



[Reported Officially for the Scientific American.]

## LIST OF PATENT CLAIMS

Issued from the United States Patent Office

FOR THE WEEK ENDING JUNE 20, 1854.

**VENNER POLISHERS**—Edwin Allen, of South Windham, Conn.: I do not claim the belt separately, for belts or their equivalents have been previously used for similar purposes.

But I claim the combination of the belt and pressure cylinder, constructed, arranged, and operating in the manner set forth.

**METALLIC GROMMETS**—John Allender, of New London, Conn.: I claim making that portion of the tube put through the ring to correspond, or nearly so, with the corners of the canvas or cloth, so that when they are bent down upon the canvas, they double bend over the edge of the ring and confine it firmly, as set forth.

Second, I claim the scores in the ring which conform to the corners of the canvas or cloth, and with the points of the tube, in combination with the points of the tube aforesaid, as described.

Third, I claim scoring or roughening the surface of the rings where they come in contact with the cloth so as to make them hold the canvas firmer and better.

Fourth, I claim making or inserting points in or on one or both of the rings to extend through the canvas into the opposite ring or otherwise.

Fifth, I claim riveting the points of the tube which are bent over on the cloth or otherwise, as described.

**QUARTZ CRUSHERS**—D. C. Ambler, of New York City: I do not claim the revolving trough or the revolving spherical balls when said balls are not attached to proper axes.

But I claim, first, the combination of a revolving trough, with balls located therein, said balls being attached to shafts, as described, and having further imparted to them a pendulous bounding motion, as specified, whereby quartz or other similar substances may be stamped, crushed, and pulverized in the same machine.

Second, I claim the combination of a revolving trough with balls revolving therein by friction; but this I claim only when these balls are attached to shafts, as specified, whereby quartz, etc., may be pulverized and crushed, as set forth.

**SETTING OF STEAM BOILERS**—D. C. Ambler, of New York City: I do not claim the form of boiler described, neither do I limit myself to the use of a boiler provided with only two tubes, as more might sometimes be advantageous, neither do I claim the method of distributing hot air, nor the protecting of steam surface by means of brick or tiles.

But I claim the method of setting a boiler, as described, in so far as the same consists in grate surface extending the whole length of the boiler, or nearly so, and when the same is employed in connection with a midriff located as described, and causing the products of combustion to travel in reverse directions, as specified.

I also claim tiles shaped as described, in connection with bearers, shaped and located as described, for the purpose of forming a midriff or division between the flues, as specified.

**PROCESSES FOR TREATING PAINT**—Gabriel Blondin, of New York City: I claim hardening and fixing paint of which albumen is a constituent, by coagulating the albumen after the paint has been spread, as set forth.

**PAINT COMPOSITION**—Gabriel Blondin, of New York City: I claim the composition of ingredients, described, for the purposes specified.

**GOVERNING THE ACTION OF VALVE COCKS**—F. H. Bartholomew, of New York City: I claim the method of controlling the motion of a valve by means of a variable chamber combined therewith, as described, the said chamber having an opening, or its equivalent, communicating in it, through which the chamber shall be filled or discharged, and whereby the discharge or flow of water shall be governed, as set forth.

**CUT NAIL MACHINES**—T. H. Barlow, of Lexington, Ky.: I claim in combination with the pairs of fixed stocks, and cutters, the vibratory stocks and cutters, when said vibratory stocks and cutters are so arranged as to be capable of being operated from one rock shaft, by one cam and lever, and the pairs or sets of stocks constitute the gripping jaws for holding the blank whilst it is being headed, and thus dispensing with the usual mode of gripping, as described.

I also claim, in combination with the vertical oscillating nail plate holder the escapement or its equivalent, for the purpose of gauging and feeding up the nail plate to the cutters and grippers, as described.

I also claim the operating of the nail plate holder from the heading levers, through the medium of the arms, sliding bar, lever, and escapement, or their mechanical equivalents, as described.

