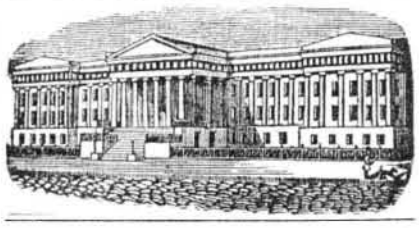

[Reported officially for the Scientific American.]

LIST OF PATENT CLAIMS

Issued from the United States Patent Office

FOR THE WEEK ENDING FEBRUARY 24, 1857.

PHOTOGRAPHIC GLASS HOLDER—Joseph Longking, of the Township of New Windsor, N. Y.: I do not claim any special arrangement of cutters; neither do I claim anything relating to photographic holders heretofore known. Neither do I claim, broadly, the making of metallic alloys out of lead, tin, and antimony. Neither do I claim, broadly, the substitution of one material for another.

But to the best of my knowledge, the photograph holder invented by me is a new article of manufacture, and exhibits properties and virtues which no other holder heretofore known presents.

Therefore, I claim a photograph holder composed of antimony, tin, and lead, alloyed in the proportions substantially as set forth.

[The holders hitherto employed to contain the glass in the camera for taking photographic pictures, have been made of wood, with glass corner-pieces cemented to them. The chemicals soon act upon the cement, and the corner-pieces fall out and soon become useless This improved holder is made of a metallic composition for resisting the action of the chemicals employed.]

IRON AND STEEL—J. G. Martien, of Newark, N. J. I do not intend to claim, generally, either the purification of fluid or molten iron, by forcing through, among or in contact with it, air, steam, or other oxydizing or purifying gases, or the employment of any chemical agents for the same purpose.

Nor do I wish to limit myself to any particular construction or arrangement of apparatus for the purifying or converting process, or the use of such chemical agents as have been specified.

But I claim, in the purification or conversion of fluid or molten iron, subjecting the molten iron to the action of atmospheric air, steam, or other gaseous body, or chemical agents, in any form capable of evolving oxygen or other purifying gas, in such manner as to cause the air, steam, or other solid, liquid, or gaseous body, to impinge upon, penetrate through, or search among the metal while it is flowing, or in a state of transit through a trough or conductor, or other place, substantially as and for the purpose specified.

[This patent is for one of a number of improvements invented for improving the iron and steel manufactures. It covers the supplying of air or other gases to metals while in a molten state and in motion through a trough or gutter, or any vessel fitted for the application of the air or gas to the metal.]

CALK FOR HORSE SHOES—Edward Maynard, of Williamsburgh, N Y.: I do not claim a movable screw calk for the shoes of animals.

But I claim the conical or tapering body, 1, of the calk, fitting a corresponding shaped hole in the shoe in which it is retained by the screw, 2, or its equivalent, substantially as and for the purpose specified.

IRON PAVEMENTS—Chas. Mettam, of New York City: I do not claim the casting of the blocks or plates with lateral projections on the lower parts to extend under the adjacent blocks or plates; neither do I claim the casting of the blocks or plates with tenons to enter mortises in the adjacent blocks or plates, when such tenons stand out laterally from the sides of the blocks or plates.

But I claim casting each block or plate with a number of hook standing out laterally from below the general level of the bottom thereof, and turning upwards in the form of vertical tenons, and with a corresponding number of mortises in the lower faces, so that when the plates are laid together the vertical tenons of one block or plate enter mortises in adjacent ones, and the mortises receive tenons of adjacent ones, while the laterally projecting portions of the blocks or plates make them mutually supporting, substantially as described.

[There can be no question but cast-iron blocks make a good and durable pavement when properly laid and fitted together. This improvement is designed for fitting the blocks together in a superior manner. Each block is cast with a certain number of hooks projecting laterally from the lower part, then turning upwards vertically in the form of tenons; there is also a corresponding number of mortises for the reception of these hooks in each block, and when all laid down, the blocks are firmly and solidly locked together, making a very solid pavement.]

STEAM BOILERS—J. J. Palmer, of Flushing, N. Y.: I am aware that the circulation of the water in steam boilers has been and is effected by the use and arrangement of heating flues, and therefore I do not claim generally producing such a circulation by the use of such flues.

