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## LIST OF PATENT CLAIMS

Issued from the United States Patent Office  
FOR THE WEEK ENDING FEBRUARY 1, 1853.

**CUTTING BARREL HEADS.**—By Chas. B. Hutchinson, of Waterloo, N. Y.: In relation to the head turning apparatus, I am aware that there is nothing novel in the use of clamp rings, as such, or of rotating cutting tools, such as beam knives, chamfering chisels, and face planes, set on discs or otherwise; but the peculiar combination and arrangement of all these, which I have adopted, I believe to be wholly novel and not heretofore used, either for the purpose specified, or any other.

I claim the use of clamp rings to hold the pieces of heading, and hung in bearings on opposite sides or in any equivalent way, so as to be reversible in combination with the adjustable rotating cutters, to cut and bevel the edge of the head, and with the face cutters arranged upon the disc, as described, whereby the opposite sides of the head may be successively presented to the action of the cutting tools and the head cut out, chamfered, and face dressed or cut out and chamfered only, at one operation.

**FRAMES FOR LANTERNS.**—By E. F. Parker, of Proctorsville, Vt.: I am aware that off-sets have been turned on the frames of lanterns, for holding the glass, &c., but the corner pieces are made up of two or more pieces soldered together, this I do not claim. But I claim the turning of grooved or sunken flanges upon the frames of lanterns, so that when the top and bottom are united, the flanges for holding the glass, mica, or their equivalents, shall be already in place to receive them without any further soldering, as described.

**SCREW WRENCH.**—By G. B. Read, of New York City: I do not claim having the jaw attached to a shank, and the shank passing through a recess in the jaw, C, independent of the mode of operating the jaws; but I claim the arrangement of the several parts as described, viz., the jaw, C, being attached by a pivot to the stock, and having a recess through it, through which the shank of the adjustable jaw, E, passes, the shank being provided with a rack, into which a pawl attached to the end of the stock, catches, said pawl being kept into the rack by the spring, by which arrangement the two jaws, E and C, are forced against the sides of the nut as the handle of the wrench is turned, and the jaws made to bear or bind harder upon or near the corners of the nut, thus preventing the jaws from slipping around it.

**GAS APPARATUS.**—By William and Matthias Stratton, of Philadelphia, Pa.: We claim, the construction of the stove, removable gates in the ends, for the introduction of the retort and the movable section under the rosin holder, in the manner as set forth.

**GLASS FURNACES.**—By J. J. Shiverick, of North Sandwich, Mass.: I claim combining the long conical valve and the discharge tube, by means of a set screw and nut, and supporting spring, whereby the flow of the melted rosin, may not only be regulated, but when any interruption takes place, the attendant can readily remove the same, either by lifting the valve or pressing on it, and such valve be subsequently moved back to its former position by the spring.

**INDIA RUBBER.**—By Richard Solis, of New Brunswick, N. J.: I claim the manufacture of india rubber fabrics by the mixture of ground or powdered vulcanized rubber, with the ordinary india rubber of commerce.

**VOLTAIC BATTERIES.**—Isaac L. Pulvermacher, of Preslaw, Prussia. Patented in Austria, Oct. 9, 1849. I do not claim simply making galvanic elements of negative and positive metals with porous, non-conducting substance interposed.

What I claim is constructing galvanic elements of positive and negative metals separated from each other by a porous non-conducting substance, when the said porous non-conducting substance is surrounded and held by one or both the said metals, substantially as specified.

Also forming the galvanic elements by coiling, in the form of helices, the positive and negative wires in grooves, previously made in the surface of an inner core of wood or other porous substance, as specified, so that when the wires are wrapped around in the said grooves, they shall both be in contact with the porous substance within and separate from each other, as specified.

Also forming a chain of a series of elements, as described, by means of ties or links, for the purpose specified.

Finally, the method of interrupting the current of electricity by means of the spring vibrating conductor, interposed as described, for the purpose of breaking and closing the circuit by the movement of the human body, or other like motion, as set forth.

### RE-ISSUE.

**DISCHARGING WATER FROM VESSELS.**—By Nehemiah Hodge, of North Adams, Mass. Dated Oct. 19, 1852. I claim the combination of a system of two series of chambers, connecting pipes, discharging pipe, receiving hole or orifice and ventilating pipes, as arranged, connected, applied to the hold of a navigable vessel, and made to operate during the rolling or pitching movements thereof, for the purpose of elevating and discharging water therefrom, as set forth.

### Extension of a Patent.

On the petition of Desire Buck, administratrix of Darius Buck, deceased, of Albany, N. Y., praying for the extension of a patent granted to him on the 20th of May, 1839, for an improvement in cooking stoves, for seven years from the expiration of said patent which takes place on the 20th day of May, 1853.

It is ordered that the said petition be heard at the Patent Office on Monday, the 11th of April, 1853, at 12 o'clock m.; and all persons are notified to appear and show cause, if

any they have, why said petition ought not to be granted.

