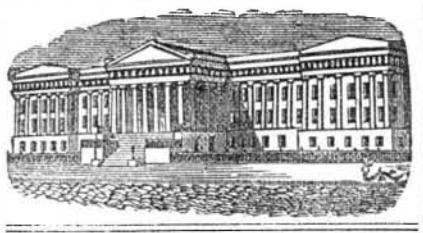

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LIST OF PATENT CLAIMS
Issued from the United States Patent Office.

FOR THE WEEK ENDING JULY 22, 1851.

To J. J. Riddle, of Covington, Ky., for improvement in Brick Machines.

I claim the block or lip, substantially as described, hugging closely the mould wheel, immediately behind its point of contact with the pressure roller, in order to prevent any disturbance of the mass, after having passed the point of contact.

To G. H. Thatcher, of Albany N. Y. for improvement in combined fountain and operator.

I claim constructing a vase or other like article, with two apartments or chambers, having a continuous as well as a periodical communication with each other, by which it is rendered a self-supplying evaporating fountain, the continuous communication of the lower chamber with the upper apartment or evaporator, being effected by the pressure of steam upon the surface of the water in the lower chamber, and the periodical communication, by means of the valve secured in the screw nut, which will be opened by the pressure of the accumulated water in the upper apartment, when relieved of the pressure of the steam in the lower chamber, as fully described.

To J. V. Strait, of Litchfield, Ohio, for improvements in mode of changing reciprocatinginto rotary motion.

I claim, first, the employment of curved or inclined forks (four), having a reciprocating, rectilinear movement, operating on or operated by cams (three), in the manner and for the purposes herein set forth.

Second, the use of cams constructed or attached so that they may be turned or set, in order to produce a change in direction of the motion, and acting in connection with forks or their equivalents, substantially for the purposes described.

To John Jones, of Clyde, N. Y., for improvementin hanging carriage bodies.

I claim the manner herein described of raising the body on to the springs, or lowering it on to the reaches, as may be desired and for the purposes set forth.

To Wm. & Wm H. Lewis, of New York, N. Y., for improvement in Buffing Apparatus for Daguerreotype Plates.

We do not claim heating the buffer, as that has been done by lamps operating on the plate on which the buffing material is stretched, but in that form the heat is uneven, and the vapor from the spirit lamp is liable to come in contact with the buffing material. But we claim the enclosing drum, constructed with the sliding segment or cover, flanch, and lip sliding in the grooved plate and retained by the spring for the purposes specified, in combination with the drum and pipe to pass the heat from a spirit lamp or other heater to the drum, for the purpose of heating the buffer; the drum being fitted with a pipe, or other means, for passing vapor from the spirit lamp, outside the case enclosing the buffer, substantially as described.

To John Jones, of Clyde, N.Y., for improvements in hanging Carriage Bodies.

I claim, first, the combination herein described, of the turning compensating plate, with the rock shaft and the connecting rods, for the purpose of equalizing the action on the helical spring.

Second, I claim the stop lever in combination with the turning plate used in fastening down the body, substantially in the manner described.

Third, I claim the stays for the purpose of keeping the axletrees in their true set or upright position, as described.

To C. W. Stearns, of Springfield, Mass., for improvement in Faucets.

I claim the application of a hollow conical packing around the waist of the valve stem, in combination with an open space between its lower end and the stem, the interior of the tubular projection being smooth, or of such form as to allow a tight joint between it and the conical packing, substantially as described.

To J. A. Lawrence, (assignor to Roberts & Lampson), of New Haven, Ct., for improvement in Saddletrees for Harness.

I do not claim the yoke, the terrett, or the pad iron, separate from each other, but I claim the combination and arrangement of the yoke, the terrett and the pad iron, in such manner that the pad iron may be adjusted at any angle required for use, and immediately secured firmly in its place, by a screw on the terrett-iron passing through the yoke into the pad iron, substantially as set forth.

To J. F. Flanders, of Newburyport, Mass., for improvement in Pumps for raising water, &c.

I claim the rod, H, and its arms, or other equivalent contrivances, and its valve collar, as applied or combined with the rod, F, of the lower box, and the valve or valves made to operate therewith, substantially as set forth.

To D. R. Ambrose, of Portsmouth, N. H., & O. L. Reynolds, of Dover, N. H., for improvement in Cloth-dressing Machines.