I claim the particular arrangement of the flues, B b B b, substantially as described, close to the fire shell of the boiler, and admitting only a thin but continuous sheet of water between them and the fire shell; this thin sheet of water also connecting freely at top and bottom with the main body of water in the boiler, by which arrangement a more rapid and complete circulation is produced, this thin sheet of water being constantly forced towards and in contact with the sides and crown of the fire shell, i. e., the hottest parts of the boiler, and thus heated more rapidly and made to circulate the faster.

I also claim the arrangement of the perforated plate, E, it being interposed between the furnace and low exit into the smoke box or stack.

CORDAGE MACHINES—James Pine, of Hoosick Falls, N. Y.: I do not claim the use of stretching rollers, I I, except when used in a flyer, E, as described, Nor do I claim producing friction on the bobbins of the flyers, by means of springs applied otherwise than as described.

But I claim, first, the additional flyers, B, carrying the stretching rollers, arranged relatively to the main flyers, S, substantially as described, and deriving motion in the same direction as the said flyers; but at a less velocity, and operating substantially as specified, to stretch the strands, after they have received the usual twist, and to impart an additional twist, to compensate for the reduction of twist by stretching.

Second, the device for producing an uniform tension on the strands, by friction upon the strand bobbins, consisting of the elastic curved lever, or combined lever and spring, h j, attached by a fulcrum pin, i, to the flyer frame and operating on one head of the bobbin, and upon the surface of the outer coil of yarn, or strand, on the bobbin, substantially as set forth.

[Several useful points are embraced in this patent for manufacturing rope. It has always been difficult to maintain uniform tension on the strand bobbins, because of the different quantities of yarn on them at different times; a remedy is provided for this. In making tarred rope it is very easily to work it while warm, but difficult while cold; a remedy is also provided for this defect. In stretching the strands prior to laying the rope, the twist is reduced; a remedy is also provided for this, and rope of a very superior character. is therefore the result of this invention.]

GRAIN SEPARATORS AND STRAW CARRIERS—Cornelius Van Derzee, of Albany, N. Y.: I claim the method of agitating and moving the straw, for the purpose of separating the grain from it, by rings or spokes rotating in connection with each other, or in reference to each other's movements, substantially as set forth and described.

SAW FILER—Archibald Robbins, Alanson Shewman, and L. R. Bigelow, of Watkins, N. Y.: We claim the combination and arrangement of the sliding carriage, F, the index wheel, H, arc adjuster, J, and guide frame, M, operating in the manner and for the purpose set forth.

FLOATING SECTIONAL DRY DOCKS—John Seely, of Buffalo, N. Y.: I do not intend to be limited to the particular dimensions given of the several parts of my improvements, as these dimensions and proportions may be varied as circumstances may demand. I do not intend to be limited to the use of a dip wheel for discharging the water from the docks, when circumstances shall render it more favorable to use pumps for the same purpose.

I do not claim the several parts described, except the tubular hinges, when used independent of the several combinations described.

First, I claim the combination of the conducting pipe, e c d, with the tubular hinges, a a b, end sectional dock, D, substantially as set forth.

Second, I claim the combination of the parallel braces, K K', turning upon joints, t t, with the floating docks, D D, and the wheel pit, W, for the purposes set forth.

RIBS FOR COTTON GINS—John W. Webb, of Cotton Valley, Ala.: I am aware that the whole surface of the rib, or the entire space between A and A, might be chilled, but in my opinion they would not be so good, as they would be more likely to break, besides, they would be far more difficult to cast, and it would be far more expensive to finish them than if they were chilled at A A, only as described.

I claim the new manufacture of cotton gin ribs, as described, that is to say, ribs of cast iron, with two places chilled upon them in casting, while the rib is so formed that the ends may be reversed in the same breast of the gin, so that when one chilled part of the rib is worn out the other may be brought to the working point of the gin saw, and thus effect an important economy in the construction of cotton gins.

SOLAR CAMERA—David A. Woodward, of Baltimore, Md.: I do not claim the photographing camera obscura, or the solar reflector and lens, or any part thereof, of themselves.

But I claim adapting to the camera obscura a lens and reflector in rear of the object glass, in such manner that it is made to answer the two-fold purpose of a camera obscura and camera lucida, substantially as and for the purposes specified.