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

S. H. HODGES, Com. of Patents.  
Washington, Dec. 12, 1852.

### Riddle's Report of the Great Exhibition. (Continued from page 166.)

**SPECIMEN OF CARMINE.**—This beautiful product is obtained from cochineal, and is so valuable an article as to be rarely met with in a state of purity. It is obtained by the following process:—boil 12 pounds of filtered rain water in a tin vessel, and add to it four ounces of finely-powdered cochineal; boil it for five minutes, constantly stirring with a glass rod; then add five scruples of alum in fine powder, perfectly free from iron; boil again for two minutes, remove the vessel from the fire, cover it, and allow the contents to settle. As soon as the liquor is clear, pour it, while still hot, into glass or porcelain vessels, and suffer it to remain some days, covered from dust.—The alum gradually precipitates the coloring matter, in combination with animal matter and a little alumina. The precipitate is put on a filter, washed, and dried in the shade.—It is one of the most beautiful red colors used by painters.

**SEVERAL SPECIMENS OF WOOD PRESERVED BY CHEMICAL PROCESS.**—All wood contains what is called albumen—an essential ingredient in vegetable bodies, entering largely into the composition of the sap. As long as this albumen is supplied with sufficient moisture, so long will it be liable to enter into a kind of fermentation, especially if placed in damp or ill-ventilated situations, and often even where the ventilation is perfect, and the atmosphere in its ordinary state of humidity. If a piece of green timber, containing this albumen in a perfect state of solution in the moisture of the wood, be employed in the construction of a house, the albumen undergoes fermentation and the rot and decay of the wood speedily follow.

How is this waste and destruction of wood to be prevented? To a certain extent, by thoroughly drying the timber in a current of air. This, however, takes considerable time to effect. For instance, a large piece of oak requires exposure for eight or ten years to dry it completely. This is demonstrated by the fact that it loses weight for that period. We may apply heat to hasten the process of drying, but the wood, when exposed to the ordinary temperature of the atmosphere, absorbs moisture in quantity varying with the compactness of the wood. In a dry room, without a fire, the quantity of water re-absorbed by wood, amounts, on an average, to ten per cent. As long as the albumen of the wood is supplied with sufficient moisture to render it soluble, so long will there be danger of dry rot. The best plan, therefore, to adopt, is to render this albumen perfectly insoluble, so that, however much moisture shall be absorbed, it cannot be brought into an active state again. For this purpose Sir H. Davy recommended that the wood should be steeped in corrosive sublimate—a salt called bichloride by chemists, which has the property of forming an insoluble compound with the albumen, and thus preventing its further action. This process was commercially applied by Wm. Kyan: but, from the great expense attending the preparation, and the fear that the use of this poisonous salt might prove deleterious to the health of persons coming in contact with it, the employment of corrosive sublimate has been abandoned.—Creosote oil, obtained from wood and coal tar, has been used with great success; but this also possesses a disadvantage, as it imparts a disagreeable odor, and increases the inflammability of the wood.

Some of the specimens exhibited by Mr. Payne are prepared, first, by injecting a salt of baryta into the pores of the wood, and then adding a solution of sulphate of iron. By this means a compact solid substance is formed, which remains in the wood, thereby increas-

ing its weight, and partly converting it into stone. Sir W. Burnett & Co., have some specimens prepared by injecting chloride of zinc into the pores of the wood. This substance makes the albumen perfectly insoluble, even in sea water, does not communicate any color or odor to the wood, renders it less inflammable, whilst its use is perfectly innocuous in a sanitary point of view.

### Recent Foreign Inventions.

**MANUFACTURE OF LENSES.**—Alfred Vincent Newton, patentee.—The dioptric lens, heretofore in use, for sea lights or other lights requiring great intensity, being constructed of single zones or rings, made up of segments according to the diameter of the required lens, has induced a belief that glass could not be prepared without incurring the expense of grinding and polishing the curved surface, and that economy dictated a method of manufacture embracing a centre and zones or segments. The inventor was induced to examine the method of the construction of the built up lens, to try and reduce the expense without diminishing the strength of the light. Commencing with the suggestions of Buffon, that a spherical body from its thickness absorbs light according to its density, and that a sectional figure of any required shape and thickness could be cast of glass and ground in concentric cones, to produce a lens, as partially accomplished by Abbe Rochon, who prepared the way for the manufacture of the dioptric lens in separate pieces by the ingenious Fresnel, termed "the annular band lens," which is now used in our best lighthouses. These lenses are very expensive, for each separate piece must not only have its surfaces formed with great accuracy, but all the separate pieces must be arranged to each other, so that when put together they shall form a perfect whole. This invention is to produce a dioptric lens which shall present all the practical advantages of Fresnel's annular band lens, at so cheap a rate as to admit of its being applied to all purposes requiring intensity of light. The inventor makes dioptric lenses in one or several pieces moulded and pressed into the form required for the surfaces, and when made in several pieces the required fit of the several parts is produced by giving the reversed required form to metal moulds in which the molten glass is to be run and pressed. To promote focal intensity, and prevent the absorption of light, each lens is manufactured as thin as the size and number of concavities and convexities will permit.

