J. S. Kirk & W. H. Elliot, of Plattsburgh, N. Y.: We claim the grate bar arranged as described, or its equivalent. The constructing of the wearing and supporting parts, as described separately, so that said wearing parts may readily be removed and replaced for the purposes set forth.

TOOL FOR BORING HUBS TO RECEIVE BOXES—Urias Kimble, of Penfield, N. Y.: I do not claim the shaft, the adjustable knife, or the adjustable gauge, as they have been known before.

I claim the oval-shaped box with the nut with spurs on the inner surface, the oval shaped box, in combination with the shaft, the knife, and the gauge, for the purpose set forth.

METHOD OF CHALKING LINES—S. B. Knight, of North Providence, R. I.: I claim the described method of chalking a line by drawing it through the cylinder or other vessel containing the fine chalk, and also through the rubber of leather or other compressible substance for the purpose and in manner substantially as set forth. And this I claim when used for chalk or other coloring material.

SHINGLE MACHINE—Charles Leavitt, of Quincy, Ill.: I claim, first the elastic table, k, capable of being elevated and depressed by the means described or their equivalents, in combination with the free or splitting knife, h, substantially in the manner set forth and for the purposes specified. Second, the elastic table, k, in combination with the knife, h, and substantially as described and for the purposes specified. Third, the jointing knives, a', pivoted to the plane stocks in combination with the bar, a', substantially as described, for the purpose of jointing the edges of the shingles with a drawing cut.

SELF-ADJUSTABLE OR ANCHORING PUMP—Thomas Ling, of Shelby, O.: I claim, first, connecting the piston or stationary part to a weight or anchor by a flexible joint, or its equivalent, so as to allow the anchor to adapt itself to the bottom of the well without cramping the other parts, substantially as described.

Second, connecting the anchor to the cylinder or moving parts by means of the projections and slotted arms, or their equivalents, so as to draw the anchor from the well by means of the pipe and cylinder or moving parts, substantially as described.

Third, the devices, substantially such as are described, or their equivalents, for guiding and steadying the upper end of the pipe, and discharging the water downwards into a box, having an opening in the side in which the pipe traverses closed below the pipe by the plate, F, or its equivalent.

CHARCOAL FURNACES—John McNeill, of New York City: I do not claim a hollow or tubular iron beam, merely as such, as I am aware that hollow beams have been and are commonly used in various structures.

But I claim supporting the retort tubes, B B, by a hollow or tubular beam or beams with open ends applied substantially as described, so that one end of each is in communication with the cold or atmospheric air outside the furnace, and the other with the chimney or escape flue, whereby a current of cold air is caused to be induced through the beam by the draft of the chimney or flue, for the purpose of keeping it comparatively cool, preventing it from burning and rendering it a firm and durable support to the retort tubes.

And I also claim constructing the furnace with one or more arched walls, H, extending across it, substantially as described, to support the joints in the beams, G, G, when the said beams are made in two or more lengths, and also to support these walls and roof.

[See a further description of this furnace which is so important to sugar refiners, on another page.]

SEED PLANTERS—Hiram Moore, of Climax, Mich.: I do not claim a grooved seed distributing wheel, nor a seed scattering board in general.

I claim grooved seed distributing wheels, K K, provided at the bottom of the grooves with partitions extending about one third of their depth, in combination with the dash board, H, in the manner and for the purposes set forth.

BILL HOLDER—G. W. Palmer, of Boston, Mass.: I claim an oblong box of suitable size for holding files of bills or papers, having upon one of its sides a hinged movable arm and attached spring, by which the papers are held in place, as fully described.

COFFINS—David Sholl, of Cincinnati, Ohio: I claim the production of a coffin composed of terra cotta or pottery ware.

CURRENT WHEEL—W. S. Smith, of Cedar Rapids, Iowa: I claim the construction of current wheels with heads or hubs movable on the shaft, as and for the purposes set forth.

MANUFACTURE OF BOOTS AND SHOES—H. G. Tyler and John Helm, of New Brunswick, N. J.: We claim the use or application of this our device or invention to any other matter or thing other than is described and set forth.

We claim the uniting of the outer sole and upper manufactured wholly or in part, of vulcanized india rubber, with the insole of boots and shoes, by means of cement, the cement passing through perforations made for that purpose in the upper, in the manner substantially and for the purposes described.