HANGING THE SIEVES OF GRAIN SEPARATORS—Benjamin Wright, of Hudson, Mich.: I do not claim, broadly, the jarring of the shoe in grain separators in order to keep the grain sieves clear, as that is seen in many separators.

Neither do I claim supporting the ends of the shoe upon elastic bars, for this is seen in J. Mehel's patent, Aug. 21st, 1847.

Neither do I claim hanging the shoe in adjustable hanging bars; an example is seen in Jno. Bambrough's patent, March 20th, 1847, of such bars.

Neither do I claim supporting the inner end of the shoe, as in S. Canby's parent, Dec. 28th, 1852. The screw rod or pin, F, in my device does not support the shoe.

Neither do I claim any part or feature of the described machine which is seen in any other grain separator But to the best of my knowledge and belief no grain separator has ever been made in which an adjustable rod or pin, F, and hooked stop plate, G, were used, in the manner and for the purposes I have described.

Therefore I claim as new in grain separators the use of an adjustable pin, F, and hooked stop plate, G, when the said parts are applied, and operated in the manner and for the purposes described.

[This improvement is designed to prevent the screens of grain separators from becoming clogged. The outer end of the screen is attached to two elastic bars, one on each side, and the inner end of it is connected to a pendant. A hanging pin is inserted in an open slot in the shoe, therefore as the shoe is shaked it receives a quick peculiar jerking motion, that prevents the creens from clogging.]

METALLIC LATHING—Wm. E. Worthen, of New York City: I know that corrugated iron has been used for floors, it is also employed for partitions, but it is, as far as I know, lathed either with iron or wooden laths riveted on. I know also that iron lathing having a section like a C, and other sorts of iron lathing having been used. I therefore claim none of these as my invention.

But I claim corrugated metal provided with tongues slit out of the body thereof, and bent away from their original position, substantially as specified, and constituting as a whole an article to be used in building, substantially in the manner and for the purpose set forth.

I also claim such tongues formed substantially in such a manner, on and out of corrugated metal, when they are dished or concaved, substantially in the manner and for the purposes described.

SHOVING POLES FOR STEAMBOATS—D. Cumming, Jr. (assignor to D. Cumming, Sen.) of Mobile, Ala.: I do not claim the suspending of bodies upon swivels or universal joints, as that is a very old method.

Neither do I claim the general application of steam in a direct manner to tool handles and other kinds of implements, for I am aware that steam has been thus applied to hammers, tree saws, pile drivers, drills, &c.

Neither do I claim broadly, the employment of a steam engine for operating poles for pushing boats along; an example of such employment is seen in John Dougherty's rejected application for a patent dated May 27th, 1847.

In this device the engine is a stationary one, located in the central part of the vessel. A shaft which communicates with the engine, extends across the vessel, as in other steamers. The poles are placed on the side, and operated by the shaft. This is a very cumbersome and clumsy arrangement; it could not be used except with great difficulty for the purposes for which my improvement is applicable.

Other devices for pushing boats along have been invented, but the shoving pole or rod has never been combined directly with the piston of a movable or portable steam cylinder, such an arrangement is, therefore, a new combination. Nor has any other apparatus for shoving off boats ever been invented which was so well adapted to the purpose, and so highly useful as that described by me.

I claim the combination of the shoving pole or rod, G, directly with the piston, a, of a portable or movable steam cylinder, when the parts are arranged and employed in the manner and for the purposes substantially as described.

[This invention is designed for shoving steamboats off bars and shoals. A small steam engine is fitted to the bow of the boat; in its cylinder is a piston, attached to a universal joint, and a pole is connected to the piston rod. Steam from a boiler in any part of the boat is conveyed by a flexible or other tube to the cylinder, and the pole is operated by the piston, shoving the pole to force the boat off the shoal. The small engine is peculiarly constructed, and is capable of being easily moved to any point of the boat, for more effective action.]

KEEPER FOR RIGHT AND LEFT-HAND DOOR LOCKS—Calvin Adams, of Oak Hll, N. Y.: I claim the use of a beveled keeper, such as described, when employed in connection with a double-faced lock, having a blunt bolt, so that the lock may be used on a right or left-hand door, without changing any of its parts, as set forth.