[The above is from Newton's London Repertory of Arts, Sciences, and Inventions; although the patent is in the name of Mr. Newton, the inventor, we believe, is a native of France. This improvement, if it answers according to the expectations of the inventor, is one of the most useful and important inventions that has been brought before the public in many years. The ferry lanterns placed on our docks at night, are very inefficient, so are the lights carried in front of the wheel-houses on the boats. We hope and trust that such an invention as this one purports to be will be the means of leading our ferry companies, of which there are now a great many connected with this city—to adopt them.

**PURIFYING GAS.**—W. S. Losh, of Carlisle, patentee.—This improvement consists in employing the chloride of lead reduced to powder and mixed with an equal bulk of coarsely powdered coke, or saw-dust, in order to allow the gas to move through it easily. These materials are mixed in a damp state, and laid upon the shelves of an ordinary dry lime purifier. The gas when passing through the chloride of lead and coke is deprived in a great measure of its ammonia and sulphurous components. Two such purifiers are used in conjunction, and when one ceases to act, the gas is turned on to the other. The chloride of lead can be brought back again for future use, by washing it, heating it to dryness, passing it through a sieve, and treating it with hydrochloric acid.

**SUGAR.**—Joseph Brandies, London, patentee.—This improvement consists in the use of the sulphurets and the hydrosulphurets of soda, potash, and ammonia for precipitating the lead used in refining saccharine solutions.

The sugar under treatment is to be dissolved in the usual way, and when about heated to 180° Fah.,  $\frac{1}{2}$  per cent. of subacetate of lead is added and stirred in, and the solution is filtered. To the filtered liquor is then added a sufficient quantity of hydrosulphuret, or sulphuret of soda, potash, or ammonia to precipitate every trace of the lead solution, which may be tested by hydrosulphuric acid.

**MALLEABLE IRON AND STEEL FROM CAST-IRON.**—Jean E. Beauvelt, Paris, patentee.—This improvement consists in heating cast-iron in contact with metallic oxyde, or a carbonate containing a sufficient proportion of oxyde, and then rolling and hammering it without previous puddling. The cast-iron to be operated on should be cast into bars or plates in such a way that the bubbles and impurities may form the end bar or plate and be cut off with the rough end instead of being distributed over the surface. The substances used to change the character of the cast-iron are protoxyde of zinc and calamine, but the oxydes of iron, red oxyde of manganese, deutoxyde of copper, protoxyde of tin, or oxydes of lead may also be employed. The protoxyde of zinc, calamine, and oxydes of iron are the most suitable. The cast-iron bars are placed along with a sufficient quantity of the protoxyde or calamine in a common cementing case, and are raised to a cherry red heat in a suitable furnace, and kept at this heat till the process is completed.

**COATING FOR WOOD AND METAL.**—Laurent Machabee, of Avignon, France, patentee.—This composition consists in melting together three and one-fifth of an ounce of vegetable tar, one ounce mineral tar, one-sixth oz. of white grease with the addition of one-third of an ounce of Roman and hydraulic cement reduced to fine powder. The latter ingredients are added to the others in a boiling state. This stuff in a hot state is applied to metal or brick surfaces with a brush. Any number of coats may be put on. The proportions given may be pounds, we only present the parts by weight.

**PAPER.**—J. H. Brown, and J. Macintosh, of Aberdeen, Patentees.—This invention consists in using hollow moulds, composed of perforated metal, wire, or other suitable material, and covered with felt, within which, after their immersion in a vat of pulp, a partial vacuum is created, so as to cause the pulp to adhere or be deposited on the felt surface in a layer of uniform thickness. This process is applicable to the manufacture of sheets of paper and various articles, such as envelopes, bags, cases, &c. The articles after having been formed, are subjected to a drying process, and to pressure where their form will admit of it.—[London Mechanics' Magazine.

### Shoemaking in Massachusetts.

There is an army of at least 500 shoemakers in Marlboro', Middlesex Co., Mass., who manufacture 6000 pairs of children's shoes every working day. One journeyman has worked on the bench for thirty years, without losing a day in consequence of sickness, and during that time has saved ten thousand dollars. One firm, during the last year, has manufactured 217,000 pairs of shoes. Another of the firms do an immense business, employing one hundred men in that State, and one hundred and fifty in their shoe village in New Hampshire. Last year they made two hundred thousand nine hundred and sixty-three pairs of shoes in Massachusetts, and at least as many more in New Hampshire.

### Coal Mine on Fire.

The Broad Mountain Vein at Coal Castle, which took fire on the 13th of December, thirteen years since, still continues to pour forth its sulphuric gases, and in wet weather steam may be seen rising in volumes. For a distance of half a mile, this large vein has been entirely consumed above water level; how far below is not known.

### Rise of an Island.

An island, one hundred feet in length, and seven feet in height, was recently formed in the Lake of Cleevets, near Eutin, in North Germany, by the effect of the hurricanes. In 1814, a similar phenomenon occurred, but in a few months the isle suddenly disappeared, and there were twelve feet of water where it had been.