**FLOUR SIFTER AND RENOVATOR**—M. E. Bassett, of Wilmington, Del.: I claim the arrangement of the radial rollers and horizontal brushes with the coarse and fine sieves, for the purpose of renovating damaged and lumpy flour, as set forth.

**GRAIN WINNERS**—Joseph Bone, of Warrenton, O.: I do not claim the mere separation of grain into several grades according to the action of the suction fan and the arrangement of a single set of tubes, as such is well known.

But I claim arranging and connecting a series of two or more sets of separating passages, as set forth, so that the grain may be carried through the entire series of separating passages as often as required, by the operator for thoroughly cleaning and separating the same.

**HIGH PRESSURE STEAM ENGINES**—Benjamin Crawford, of Pittsburgh, Pa.: I claim the method of procuring a vacuum in condensing engines by allowing a part of the exhaust steam to escape into the atmosphere without resistance, by a flap valve, as described, before the condenser is opened, and then condensing the remainder by opening the communication between the cylinder and condenser, whereby the weight, bulk, cost, and expense of working the condensing apparatus are diminished, and the power and efficiency of the engine are increased, as set forth.

**PRINTING WOOLLEN AND OTHER GOODS**—Thomas Crossley, of Boston, Mass. Patented in England, April 5, 1854. First, I claim the combination of the series of blocks with the stationary cases, or their equivalents, and the endless chain register operating as described, by which any number of colors may be simultaneously applied, and a section of the figure be completed each time the blocks are depressed.

Second, I claim the described method of holding and feeding the material to be printed by means of the endless chain and hooks, by which the material is held rigidly until the operation is completed, and thus a perfect and unerring register is obtained.

Third, I claim the method, as described, of giving motion to the blocks by means of the sector, or its equivalent, whereby they are moved in with a slow motion and out with a rapid motion, and are caused to remain stationary at the two extremes of their traverse, while they receive their color and the impression is made.

**STEAM ENGINES**—B. F. Day, of Philadelphia, Pa.: I lay no claim to the double engine connected to cranks at right angles on one shaft; neither do I claim the principle of using steam expansively in connection with a cylinder or engine, using it directly from the boilers, as these are described in the patent granted to Daniel Barnum on the 19th Sept., 1846; neither do I claim the arrangement of valves as patented to said Barnum.

But I claim, in contradistinction from allowing the steam to pass directly from one cylinder to the other, the taking of the steam from the receiving cylinder to a steam chest provided with valves and ports, by and

through which the steam is admitted to, and exhausted from the expansive cylinder by which means I retain a longer expansive action of the steam, as described.

**WEAVING DOUBLE CLOTH**—Saml. Fay, of Lowell, Mass. I claim the manufacture of a fabric which has one face of wool and the other of cotton or linen, as described, that is to say, in no place does the warp, which is upon one side of the cloth extend into the surface of the other side of the cloth.

**CONSTRUCTION OF REED MUSICAL INSTRUMENTS**—F. A. Gleason, of Rome, N. Y.: I claim the hammers arranged in each vibrating air chamber, in connection with the wire spring and the live, also in combination with the vibrating air chambers under each reed, and the modulating air chambers, with the small apertures, over the reeds, all arranged and operating as described and for the purpose specified.

**TOOL HANDLE**—G. W. Griswold, of Carbondale, Pa.: I claim so combining a double acting pawl and star-shaped ratchet with the stock and handle of a screw driver or gimlet, as that by pressing the thumb or finger on one arm of the pawl and turning the handle, the screw may be driven into the wood, and by shifting the thumb or finger on to the other arm of the pawl, and continuing to turn the handle in the same direction, the screw or gimlet shall be drawn out of the wood, as described.

