



[Reported Officially for the Scientific American.]  
**LIST OF PATENT CLAIMS**  
Issued from the United States Patent Office  
FOR THE WEEK ENDING JULY 22, 1856.

**REACTING WATER WHEEL**—A. Munroe, of Worcester, Mass.: I do not claim the scroll A, nor the concave buckets, d, when separately considered, for they have been previously used. But I claim:  
The scroll, A, having the guide or deflecting plates, a, attached to it, the wheel, B, provided with the concave buckets, d, and the plates, e, attached to its arms, c, the parts being arranged and combined, as shown, for the purpose specified.

**TAPPING FLUIDS UNDER PRESSURE**—J. P. S. Otter, son, of Nashua, N. H.: I claim, first, the employment of a chamber, C, of sufficient capacity to contain the cock, P, together with the necessary tools for inserting the same in any pipe or vessel containing water under pressure. Second, the employment of the rotary plate, U, or its equivalent, working in or forming part of the chamber, C, for the uses and purposes specified.  
I do not limit my claims to the particular form of plate or chamber, as shown, but extend it to any other substantially the same.

**VALVE FOR TYPE CASTING MACHINES**—Edward Pelouze, Jr., of Philadelphia, Pa.: I am aware that a stopper operated by machinery has been used in connection with the nipple of type casting machines. This I do not claim.  
I claim, in combination with the nipple, the self-acting valve and stopper, made and operating substantially in the manner and for the purpose set forth.

**SELF RAKER**—S. G. Randall, of Rockford, Ill.: I claim the railway carriage, P, when constructed, arranged and operated in respect to the platform, B, substantially as and for the purpose set forth.  
Also, the described method of operating the rake, H, and giving it at once its traverse and its tilting actions, viz., by the combination with the bent rake shaft, G, and arm, h, of the endless belt, I, and its eye, J, operating as and for the purpose set forth.  
Also, the combination of the traverse rake, H, the spring rods, k, and the pressing guard, M, substantially as and for the purpose set forth.

**REPEATING FIRE ARMS**—C. S. Pettengill, of New Haven, Conn.: I claim, first, in combination with the arrangement of the main spring, to work on a pivot, s, as to be capable of relief from all strain, except at the time of firing, I claim the application to the said spring, of a spring, F, operating upon it as described, to draw back and effect the cocking of the hammer, substantially as described.  
Second, in combination with the arrangement of the main spring to work on a pivot, as described, I claim the lever, H, and the cam, C, on the trigger, operating together and upon the spring, substantially as specified, to strain a id develop the elasticity of the main spring by the act of drawing the trigger to fire.  
Third, the screw, D, as arranged, entirely disconnected from the trigger and operated upon to set free the tumbler, by means of a cam, C, on the trigger, substantially as described.  
Fourth, the attachment of the dog which operates in the ratchet notches, a, on the cylinder, to the same lever, H, by which the strain is thrown on the main spring.  
Fifth, the arrangement of the slot, p, in the recoil shield and the hoes, a, a, at the end of the ratchet notches on the cylinder, whereby the cylinder is locked so as to be incapable of rotation, in either direction, before the hammer is let off, substantially as set forth.

**GLASS FURNACES**—Samuel Richards, of Philadelphia, Pa.: I claim, first, the employment of a series of interior tubes, h h', arranged and operating as described.  
Second, the employment in connection with said tubes of vibrating or rotating agitators, J J.

**SCAFFOLD FOR SHINGLING ROOFS**—J. W. Rodefer, of Abingdon, Va.: I claim constructing the scaffold as shown, viz., having the platform, A, hinged to the sleepers or string pieces, b, and having segment braces, B, attached to the sleepers or string pieces, the braces having hoos, d, made through them and passing through the bars, a, of the platform, whereby the platform, by means of pins passing through the holes, d, in the braces, may always be adjusted in a horizontal position, whatever the pitch or inclination of the roof may be.