HAND SEED PLANTERS—J. H. Bruen, of Penn Yan, N. Y.: I claim the thin broad extremity, F, or its equivalent, at the lower end of the rod, B, acting as a cam to open the blades, by giving said rod a partial turn with the hand, substantially as specified.

Also, in combination with the above, the arrangement of the seed distributor, G, on the rod, B, whereby the seed is made to drop simultaneously and only with the opening of the blades, as described

I also claim the star or coral-shaped attachment, I, of the rod, B, operating as described, so as to insure the regular action of the seed distributor.

HINGES—J. D. Browne, of Cincinnati, Ohio: I do not claim the inclined planes on the joints or bearings of a hinge, as they are well known.

I claim, making one part, b, of the bearings of a hinge, concentric to the other part, a, as described.

CAST-IRON KETTLES—C. C. Bradley, Jr., of Syracuse, N. Y.: I claim the arrangement of the revolving shaft, vertical fans, and the grindstones, with respect to the kettle, as describe, when the grindstones operate upon successive portions of the kettle by a change of velocity in the shaft, as set forth.

CAUTERIZING SYRINGE—E. T. Bussell, of Shelbyville, Ind.; I claim the combination of hollow plunger, B, with cauterizing rod, C, encased, and divergent spring fingers with absorbent bulbous extremities, all connected with cylindrical tube, A, substantially as set forth and for the purposes specified.

FILE CUTTING MACHINE—I. H. Coller, of Poughkeepsie, N. Y.: I do not claim the manner of automatically graduating the blow by the action of the cams and springs—but I claim, as an improvement on the mode patented by Conklin, Sidman, and Whritner, the jointed frames, P Q R D, for transmitting the graduated effect of the springs to the hammer, so that the rods holding said springs will not vibrate from the movement of the hammer.

I also claim the combination of the lever jaws with the spring tang holder, arranged and operating substantially as and for the purposes set forth.

COMBINING HYDROGEN AND WOOD GAS—Warren C. Choate & C. N. Tyler, of Washington, D. C.: We claim combining hydrogen gas with the gaseous products evolved from the dry distillation of wood, in the manner substantially as and for the purposes described.

ROTATING BREECH FIRE ARMS—Samuel Colt, of Hartford, Conn. Patented in England March 3, 1853: I am aware that the many-chambered breech, in repeating fire arms, has been rotated to shift the chambers, and these several chambers in succession held in line with the barrel during the discharge, by means of a driving pin receiving motion from the cock, and working in longitudinal and diagonal grooves made, sometimes, on the outer surface of the said breech, and sometimes on the inner surface of the central bore; and I am also aware that the breech has also been thus operated by the driving pin working in radial and diagonal grooves made on the rear flat face thereof, but when so made, the grooves being formed in a flat surface, and the cock, which imparts motion to the driving pin, working on a fulcrum or central pin, it was necessary either to connect the driver with the cock by a joint pin, or to give the driver, a considerable end play to compensate for the difference between the curvilinear motion which the driver would receive from the cock, if directly attached to it, and the flat surface in which the grooves are formed. These defects I have avoided by making the radial and diagonal grooves in the rear end or face of the rotating breech, which is so concaved that the surface thereof will correspond with the curvilinear motion of the driver vibrating on the axis of the cock. I do not therefore wish to be understood as making claim, broadly, to the method of rotating the breech by a driving pin working in grooves, but to limit my claim to the special improvement which I have made thereon.

I claim making the series of grooves to be acted upon by the driving pin, to rotate and hold the breech in a concavity in the rear end of the rotating breech, substantially as and for the purpose specified.

ELASTIC CAP FOR SEALING CANS, &c.—Mrs. Rhoda Davis, of Brookhaven, N. Y.: I do not claim to be the inventor of flexible caps for covering the mouths of jars; neither do I claim their exclusive use. Closing the mouths of vessels by means of caps has been practiced from time immemorial; but, in general, the caps employed are inconvenient because they require to be tied on or sealed with wax in order to render them tight.

But a self-acting cap made of india rubber, in the forms described, and possessing the virtue of yielding when drawn over the mouth of the jar, and then contracting so as to fasten itself securely around the lips of the vessel, rendering the mouth thereof perfectly air-tight, is, to the best of my knowledge and belief, a new article of manufacture.

Therefore I claim as a new article of manufacture, a cap or or cover for sealing vessels, composed of india rubber, when made in the form and possessing the virtues substantially as described.