**PRODUCING CONTINUOUS CIRCULAR FROM RECIPROCATING RECTILINEAR MOTION**—O. S. Harris, of Holyoke, Mass.: I do not claim the combination of a bow and string or band, with a pulley, for obtaining a circular motion from a rectilinear motion, nor the mere duplication of such devices.

I claim so combining with the bow or bar, and the two bands, and the handle, or its equivalent, a vibratory or rocker lever, that during the reciprocating rectilinear movements of the bar or bow, caused by the power applied to such rocker lever, it shall be made to operate so as to alternately tighten and loosen each cord upon the pulleys of the drill stock, as specified, and cause the drill stock to be rotated, as described.

**CAST-IRON CAR WHEELS**—John Henry, of Lynchburgh, Va.: I do not claim a central plate running from the hub to the rim, and not connected with the inner and outer plates, as such a wheel was patented by Frederik Warbeck, Nov. 6, 1847.

But I claim the intermediate continuous plate extending diagonally from the hub to the rim, in a cast-iron wheel having double plates or disks, and connecting the two plates of the wheel together, as set forth.

**EXTRA YARD TO TOPSAILS**—Frederic Howes, of Yarmouth, Mass.: I claim the application of an extra yard, supported by truss, crane, or brace, as described, or any other substantially the same, and which will produce the same effect.

**CARRIAGE TOPS**—S. F. Huntingdon, of Syracuse, N. Y.: I claim the method of supporting the top by means of an inverted bow inside the covering of the top, and attached to or standing upon the back of the seat and having its ends firmly attached to the back bow of the top, or any analogous device effecting the same object.

I also claim the method of supporting the top by detaching this bow from the back of the seat, and supporting it in proper position, when dropped by flexible elastic stays, as shown.

I also claim the extension of the jointed brace forward of the front bow, in such a manner as to form a handle or lever within reach of a person in the carriage, and by which the brace may be worked, as set forth.

**MODE OF MOLDING BRICKS**—Nathan Johnson, of Noblesville, Ind.: I do not claim forming brick from mold frames placed on the ground, as described; but I claim the mode of at once distributing the mortar, filling the molds and removing the surplus material, viz: by means of the lute applied as set forth.

I claim further, that with them bricks can be made without the assistance of off bearers, and at one-fourth less expense than they can be made in any other way.

I further claim that I have fully tested the foregoing plan.

[The two last are queer claims.]

**GAS METERS AND REGULATORS**—C. C. Lloyd, of West Philadelphia, Pa.: I do not claim the combination of a float with a water valve. Nor do I claim the combination of a float with a valve, so as to operate simply as a governor.

But I claim the application of the principle or mode of operation described, whereby the double purpose is effected of equalizing or regulating the pressure of the gas within the meter, and of shutting off the gas when the water gets too low, by combining the valves with one and the same float, all within the meter, as set forth.

**PAINTERS' BRUSHES**—J. S. Martin, of Boston, Mass.: I claim the application of an elastic tubular binder to a brush, instead of an inelastic cord or binder, as commonly used, the said elastic binder being composed of caoutchouc or other suitable material.

**RADIAL ARMS FOR CAR BRAKES**—T. G. McLaughlin, of Philadelphia, Pa.: I am aware that a radial arm turning loosely on the brake lever shaft of the tender, and raised to a horizontal position by a spring and lever in connection with the means of operating the brakes of the tender to which it was attached, has been patented. Therefore I do not claim this.

But I claim the employment of the radial arms in combination with the catches, or lips, formed on the radial arms, for the purpose of relieving the horizontal shaft on which the radial arms are firmly secured, of the pressure or force which may be exerted against the ends of the radial arms, when operating the brakes of the several cars in a train by the means that have been heretofore invented by me for that purpose.

**BURGERS' ALARM**—D. E. McDougal, of Springfield, Mass.: The arrangement of the clamp brace, guard, and plate for securing doors and windows being already patented by me May 31, 1854, I do not claim the same device.