SEED PLANTERS—Myron Ward, of Owego, N. Y.: I claim the adjustable slotted share for the purpose of removing obstructions, and at the same time allowing the fine earth to pass through the slots, which share is made adjustable by means of a thumb screw and plate in rear.

I also claim the short compressing blocks on the periphery of the wheel, which compressors crowd the earth laterally over the seed, and at the same time indicate the place of the hill, and by which means the grain can be planted in check rows.

CULTIVATORS—R. P. Vanhorn, of Jackson Town, O.: I claim the peculiar elongated rhombus-shaped wrought-iron

frame and arrangement of teeth, the front angle bearing a light steel cutter tooth, and the rear angle a large shovel tooth, in the manner and for the purposes set forth.

HULLING COTTON SEEDS—Joseph Walker, of Dover, England. Patented in England, July 28, 1854: I claim supporting and adjusting the concave bed by means of grooves cut within, or other equivalent devices affixed to the side frame, in such manner that the said concave shall be eccentric to the axis of the hulling cylinder, for the purpose specified.

CULTIVATORS FOR SWEET POTATOES—Wm. P. Zane, of Woolwich, N. J.: I claim the vine hooks, f g g, arranged in such a manner in relation to the cultivating teeth, h h h, that the said hooks will remove the vines out of the way of the said cultivating teeth, and allow them to operate upon the soil without injury to the vines, substantially as set forth.

PROCESSES FOR MAKING KEROSENE—Abraham Gesner, of Williamsburgh, N. Y. (assignor to "The Asphaltic Mining and Kerosene Gas Co."): I claim the process described for extracting the liquid hydrocarbons which I have denominated Kerosene, from asphaltum, bitumen, asphaltic, and bituminous rocks and shales, petroleum and maltha, by subjecting any of these substances to dry distillation, rectifying the distillate by treating it with acid and freshly calcined lime, and then submitting it to re-distillation, as set forth.

MANUFACTURE OF ZINC WHITE—Smith Gardner, of New York City (assignor to (through others) Edward Kellogg, of Brooklyn, N. Y.): I claim the combination of the fire chamber, the vaporizing chamber or oven, and the oxidizing chamber, substantially as described.

ADDITIONAL IMPROVEMENT.

LUBRICATOR—R. M. Wade, of Wadesville, Va. Patented June 6th, 1854: I claim, first, the division of the plug into two longitudinal chambers, C and D, and the relative positions of the feed and discharge openings in said chambers, so that while one chamber is discharging a simultaneous feed will take place in the other.

Second, disclaiming the tubes, f and f', as mere vent passages I claim their insertion relative to the feed openings of cup and plug, as described, whereby they perform the double function of vent and steam passages; the feed openings of the plugs passing under the tubes and discharging the steam contained in the plug clear of the oil in the cup, before communicating with the feed channel of the cup.

[On page 356, Vol. 9, Sci. Am., this invention may be found illustrated.]

A Substitute for Guano.

The *Montreal Commercial Advertiser* says that a French farmer, by the name of Malon, has discovered a method of converting the offal and refuse parts of fish into a valuable manure, equal in fertilizing power to the best Peruvian guano, and possessing no offensive qualities. He conceived a project of converting these fish into a more compact and convenient kind of fertilizer, and accordingly, after a few trial experiments, embarked in 1851 for Newfoundland and established a large factory at Herpon, in the Straits of Belle-Isle. He associated with himself a partner who established also a similar factory at a little fishing village near Brest, in France. At these factories the refuse fish and offal of all the fishermen in the vicinity were bought. They were first boiled under a pressure of fifty pounds to an inch, and then the pressed cakes were reduced to a pulp by a mechanical rasp, and dried in a hot stove. The material was next ground to powder in a mill, and packed away in bags and barrels for use. One hundred parts of the fresh fish yielded twenty-two of fish powder, and is eagerly purchased by the farmers. From the water in which the fish is boiled, about two and a-half per cent. of oil is skimmed. The French factory produces some fifteen hundred tons a year of fish manure, and that of Newfoundland is expected to produce annually eight or ten thousand tons.

A Great German Skeleton.