[This invention consists of a tight india rubber cap, which when stretched and drawn over the top of the bottle, it contracts and fits close around its neck, sealing it perfectly air-tight at once. It is a very convenient and useful improvement for the purpose, and in all likelihood will soon displace the leather cap, which requires to be tied with a cord.]

GIG MILLS FOR NAPPING CLOTH—Ernest Ge sner, of Aue, Saxony: I claim, first, the arrangement of the parts of the machine, substantially as described, whereby it combines the properties of napping the cloth while it is continually moving over the surface of the napping cylinder, of holding the cloth stretched in the direction of its breadth; of presenting the cloth to the napping cylinder in such manner that the face which receives the nap is exposed to view, and of operating on the cloth at several points of contact at the same time.

Second, the arrangement of the four guide rollers, U U U U, so as to be simultaneously adjusted by screws, V V', or their equivalents, applied to their bearings, substantially as described, to bring the cloth into more or less, intimate contact or with a greater or less surface in contact with the napping cylinder.

[By this machine, the cloth is napped while moving over the surface of the teasel drum, and kept fully stretched in the direction of its breadth. The finishing of broadcloth to produce the nap upon it—laying all the wool in one direction—involves much tedious labor by common machinery used for this purpose. This invention is designed to economise labor, execute the work more rapidly, and in a superior manner.]

SUPPLYING HOUSES WITH WATER—Thomas Hanson, of New York City: I claim the combination of an hydraulic engine with, and interposed between the supply pipe, from the street main, receiving water, from a head, and the house pipe or pipes, and cock or cocks for supplying water to the lower story or stories of a house by the force of the said head, and the pump operated by the said engine, and receiving water from the same head, and discharging it into a reservoir or reservoirs for the supply of the upper stories of the house, substantially as and for the purpose specified.

MARKING SLATES—John W. Hoard, of Providence, R. I.: I do not claim liquid quertz itself, for producing indurative surfaces for marking upon.

But I claim it as the vehicle for manufacturing artificial marking or writing slate, when combined with oxyd of zinc, as a drying anti-deliquescent and coloring substance, in the manner and for the purpose set forth.

[This useful invention embraces the use of soluble quartz as a vehicle for making writing slates of any color. The quartz solution is combined with any anti-deliquescent, drying or coloring substance, suitable for the purpose, and in a pasty state it is spread smoothly on leaves of wood, sheets of pasteboard, or sheets of metal, to which it firmly adheres, soon dries, and is fit for use, thus making strong, cheap, and beautiful slates.]

CASTING SKEINS FOR WAGONS—Andrew Leonard, of Kenosha, Wis.: I claim the method, substantially as set forth, of molting and castiug thimble skeins and other hollow conical castings, in a vertical position, from whole patterns, leaving their own cores of green sand, which were molded in the hollow of the patterns around one end of long core bars, so arranged and combined with the cores and with the solid sand in the flask, as to have the other end of the same bars sustain the core, or to render them adjustable by hand after the patterns are withdrawn and the mold completed, as specified, and of thus ensuring the true position of the cores in the center of their molds, and making the casting perfectly true and seamless direct from the sand, substantially as described and shown.

SAW SET—Joseph D. Spiller, of Concord, N. H.: I claim combining the gauge and bearing screw in one movable frame applied to lower jaw, and furnished with a set screw, substantially as described.

OPERATING MANDREL CUTTERS—Peter H. Niles, (assignor to himself, Nehemiah Hunt, Ralph C. Webster, and Alfred Douglas, Jr.) of Boston, Mass.: I do not claim a chuck with movable jaws.

But I claim the method described of operating the cutters of a revolving cutter head, viz., by means of the springs, d d', inclined planes, c c', and the sleeve, D, operated by a cam, F, in the manner as set forth.

PREPARING ALKALINE SILICATES—John M. Ordway, (assignor to the Roxbury Color Chemical Manufactory) of Roxbury, Mass.: I claim the manufacture of soluble silicates of soda or potash from the sulphates of soda or potash, by fluxing the same with silica and deoxydizing agents, in the manner substantially as set forth.

RE-ISSUES.