But I claim the clamp, brace, guard, and plate, in combination with the hammer, the spring, and dog, the above parts being constructed and arranged as set forth.

**STEAM ENGINE REGULATORS**—Anson Merriman, of Middletown, Conn.: I claim the chamber, cock, and safety valve, holding a portion of steam in store, and in combination with the pump, drawing from and returning to the same source, and acting on the piston during the dead points of the engine.

Secondly, I claim the aperture chamber and safety valve, so weighted as to hold the steam at greater pressure than in the boiler, in combination with the pump or pumps, for forcing the steam into the said chamber, for forming a magazine to feed the cylinder at the moment the engine is passing the dead points, and operating in the manner and for the purpose set forth.

**WATCH CHAIN SWIVEL**—N. F. Mathewson, of Providence, R. I.: I do not claim the combination of the spring, and its inclosing slide, for locking and unlocking the hook; nor merely making the loop or bow of the hook in separate sections.

But I claim constructing the spring inclosing slide with the smaller or opening section of the loop fast to it, and gearing the said slide by square or angular recess in it, and corresponding shaped shoulder on the shank, with the main section of the loop for operation, together, in the manner specified, whereby the hook is opened and closed with greater facility, and the opening section firmly held in its open position without applying the finger or hand thereto, and without destroying the loop form of the hook, and without employing a cross swivel joint in the loop, by which construction, in combination, and arrangement numerous advantages are obtained, and the device improved.

**SLATE FRAME**—Edmund Morris, of Burlington, N. J.: I claim constructing a slate frame of corresponding halves, of such a shape that a single joint combines them with each other at the same time that it firmly secures the slate between them, as set forth.

**BREAST PUMP**—O. H. Needham, of New York City: I claim the combination of an air pump operating as described, with a nipple shield or cupping shield made of flexible material, as set forth, by means of a flexible tube, so that the motion of the working of the pump will not be felt upon the parts operated upon, and the patient can operate it himself, and regulate the action.

**TURNING CASES, &c., FROM SOLID PIECES**—J. P. Osborn, of Staunton, N. J.: I do not claim making the bodies of barrels, cases, tubs, &c., by turning them in one piece out of the solid block.

But I claim, first, the tool bearers, cutting in contrary directions, in combination with the cross-heads, as described.

Second, I claim the combination of the cross-heads with the connecting rods and feed screws, in the manner and for the purposes set forth.

Third, I claim the method described of adjusting the position of the tool bearers.

**CAST-IRON VISES**—Chas. Parker, of Meriden, Conn.: I claim casting the movable jaw or chap of a vise so as to enclose and secure by the operation, one or more wrought-iron bars within the tail or guide rod at or near the point of greatest strain, said bars being enlarged or bent at the ends, the better to secure the same to the casting, in order to act as a chord or chords to resist strain and thereby secure the maximum of strength with the maximum of metal, as described.

**RAILROAD CAR BRAKES**—B. F. Reimer, of Philadelphia, Pa.: I do not claim the mechanism described, for operating the brakes of a train simultaneously.

But I claim the brake, consisting of the perpendicular rod, the guides, the rollers, the chain, and the mode of attachment, the whole being arranged as described, for the purpose of operating either by the mechanism for acting simultaneously upon all the brakes in the train, or independent of the same, by the lever.

**SHIPS' CAPSTAN AND WINDLASS**—Jesse Reed, of Marshfield, Mass.: I claim the arrangement of the movable capstan with the two windlasses, constructed and operating as set forth, so that either windlass may be turned in either direction by operating upon the single capstan.

**DRYING GRAIN**—S. B. Robinson, of Oswego, N. Y.: I claim a trough or cylinder with a perforated bottom provided with a conveyor or stirrer, in combination with a blast of heated air forced through the perforated bottom mentioned, constructed and arranged as described.