**LIQUIDS USED AS A MOTIVE POWER**—John C. Fr Salomon, of Baltimore, Md.: I claim the sulphuric carbonic acid liquid, prepared in the manner substantially as described, and in combination with carbonic acid generated in any known way, or other equivalent liquifiable gas as a motive power.

**RIDING SADDLES**—J. C. Fr Salomon and G. E. Cooper of Baltimore, Md.: We claim the movable volute spring seat chair, c, with its guiding rods, d, d, and the guides, e, e, in which the same is moved on the upper sides of the pads, in combination with the supporting rod, f, attached to the under side of the metallic riding seat, in the manner and for the purpose set forth.

**FRICTION MATCH MACHINE**—C. D. Smith and H. Patterson, of Baldwinville, Mass.: We do not claim any particular form or arrangement of parts or number of splints made or carried at once.  
But, first, we claim the table, B, with its plate, G, and pieces, I I', or their equivalents, to carry the splints from the dies and place them in the rack, substantially as set forth.  
Second, we claim the peculiar construction of the rack pieces, L L L, to facilitate their receiving the splints, and for the better control of them, as described.

**PENDULUM PUMPS FOR SHIPS**—J. Stever, of Bristol, Conn.: I claim attaching a series of pumps, C, to a hollow shaft, A, which is allowed to turn freely in its bearing, and connecting the weighted bars, J J, to the plungers, F, of the pumps by means of the geared sectors, H, I, and levers, G, substantially as shown for the purpose specified.

**SEWING MACHINES**—A. Swingle, of Boston, Mass., assignor to Elmer Townsend: I claim the employment of a hook in connection with the looping needle, and arranging said hook so that it shall pass into the cloth or material from the same side of it, on which the looping needle works or is situated.

**TRIGGER PROTECTOR FOR FIRE ARMS**—B. H. Westbrood, of Philadelphia, Pa.: I claim the employment, in connection with fire arms, of a protector, D, which can be locked so as to entirely enclose the trigger, and opened so as to expose the same, the said guard being arranged and constructed substantially in the manner, and for the purpose set forth.

**RIVING EQUAL PIECES FROM A BLOCK**—Henry White of Oneida Castle, N. Y.: I claim traversing the block to be split by means of devices, substantially as are described or their equivalents, so that the froe will strike the pieces to be split, in the center successively to split them, substantially as set forth.  
I also claim the springs, X X', so applied as to yield when the froe enters the block and re-act to close the split when the froe is withdrawn, as described.

**SAWING COOPER'S HOOPS**—J. O. Woodward, of Taunton, Mass.: I claim the new arrangement and operation of two circular saws for sawing irregular or crooked hoop poles, and the two shafts with the saws attached, at the inner ends of the shafts being placed on an angle so that two edges of said saws run or operate near together, and the two opposite edges of said saws, will run or operate wide apart.

**RELIEVING STEAM SLIDE VALVES FROM PRESSURE**—H. B. Worthington, of Brooklyn, N. Y.: I claim transferring steam pressure from the back of a steam slide valve to a fixed point, by means of a piston and vibrating link, substantially as described and for the purposes set forth.

**VALVES OF ACCORDEONS**—C. M. Zimmerman, of Philadelphia, Pa.: I claim the arrangement of the valves of accordions in connection with sliding rollers, acted upon by the keys and regulated by stops, substantially in the manner set forth, for the purpose of producing from the actuating of one key, a variety of different tones by the simple pressure of the stops.

**FOLDING GUIDES OF SEWING MACHINES**—B. C. Boyes, (assignor to himself and H. Dercum,) of Philadelphia, Pa.: I do not confine myself to the precise shape of the metal plate, B, as shown, to the precise arrangement of the guard, b b', in respect to the plate, or to the number of helical or slit rings shown.  
Nor do I claim a device for which patent was granted to Seth P. Chapin and in which helms are formed on the edges of flexible materials, by means of folding guides made to turn the edge 180 deg. or more.  
But I claim the employment of one or more helical or slit rings for the purpose of forming on the edges of fabrics single or double hems, or for forming plaits in the middle of fabrics previous to the said hems or plaits being submitted to the action of the needle and thread of sewing machines.