BITUMINOUS GROUND FOR PHOTOGRAPHIC PICTURES—V. M. Griswold, of Lancaster, O. Patented October 21, 1856: I claim sensitized bitumen, prepared as above, for the purpose of taking photographic impressions on paper, metallic sheets, or other substance.

COMBINED CALDRON AND FURNACE FOR AGRICULTURISTS, &c.—Jordan L. Mott, of Mott Haven, N. Y. Patented December 1, 1840. Extended December 1, 1854. Re-issued February 6, 1855: I claim combining a caldron with a small square or rectangular box stove of less area than the caldron, by spreading out the upper part of the box stove to a circular form to surround the caldron by a flue space, substantially as and for the purpose specified.

I also claim making the casing to form a flue space around the caldron, by the elevating and spreading the plates of the stove, in combination with sectional side pieces, substantially in the manner and for the purpose specified.

LOOMS FOR WEAVING PILE FABRICS—Erastus B. Bigelow, of Boston, Mass. Patented November 15, 1853: First, I claim the method of constructing and operating the pincers, or other equivalents, for successively operating the pile wires so that they shall carry said pile wires forward to the fell of the cloth, and hold them in position with their proper edges upwards until they are otherwise secured, substantially as specified.

I also claim constructing the pincers for successively operating the pile wires with grooved jaws opening and closing in a line with the pile wire, and in advance of the lathe, substantially as specified, whereby collision with the lathe is easily avoided.

I also claim the employment of a support or guide to successively receive the ends of the pile wires as they are drawn from the cloth, and carry them to the position where they are to be introduced into the shed of the warps, and guide them therein, substantially as specified.

I also claim the employment of long horizontal guides to guide the pile wires as they are being inserted in the shed of the warps, substantially as specified.

I also claim holding the pile wires, and guiding and adapting the pincers or their equivalents to a suitable position to engage therewith, substantially as specified.

I also claim in combination with the pile wires, a bar or guide, which shall successively press against said pile wires to keep them in a proper position during the operation of cutting the pile, substantially as specified.

And I finally claim the method of applying the tension weight and brake directly to the whip roller by means of the arms, g6, and i6, substantially in the manner and for the purpose specified.

Coal for Locomotives.

One of the Manchester (N. H.) Locomotive Co.'s patent coal burners, running on the Chicago, Burlington, and Quincy Railroad, in Illinois, has been running an average of 89 miles, hauling average loads of 418 tuns, with an average consumption of 4980 lbs. of Illinois coal per day. The speed is not given in the report before us, from which we infer that it was very moderate, and thus the most favorable conditions existed in this respect, as indeed they should, to produce such results. The cost of coal on that line being only $2·50 per nett tun, the cost for fuel per mile run, including that of the wood to light the fire, is but seven cents and a half. At $6 per tun, the average price of coal in the Eastern States, the cost of fuel per mile for this heavy freight train, would be, by this data, but fifteen cents and a half, or very much less than wood. Nearly eight pounds of water were evaporated for each lb. of coal consumed—a result which would be considered very satisfactory even in stationary or marine boilers. The company manufacturing this variety feel very confident in its ability ultimately to supersede wood-burning engines for all freight trains.

Gunnery and Iron Guns.

Naval gunnery, as a science, presents many curious facts. In firing into masses of timber, or any solid substance, that velocity which can but just penetrate will occasion the greatest shake, and tear off the largest and greatest number of splinters; consequently, in close action, shot discharged with the full quantity of powder tears off fewer splinters than balls fired from the same nature of guns with reduced charges. In naval actions shot intended to take effect upon the hull of an enemy should rather be discharged with a falling than a rising wave; but such pieces as may be appointed specially to act against the masts and rigging should be fired with the rising motion, the aim being taken low.

A writer in one of the London papers asserts that cast iron is the best known material for cannon. One of the cast iron guns taken at the capture of Bomarsund underwent an experimental trial, and the Russian metal, contrary to all expectation, withstood the experiment unharmed.

The grand object is to have the iron properly made. Iron smelted with mineral coal is always inferior to that smelted with charcoal, and herein consists the secret of the superiority of the Russian cast iron guns over those of the British.

The effort in Congress to reduce the tariff on sugar, wool, and railroad iron, together with that on various articles of less importance, may, if successful, have a quite important influence on the woolen and iron manufacture, the tendency being to revive the former and depress the latter.