**TENTERING CLOTH**—Warren Shaw and P. G. Green, of Wales, Mass.: We claim the adjustable obliquely situated tenter wheels provided with laterally playing tenter poles, in combination with the oscillating guides, arranged and operating in such a manner as to seize the cloth and stretch it uniformly, at the same time bringing its edges perfectly even and straight, in which condition it is delivered to the tenter points of the drying apparatus, to be retained thus till dried and received by the folding apparatus, as set forth.

**GAS RETORTS**—A. R. Terry, of Detroit, Mich.: I claim the application to gas retorts of a coating which consists of a series of layers or laminae of luting and metallic wrapping, as specified.

**ORDINARY AND SUPER-HEATED STEAM COMBINED FOR HEATING PURPOSES**—C. E. Wethered, John Wethered, and Samuel Wethered, of Baltimore, Md.: We claim the application of the combination of ordinary steam and super-heated steam (which combination is effected by bringing them together in pipes of any convenient form, before or at the point where their contents are discharged, for the purposes of boiling, evaporating, drying, melting, and heating.

**RAISING AND LETTING FALL CARRIAGE TOPS**—Joseph R. Winchester, of Medina, N. Y.: I claim the cross-brace attached to the outside braces and the center part of the outside braces performing, as it does, the office of a double brace, and the two attached to a carriage top or cover, in connection with the other portions of the outside braces which will produce the desired effect.

**FOLDING AND MEASURING CLOTH**—Wm. C. Wright, of Boston, Mass.: I claim, first, making the folding table of a machine for folding and measuring cloth to move with a reciprocating motion, so as to make the folds, and determining their length, and also the making said motion adjustable in order to change the length of the folds to be made and measured.

Second, I claim the combination of the moving folding table operating as specified, with the guiding folders and the elongated holders to each side of the table for folding and guiding the cloth to be folded, and holding it, as set forth.

Third, I claim making the said holder adjustable up on the end of the folding table so as to accommodate different length of folds, as set forth.

Fourth, I claim relieving the cloth, when folded, from the folders and holders, so that it may be removed from the folding table by raising all of them simultaneously by means of the treadle connected to the said folders and holders through the mechanism described.

**SETTING AND HOLDING PENS FOR PAPER RULING**—S. W. Collins, of Charles-town, Mass. (assignor to W. O. Hickok, of Harrisburgh, Pa.): I claim the extension pens and adjusting beam, constructed and combined for the purposes and in the manner set forth.

**MACHINES FOR CUTTING OUT BOOT SOLES**—Luther Hill, of Stoughton, Mass. (assignor to Luther Hill and Lorenzo Stratton, of Fentonville, Mass.): I do not claim the invention of a bed knife, nor the combination of a press platen or follower therewith; nor the making the follower with its under surface a plane surface, for the purpose of stamping out soles from leather.

But I claim combining with the under side of the follower and with the cutter, as described, a sole bender or former, or projection in relief, of the form necessary to bend the sole into the shape it is to have when fixed on a boot or shoe, the said sole for a sole, by bending the leather, causing its edges to stand perpendicularly to the plane of the outer edge of the upper surface of the concave side of the sole, as specified.

**OMNIBUS REGISTERS**—Levi W. Mallory (assignor to W. Morris) of Philadelphia, Pa.: I claim the combination of the rod, guide, lever, spring, coupling, and eccentric ratchet or trigger, operating as set forth, to prevent the ringing of the bell until the fare is registered.

**PADLOCKS**—Stephen White (assignor to H. C. Jones), of Newark, N. J.: I do not claim simply nothing one of the bolts to act as a stop for the reception of a tumbler or spring dog, or any equivalent.

I claim making the sliding bolt with a shoulder, or its equivalent, acting as specified, in combination with the turning bolt, both entering the mortise of the shackle in opposite directions, as set forth.

### Electricity as a Motive Power.

Much has been written on this subject, yet, in my opinion, the difficulties connected with it have hitherto been but imperfectly and somewhat incorrectly pointed out, on account of the impossibility of explaining by the process of simple reasoning, a subject which requires the aid of algebraical language.