**PLANING MACHINE**—Asahel Lockwood, of Chicago, Ill., assignor to L. B. Flanders, of Cleveland, O.: I claim the support, I, with its circular dovetail grooves, a a, or their equivalents attached to the bed piece, B, together with the vibrating table, K, turning upon the center pin or king bolt, L, and in combination therewith the adjustable guide, M, and the sliding head, N, so adjusted and combined that a greater or less vibratory motion can be secured to the table, K, by means of the adjustable guide, M, by bringing it out of parallelism with the ways, C C', and the bed, B, in the manner and for the purpose set forth.

**SEWING PINS UPON PAPER, &c.**—E. S. Woodford, of Winchester, Conn., assignor to J. R. Keeler, of New York City: I claim the roller or separator, marked B, made of india rubber or other elastic substance. Also, the turn table, marked C, for receiving and changing the pin from one place or position to another, or their mechanical equivalents.  
I also claim the combination of one or a series of conductors for supplying pins in any desirable position and a sewing machine of any suitable adaptability for sewing pins upon paper or any other material, but I do not make claim to either of these elements of the combination by itself.

**CHAIRS**—James Fernald, of Boston, Mass.: I claim the oval back rest, D, or its equivalent, when made to rotate in manner and for the purpose essentially as described.

**CUTTER HEADS FOR PLANING MACHINES**—Lewis M. Berry, of Boston, Mass.: I claim the application and use of the pieces, I, and M, substantially in the manner and for the purposes set forth.

**ATTACHING SLEIGH BELLS TO STRAPS**—Abner G. Bevin, of Chatham, Conn.: I claim making the bells, B, without shanks, and having holes, e, made through them to receive the staples, b, which pass through the strap, A, and cover, c, substantially as described for the purpose set forth.

**DOOR KNOBS**—Jeremy W. Bliss, of Hartford, Conn.: I claim the employment of the intermediate piece, c, having a cut or rucked surface corresponding to and secured upon the spindle by the set screw, d, at any desired point, in the manner described.

**DRIVING CIRCULAR SAWS**—John Broughton, of Chicago, Ill.: I claim the sliding frame, C, placed and working between the horizontal and segment guides or ways, b, e, in the frame, A, the frame, C, having the saw, s, placed within it and driven by the belt, f, from the shaft, J, arranged relatively with the frame, C, as shown and described, for the purpose specified.

**FIXED CARTRIDGES**—George Buckel and Edward Dorsch, of Monroe, Mich.: We do not claim broadly the use of two or more balls or a tail and shot in the same cartridge.  
But we claim, first, the arrangement, side by side, in the same cartridge, and with the axes in the same circle, of a number of balls of cylindrical or conical or other partly cylindrical form, said balls being of a size to fit each to a separate groove of a circular grooved barrel, as described.  
Second, the employment of a single partition piece, B, to separate each and all of the balls, substantially as described, for the prevention of their union by fusion when the charge explodes.

**PERCUSSION TAPE PRIMERS**—James Chataway, of Springfield, Mass.: I claim the improvement of substituting paper, metal, hermetically sealed and soldered to the continuous band so as to make it impervious to water, weather, or climate.

**VIBRATORY STEAM ENGINES**—Wm. Darker, Jr., of West Philadelphia, Pa.: I do not claim the interposition of water between the steam and the working parts of a steam engine.  
But I claim the oscillating piston, A, of the form substantially as specified, arranged within a steam box, B, which is provided with a partition, e, and with suitable packing, all substantially as described, and with a suitable arrangement of a valve or valves and passages, the whole operating as set forth, in connection with suitable means of converting the oscillating movement of the piston into a continuous rotary motion.