We claim, first, the measuring and folding of cloth, paper, and other articles, by means of two revolving cylinders, each of which is provided with a tongue and jaws, the tongue to feed the cloth into the jaws, which seize it and form the fold, and deliver it upon the table, leaving it properly measured and folded.

To Samuel Cook, of Adam's Basin, N. Y., for improvement in Flour Bolts.

I claim the combination and arrangement of the inclined boards, with a case of graduated screens, constructed and arranged substantially as described and for the purpose set forth.

To N. A. Boynton, of Boston, Mass., for improvement in Parlor Cooking Stoves.

I claim the arrangement of flues, as herein above described about the oven of a parlor cooking stove, by which the heat, smoke, &c., is first made to pass over the top of the oven, and then down the passage formed between the front side plate and the side of the oven, across the bottom, up through the passage formed between the rear side plate and the other side of the oven, and finally out through the smoke pipe, the heat, &c., being made to pass to the part of the oven most remote from the fire chamber, by partitions (four) on the top and bottom of said oven, substantially as described.

To S. A. Bantz & Wm. Andrew, of Frederick, Md., for improvements in Mills for Grinding Corn and Cobs.

We claim the chopping and feeding apparatus, constructed and operating as herein described, in connection with a grinding apparatus, as described, in connection with a grinding apparatus.

We also claim the recess in the concave, which prevents the escape of fragments when struck by the teeth of the cylinder.

To M. G. Hubbard, of Rochester, N. Y., for improvements in Carriage Springs.

I claim the combination of the rockers and spring bars of a carriage, substantially as set forth, and for the purposes described.

To Wm. Hawkins, of Milwaukie, Wis., for improvements in Stave-dressing Machines.

I claim the arrangement for starting each stave or introducing it to the feed, at the proper moment, consisting of the wheel with its stud, the bent lever, the pitman, two levers, shaft, sliding rod, spring, and adjustable starting bar, in combination with the apparatus for giving the reciprocating motion to the jointing cutters, so that the greatest width of the stave may be given on different lengths of staves, uniformly at the middle, or such other point as maybe desired, the whole being combined, arranged, and operated in the manner substantially as specified.

To Joseph Burgess, of Leicester, Mass., for improved machine for dressing Boot Forms.

I claim the circular motion of the cutters attached to one end of a lever, the other end being so confined on the opposite side of the boot form, as to allow the cutters to play up and down, and dress one or both sides of a boot form at a time, as set forth.

To Jacob Jenkins, of Andover, Mass., for improvement in Feather Edging Gauges for Shoemakers.

I claim the adjustable gauge rest, the pressure roller and knife, or cutter, in the case or handle, substantially as described, and so as to constitute a tool for feather edging or reducing soles of shoes, as specified.

To S. W. Kirk, of Coatesville, Pa., for improvement in Bran Dusters.

I do not claim, exclusively the employment of intermediate vanes, acting in connection with the brushes on the reel for forming a blast, as such has already been used; but I claim the employment of adjustable vanes, which may be set in or out, and obliquely in the direction of their length; or be set either way only, as described, by the vanes, such adjustable vanes acting in combination with the brushes on the reel, for the purposes and in the manner substantially as set forth.

To Reuben Shaler, of Madison, Conn., for improvement in Dyeing Door Mats.

The coloring of borders and figures in a variety of colors and forms, upon the wool of lamb skins and sheep skins for mats and other similar purposes, by the use of pans (which are to contain the dyes), being made and shaped in the form of the borders or figures designed to be closed, in combination with the matching tin or form, or an equivalent device for parting the wool, substantially in the manner and for the purpose set forth.

To Wm. R. Jones, of Granville, N. Y., for improvement in machines for preparing hubs for boxes

I claim the combination of the movable cutters with the saws and small pins arranged and operating substantially in the manner and for the purpose described.

I do not claim the cutter singly, or the arbor, or disc, or the saw, such things having been used separately before.

DESIGNS.

To H. K. Flinchbaugh, of Konestoga, Pa., for design for Cast-iron Tomb.

For the Scientific American.

Electric Action.---Steam Boiler Incrustations.

In the Scientific American of the 12th inst., I find the announcement of an English patent for the prevention of Incrustation in Boilers, by employing zinc plates in them; and the explanation given is, that "the zinc is more oxidizable than the iron, so the latter is protected from incrustation, while the former oxidizes."