However, as it is important that the question should be settled, and that our friends should be prevented from taking up false speculations, we think it desirable to make no mention of the secondary difficulties.

When a piece of iron is surrounded by several circuits of copper wire, if the galvanic electricity runs through this wire, the iron becomes a magnet and the power of attraction is indeed wonderful; however, this power is reduced to almost nothing at a trifling distance. If the distance is taken double, the attraction will be only one-fourth—and so on, so that we may say that the attraction of a magnet is in the inverted ratio of the square of the distance. By looking minutely at this side only, we may erroneously conclude that a small machine of any form whatever, cannot

be increased without losing its proportional power.

Let  $y$  be the power, and  $x$  the distance; we will have between these two quantities the following relation:  $y=1+x^2$ . In this formula, if we suppose the distance  $x=0$ , the power,  $y$ , will be infinite: consequently the center of attraction of an electro magnet must be in the interior of the iron and the distance of that point from the surface, must be in the ratio of the dimensions of the magnet. Let  $a$  be that distance, the formula will become  $y=1+(a+x)^2$  in which  $1+a^2$  will be the power of the contact.

Now let us suppose that the dimensions of the magnet is double, the weight of it will be eight times greater, and the expression of its power will be  $y=8+(2a+x)^2$ , in which  $8+4a^2$  will be the power of the contact, and it is easy to notice that this expression can never be 8 times the former one, and for those who understand the rule of integration, they will find the same deficiency in the integral of the development of the power at any distance whatever.

To this reasoning we will add another one, more serious. It has been proved that by increasing an electro-magnet, the electrical current requires a longer time to bring it to its saturation; and that time appears to be in direct ratio with the dimension: consequently the velocity of its action diminishes, and since a dynamic power may be represented by the weight in motion multiplied by the velocity, it follows that any machine in which the attraction of the magnet generates the power, cannot be increased without disappointment.

By these considerations, it seems that the problem of electricity, as a motive power cannot be resolved; still this conclusion may not be correct, because if it is a folly to employ the power of the electro-magnets, it is not so if we employ directly the power of an electrical current in moving pieces of iron or in moving another electrical current; because their actions are in the inverted ratio of the simple distance, and infinitely prompt.

Prof. Page appears to be the first who has approached to this solution. Let us hope that science will discover the way to employ the influence of the current, for the employing of any other action would be erroneous.

I will conclude by the following advice to your readers:—"Friend, if thou are called to patronize an electric machine, observe closely if some pieces of iron are attracted towards each other, and if it is the case, run away if you don't want to lose your time and money."

P. VERONES.

New York City, 1854.

### The Cashmere Goat an adopted Citizen.

The editor of the "Philadelphia Ledger" says:—"Now we have heard a great many guesses and opinions whether the goat that produces the fine hair, out of which are manufactured the justly celebrated Cashmere shawls, can be propagated in this country; and we are happy to announce to our countrymen that it can be done. A friend has deposited with us, for a short time, three specimens of this hair, one of a buck, one of an ewe, and the third of a kid, 9 months old, all of the pure breed, which are now being bred and are in a thriving condition in the western part of the State of Georgia.

### California Gold Inexhaustible.

Dr. Trask, who was appointed by the California Legislature to investigate the productiveness of the gold mines of that country, has published a long report, and the results are favorable to the belief that the gold of the State is inexhaustible for many years, and may be profitably worked for a long period.

### Shipbuilding in Maine.

The "Rockland (Me.) Gazette," thinks the shipping now on the stocks and to be built at that port the present summer, will amount to 17,000 tons, which is some 5,000 tons more than was built last year.

We are indebted to Gen. Walbridge for a copy of his very able and interesting speech upon the Pacific Railroad Bill, delivered in the House of Representatives on the 13th inst.