**ARTIFICIAL HANDS AND ARMS**—John S. Drake, of Boston, Mass.: I claim the ratchet, 3, and pawl, 4, in the elbow joint, to sustain the fore arm at the proper position relatively with the stump, substantially as specified.  
I also claim the construction of the wrist joint, f, with the shaft and stops for allowing the necessary motion, substantially as specified.  
I also claim forming the knuckle joints and joints between the different parts of the fingers and thumb with ratchets and pawls, so as to secure said joints at the point to which they may be moved in adjusting the fingers or thumb to any given article or purpose, substantially as specified.

But we claim disengaging the pawls, n and o, from their respective ratchets, by means of the sliding cross bar, p, (actuated by competent power) rods, t, and cam pieces, 20, substantially as specified.  
I also claim the arrangement of the bars, p and q, crank, r, button and rod, s, for actuating the bar, p, and rods, t, substantially as specified.  
And in connection with this arrangement I also claim the cross lever, 22, for actuating the bar and pawl, u, of the thumb, substantially as specified.

**SELF-ACTING ELECTRIC TELEGRAPHS**—Moses G. Farmer, of Salem, Mass.: I do not claim arresting the motion of the type wheel by a positive stop upon the key which interrupts the motion of the wheel whenever a key is depressed, and at a moment when the circuit is broken as in the telegraph of Siemens and Halske's.  
But I claim the method described of arresting the motion of the type wheel by means of the alternately open and closed keys, in combination with the circuit wheel, constructed and operating in the manner substantially as set forth.  
Second, I claim the combination of a straight key-board with a circuit wheel, when the two are connected together by means of the wires, F and G, whereby the place of making and breaking the circuit may be transferred to the immediate vicinity of the key-board for the purpose set forth.  
Thirdly, the method described of putting the two machines in correspondence with each other, the current being turned out of the operating magnet, M, of the receiving machine by means of the regulating key, K, the arm, b, insulated spring, c, and their connections, operating in the manner substantially as set forth.

**MOLDING AND PRESSING BUILDING BLOCKS FROM CLAY, &c.**—Ambrose Foster, of New York City, and George M. Foster, of Fairhaven, Conn.: We do not claim a sliding hopper; nor do we claim a core placed within a press box for the purpose of molding hollow bricks, for these devices have been previously used.  
But we claim, first, the sliding hopper, M, plunger, I, and vibrating press box, J, when the above parts are moved or operated relatively with each other, as shown, for the purpose specified.  
Second, we claim operating the hopper, M, press box, J, and plunger, I, by means of the cam, H, on the shaft, G, the ledge, J', and I, on the wheel, F, and levers, N Q, the above parts being constructed and arranged substantially as shown and described.

**GAS STOP COCKS**—James Humphrey, of Boston, Mass.: I claim the mercurial gas cock, constructed with the adjustable slotted cylinder, and the reservoir of mercury, arranged and operating substantially as described.

**FELTING HAT BODIES**—Lansing E. Hopkins, of Brooklyn, N. Y.: I claim, first, the combination of the beaters, the revolving belt, and the beater heads, operating substantially as described.  
Second, the adjustability of the beater heads, in combination with beaters having a positive motion, substantially as shown.

**HARVESTERS**—Stephen Hunter, of Cortlandt, N. Y.: I do not claim the rotary cutters working within or through the slotted fingers, separately, or in themselves considered, for they have been previously used.  
But I claim the employment or use of the rotating cutters, formed of circular plates, L, with teeth, e', at their peripheries, said teeth working through or between slotted fingers, c, on the plates, J J', when said plates are connected by a hinge or joint, b, and attached to the frame, A, as shown and described, for the purpose set forth.

**FLY TRAP**—Joseph Hyler, of Kent, Ind.: I claim a trap for catching flies having an opaque front and bottom, a b, inclined transparent back, c, a small front decay passage, B, grooved bait board, C, and trough, D, substantially as set forth.