You do not like the plan, as it would be cheaper to get a copper boiler at once. I also do not like the plan, but from a very different reason, viz., that the process of incrustation will be the very reverse of what is claimed. The principles of electro-chemistry, as I understand them, are, that when metals stand to each other in the relation of *anode* and *cathode*, in contact with an *electrolyte* containing in solution any salt, *electrolysis* results, and the base of the salt is deposited on the *cathode*.

The various operations of Electro-Gilding and Electro-Metallurgy, depend on this law of Electro-Chemistry.

I have analyzed many specimens of "scale" from marine boilers, and find them composed almost entirely of sulphate of lime, yet very different in appearance and hardness, from sulphate of lime in any other form, that I have ever seen. That this incrustation is the result of galvanic action I have no doubt; I believe the calcium to be deposited on the electro-negative metal, in a metallic state, but on account of its peculiar affinities, it immediately becomes an oxyde, and then a sulphate, by causing a decomposition of the sulphates in solution in the boiler; these changes taking place, apparently, instantaneously, but actually requiring some duration of time. Make a solution of a salt of any metal, place in it a plate of iron and also one of zinc, the deposit of metal from the solution will (provided decomposition takes place) invariably be on the iron, or, as Faraday terms it, the *cathode*.

These principles are well known to electrotypists, and there will be no exception to them when precisely a similar action takes place in a steam boiler. If the English patentee had used copper instead of zinc, therewould have been some reason in his reasoning, as copper is electro-negative to iron in a solution of sea water, and while the surface of the iron boiler would be acted upon in proportion to the amount of copper surface, itwould remain free from scale, and all the scale would be deposited on the copper. These plates of copper should be so inserted as to be taken out and cleaned, whenever necessary. I once saw a cold chisel, which had been left by the workmen in one of the Mississippi (copper) boilers, and had been there during a long cruise in the Gulf of Mexico, taken out, partially corroded it is true, as might have been expected, but entirely free from scale, while the boiler was very badly incrusted. I have seen copper feed-pipes to iron boilers become choked up with scale, while iron pipes, would remain clear.

I have seen the copper of steamer's bottoms clean, except opposite the wheels where they were very foul. And I was always satisfied of the reason, and wherever I have known two metals in proximity, one of which was more readily dissolved by the medium in which they were placed, than the other, I have never known an exception to the above described laws of electrolytics; hence I do not believe in any exceptions to the laws of nature, to accommodate Mr. Babington or any one else.

I have hastily thrown together what I believe to be true reasons and remedies for incrustation, and submit them to you, not with any request or wish for their publication, but should they seem rational and sound, to you, I may write out in full my ideas of the various complicated changes which take place in the forms of matter, especially inside of steam boilers. I have given the subject several years of close investigation, as I think it one of vast importance. I am, respectfully,

N. B. Webster.

Portsmouth, Va.

For the Scientific American.

Causes of Intermitting Springs and Geysers.

When, in a hilly or mountainous country, there is a cavity under ground surrounded by solid rock, stiff clay, or hard pan, which has no horizontal or downward opening, but whose opening is a narrow channel, first bending upwards and then downwards, the downard arm being longest, and into which cavity water is infiltrated from above; then, when this cavity is filled with water to a level with the highest ascent of the curved channel, this channel will act as a syphon; and, if this syphon carries off water faster than it accumulates, there will be an intermitting spring at its lower external opening which will flow so long as there is any water within reach of the short arm of the syphon, and when this is exhausted, the spring will become and remain dry till the water again accumulates in the cavity or fountain to the height of the highest curve of the syphon, and the process of emptying the cavity will be repeated.

Again: if there be such a cavity whose external opening or openings lead upwards, and which has an internal channel leading into a volcanic furnace; then, when the water accumulates in this cavity till it ove-flows into the furnace, where it is converted into steam, this steam will rush into the cavity or reservoir, heat the water there, and, when the steam is no longer condensed, it will press on the water in the cavity, and by its expansive force drive the water upwards in a jet to the height of ninety feet, more or less, as in the great Geyser of Ice and, which is a mountainous volcanic country. Now, this last is all my own supposition, the subject does not admit of exploration; but it is the most rational explanation of the cause of the Geyser I have seen, and Geysers must have a cause as well as everything else. May not the phenomena of volcanoes and earthquakes be accounted for on somewhat analogous principles, especially their intermitting; for, if water be conveyed to the furnace by a syphon, or upward channel, and nearly or quite all driven out of the reservoir by the expansive power of steam upon it, the eruption must of necessity intermit till water accumulates, and is supplied to the furnace again.

H. R. S.