The famous fossil skeleton of the zeuglodon, found in Alabama some fourteen years ago by a German named Koch, exhibited in New York, and afterwards sold to a Dr. McDowell at St. Louis, was lately taken for debt, and in process of removal fell to pieces, and many of the bones were broken, when the wonderful monster was found to be of genuine plaster of Paris formation, and of entirely German origin, being connected with the primeval epochs only by the raw material.—[Exchange.]

[Barnum couldn't perform such a feat as this.]

Give employment to the poor man whenever you have an opportunity. By so doing, you will often save a fellow being from want—from the pang of returning, without bread, to his house. You will encourage him to be honest and industrious—add to the comfort of his family—receive his grateful thanks, and acquire by his labor the full value of the pittance thus bestowed upon him.

Deterioration of Brass.

R. O. Dian, of St. Mary's, Ohio, informs us that he worked a great deal of brass in England, and when he came to America he brought a quantity of brass wire—Nos. 13 and 14—with him, which, he thought, had been in the shop about twenty years. Latterly, it has become so brittle that he could not

use it, and had to throw it among his old brass rubble. He believes that long exposure to the air is the cause of it becoming brittle.

Steel and Iron.

The difference between common iron and steel is in the carbon in the latter, but if iron be heated to a white heat and plunged in cold water, it becomes very hard. Mechanics take advantage of this in making axles and collars for wheel work, for it is easily filed and turned in a soft state, and afterwards hardened; this is most commonly practiced in the machine shop. Molders who make wheels, are often embarrassed by this chemical property in iron. For as the metal is poured into the mold of moist sand, the evaporation of the water carries off the heat and cools the iron so quick as to make it extremely hard. This is common in such portions of the metal as have to run the greatest distance from the aperture of reception. The only remedy for this, is to have the sand as dry as possible, and as many apertures as are convenient.

The harder the steel the coarser the grain, —fine steel has the closest grain. A neat curved line and gray texture denote good steel; threads, cracks, bright specks denote bad. The management of the forging may indeed modify these indications, and steel good for some purposes, may be bad for others. Very small articles heated in a candle, are found to be perfectly hardened by whirling them in the cold air; and thin plates of steel, such as the needle of a compass, are hardened by being ignited and laid upon a plate of cold lead and quickly covered with another.

"Case hardening" is that property of iron by which it becomes very hard on its surface. Articles of iron may be case hardened by smearing their surface with a paste of the prussiate of potash, then heating them to a red heat, and dipping in cold water.

In making tools, the artist is directed by the colors of the steel while heating. The different colors direct, in tempering, to a standard. When steel is too hard, it will not do for tools intended to have a very fine edge, because it will soon become notched, and if too soft, it will too easily bend. Purple is the color for gravers, or tools used to work in the metals; when the color appears in heating, it is immediately plunged in cold water; a very hard temper will be made, if the steel is taken at a yellow color and dipped. Blue is the color for springs and instruments for cutting soft substances, such as leather, &c.

Force of the Wind in a Tornado.

On the 1st of January, Bombay was visited by a cyclone or hurricane, which commenced about midnight, and lasted six or seven hours. It began at S. E., and before its force was expended had gone round the compass to W. N. W. At the height of the gale the pressure of the wind was equal to thirty-five pounds to the square foot—a force against which nothing living could stand up on open ground. The next morning the gardens appeared as if a heavy roller had passed over them, and the various directions in which the tall Palmyra palms had fallen, afforded a palpable indication of the revolving character of the storm.

Florida Cochineal.

The cochineal is said to be native to Florida; this insect hovers about several varieties of the cactus, but prefers that known as the prickly pear, where it weaves its web and deposits its eggs. In Guatemala it is cultivated to support the insect, being planted in rows on high lands and kept free from weeds. When twenty months old it is said to be fit to receive the insect. The seed insect is small, and is preserved in boxes, twenty-five pounds being sufficient for one thousand plants. The manner of placing them on the plants is to put a small quantity on a piece of gauze and attach it to a thorn; from this they distribute themselves over the plant, and when come to maturity, which is in about two months, are scraped off gently; and exposed to the sun on a polished piece of metal for some twenty days, and then carefully packed in mats.—[Florida News.]