**CUTTER STOCK FOR METAL PLANERS**—Joshua Mason, of Paterson, N. J.: I do not claim a swinging or adjustable cutter stock, irrespective of the arrangement of the same, as shown and described.  
But I claim the cutter stock, C, placed within a ring or band, B, which is suspended by journals, a, within the frame or box, A, the stock being provided with a sliding or adjustable plate, L, provided with a slot, g, and the stock adjusted or operated at the end of each stroke of the bed by the pins, f, f, on the side of the bed, and the levers, G H I K, the above parts being arranged as shown and described, for the purpose specified.

**SAWING STONE OR MARBLE**—Matthew J. McBird, of Logansport, Ind.: I claim the combination of the turn table, D, and the lateral moving platform or bed, E, when connected and arranged substantially as shown, so that when the turn table, D, is revolved, the stone or marble, F, will be brought in oblique position under parallel moving saws, h, while the platform or bed, E, when that is given a lateral transverse movement to the parallel position of screws, h, the stone or marble, F, is given a corresponding movement and brought to the position required, for the purposes set forth.

**COTTON GINS**—James B. Miles, of Chicot, Ark.: I claim the arrangement of the swing board, L, in combination with the mechanism described, so that the varying size of the roll of cotton in the gin shall govern the feed and keep it uniform, or nearly so.

**POLISHING MACHINE**—John Moore, of Gardiner, Me.: I claim the general construction of the machine substantially as described, having a rubber, R, revolving by power, and so constructed as to be readily applied whilst in motion to all parts of the work as required.

**MARBLE SAWING MACHINE**—John M. Mott Jr., of Lansingburgh, N. Y.: I do not claim the manner of suspending and driving the saw gate, nor the method used for raising the same, nor the mode of supplying water to the saws, nor the use of adjustable guide bars, guide rods and slides, for these have been long known and much used.  
But I claim the use of adjustable guide bars, guide rods, and slides on the guide bars, or their equivalents, substantially as described, in combination with the slides carrying the saws, and for the purpose specified.

**RE-ISSUES.**  
**METALLIC PEN**—A. W. Rapp, of Philadelphia, Pa.: Patented Jan. 6, 1852. I claim reducing or thinning the sides of the pen at a, between the shoulder, A, and split, c, whereby the advantages stated are free y attained, and the metallic pen made to possess the qualities of the quill pen.

**RAKING AND LOADING HAY**—Joseph Smith, of Condit, Ohio. Patented June 3, 1856. I claim the combination of rake, S, with spring guard plate, S', and fork, P, the whole being arranged and operated in the manner and for the purpose set forth.

**ADDITIONAL IMPROVEMENT.**  
**GAS HEATER**—Wm. F. Shaw, of Boston, Mass. Patented Jan. 23, 1855. I do not claim the application of a boiling chamber, to a heating apparatus, but as an improvement on the peculiar gas heater, patented by me as specified. I claim the arrangement therein in manner, as described, of a separate or boiling chamber, G, that is attached to or between the flue pipe, E, and the reverberating dome or space, F, substantially as described, in order that the apparatus may be made to perform functions, as stated.

**The Poison Strychnine.**  
This drug, which has lately become so notorious for destroying the lives of human beings—as in the case of the infamous Dr. Palmer, recently executed in England—is a most deadly organic poison. A dog has been killed with the sixth part of a grain of it, and a human being with less. When introduced into the stomach it acts with fearful energy, causing lock-jaw immediately, violent spasms, and death in a few minutes. It is odorless, but so intensely bitter as to be perceptible to the taste when one part is diluted in a million parts of water. The composition of strychnia is carbon 44, hydrogen 24, oxygen 4, nitrogen 2 equivalents. It is colorless, and forms soluble crystallizable salts. It is an alkaline base, and is extracted principally from the *Strychnos nux vomica*. The tree from which it is obtained is of moderate size, and grows in several parts of the East Indies and the island of Ceylon. Its fruit are large orange-colored berries, the pulp of which is the favorite of many birds. The seeds contain the deadly poison. They are flat and round, about an inch in diameter, and gray in color. These seeds were used as a medicine, and as a poison, by the Hindoos, long before they were known in Europe. Many of the natives of Hindostan often use it as people use opium. They commence with taking the eighth of a nut a day, and gradually increase their allowance to an entire nut, which would be about twenty grains. If they eat it directly before or after food, no unpleasant effects are produced; but if they neglect this precaution, spasms are the result.

The bark of the tree is also poisonous, and from its resemblance to Angustura or Cusparia bark, a tonic medicine imported from South America, caused a great deal of alarm and excitement in Germany, in the early part of this century, by being mixed with that bark. No sure antidote has yet been discovered for this

poison, but some chemists have attained to great skill in detecting it, when administered as a poison. The following is Dr. Thompson's method of detecting the one-thousandth part of a grain:—  
Having placed a drop of strong sulphuric acid on a piece of glass, add to it a small quantity of the suspected substance, and stir the whole together, so as to favor solution; then sprinkle over the mixture a little powdered bichromate of potash, and gently move a glass rod through the fluid. If strychnia be present, a violet color of considerable beauty will be almost immediately produced which, after a few minutes, will fade into a reddish yellow, but may be renewed by the addition of more bichromate, so long as any strychnia remains undestroyed in the mixture. In this way the thousandth part of a grain of that alkaloid may be made to yield a very decisive indication. The points to be noticed are, that sulphuric acid alone produces no apparent effect, and that the action begins at once round each particle of the bichromate, so that if the glass be held in a vertical position, streams of a violet colored fluid may be seen to flow from each particle; and if at this time the whole be slowly stirred, the entire bulk of the fluid will speedily assume the same characteristic tint.

**Railroad Accident.—The Verdict.**  
The Coroner's Jury, in the case of the terrible railroad accident on the North Pennsylvania Railroad, mentioned by us last week, is, that "the collision was caused by the criminal negligence of Alfred Hoppel, the conductor of the excursion train, who carelessly and negligently run his train beyond the siding at Edgehill."  
This conductor is now in jail. The total number of the dead by this accident is 66; wounded, over a hundred. Will any person be punished for the criminal negligence which caused this accident? Let the people of Pennsylvania answer.

**More American Printing Presses for England.**  
The *Illustrated London News* announces that it has contracted for one of Hoe's printing presses, and the *London Times* has also ordered a very large one.  
At the Complimentary Supper given by the proprietor of the New York *Sun*, a few years ago, to Col. Hoe, when the first large press was put up in the Sun Establishment, James, the Novelist, who was present, said, "Westward Hoe" had become a byword, but "Eastward Hoe" would soon supersede it. He said this in reference to a demand that would yet arise for such presses in Europe. His prediction is now fulfilling.

**Recovery of the Lost Telegraph Cable.**  
About 50 miles of the above cable has been recovered by the Telegraph Co. They fitted out a brig from Cape Breton, with fifty men and a powerful capstan, and they have fished up the above length of it, leaving thirty miles lying in the ocean. With \$50,000 of insurance received on it in London, the Company have recovered nearly all they had paid out for it.

**Bust of Columbus.**  
Mr. A. Herbemont, U. S. Consul at Genoa, Italy, possesses the only bust of Columbus now in the native city of the great discoverer. Mr. Herbemont found a bust in the Campidoglio, at Rome, which was the only one in Italy, except one at Naples. From the former he procured two casts, one of which was sent to the South Carolina College Library, at Columbia, and the other is in the U. S. Consulate Office at Genoa.

**Death of an Artist.**  
Thomas Doughty, a distinguished American landscape painter, died in this city on the 23rd inst. His last days were passed in comparative poverty, and he has left a destitute family.  
A portion of the rock over which the water falls at the Falls of St. Anthony, gave way for a distance of about fourteen feet from the Minneapolis side, on the 6th July. The break does not diminish the height of the fall any, but removes that portion of it some distance further up stream.