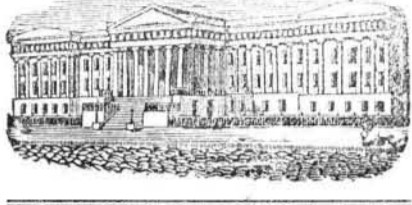


labor and space on shipboard. It has received the approbation of many shipmasters; one is now building for a new ship at Medford, Mass.

More information may be obtained by letter or otherwise, of T. L. Ranlett, No. 157 South street, this city, or George P. Tewksbury, 140 Commercial street, Boston, where working models can be seen.



[Reported Officially for the Scientific American.]
LIST OF PATENT CLAIMS
ISSUED FROM THE UNITED STATES PATENT OFFICE
FOR THE WEEK ENDING SEPT. 18, 1855.

LOOMS FOR WEAVING SUSPENSER WEBBING.—Wm. V. Gee, of New Haven, Conn. I claim first the method described of forming cotton holes, or other holes, in suspenser webbing, and other fabrics, by weaving one side of the hole continuously, from the weaving of the full width of the web, then running back the web the length of the hole, and proceeding with the other side of the hole.

Second, the employment for operating the harness of a sliding harnes, in which, by suitable means, a vibrating catches, a corresponding number of leaves of harnes, said catches being employed below the harnes, opposite the lifting lars, C, C, thereof, and being allowed to fall into the notches of the lifting lars of their respective leaves of harnes, or being thrown out by a corresponding number of levers, f, f, which are operated upon by a pattern cylinder, G, or its equivalent, substantially as described.

Third, the method of throwing off all the levers, f, f, from the pattern cylinder, at every stroke of the loom, to admit of the turning of the cylinder, by attaching all the said levers to a superior lever, H, which is operated upon by inclined surfaces, i, i, upon the connecting rod of the lifting carriage, B, substantially as described.

Fourth, the mechanism, by which the suspension of the operation of that part of the harnes which carries that part of the warp which forms the side of the hole which is first woven, is effected, consisting of a rock shaft, s, carrying catches, s, s, to hold up the harnes, and a finger lever, t, attached to the lifting carriage, B, to act on a cam, s, or its equivalent, on the said rock shaft, the said finger lever having imparted to it, by suitable means, a vibrating or side-to-side movement, at the termination of the weaving of each side of the hole, to actuate the rock shaft, to throw the catches, s, s, in or out of operation, substantially as described.

Fifth, the method of returning the pattern cylinder to the position for commencing the pattern, after the weaving of the hole, by fitting the cylinder loosely to its shaft, and turning the shaft with a fixed slider, R, to receive a movable slider, R', which is raised at intervals by a lever operated by a cam on a shaft, U, parallel to and geared with the cylinder shaft, and at the end of the formation of the hole, suddenly fall over a step on the cam, and throws down the slider, and thereby causes a fork, z', on the cylinder, and return it positively to the required position, substantially as described.

Sixth, forming those dents of the reed, which correspond with that part of the warp which forms that side of the button hole, is to be first woven, with a backward crook, n, above or below the plane, in which the closing of the sheds takes place, in order that by raising or lowering that part of the warp, of which the first woven side of the hole is composed, the length of the button hole, and then the arm to become stationary, till the ratchet is liberated, and then to return with the ratchet, to throw out the catch, q', substantially as described.

Ninth, the application, in connection with each of the let-off rolls, o, o, of a brake lever, o', and a spring lever, q, the said levers operating as described, to control the let-off, and the spring lever acting as a back check, to take back the web, to weave the second side of the hole, substantially as described.

[This invention relates, for the most part, to improvements in the mechanism by which the harness of the loom is operated, for the purpose of weaving button holes or openings in suspenser webbing and other fabrics. It also relates to the construction of the reed, and to peculiar take-up and let-off motions for the same purpose; also to the construction of the harness, stop motion, &c. We should need engravings to convey a clear description of the parts. We regard it as an important and valuable improvement: we have seen some specimens of work done by it, and they are indeed beautiful. Mr. Gee is the inventor and patentee of other improvement in this line, which have been already noticed in our journal.]

CORN AND COB MILLS.—Rensselaer D. Granter, of Philadelphia, Pa. I do not desire to confine myself to any particular number of arms on the bridge tree, C, or pieces, F and H, as that must be determined by the size of the mill; neither do I wish to claim any particular size or arrangement of breaking or grinding teeth.

But I claim the adjustable horizontal guide rollers, i, in combination with the bridge tree, G, e, spindle, D, and spring, d, for the purpose of maintaining a uniform relative position of the shell with the bur, and at the same time allowing the former to yield from the latter.

CUTTING WIRE.—Wm. Grover, of Holyoke, Mass. I claim the use of the circular plates, B, having radial slots, A, formed thereon, for the purpose of holding and cutting wire, together with the guide, C, constructed and operating in the manner described.

[This instrument differs from the common knife-edged nipper, only in the shape of its jaws. They are made round; in other words they are complete disks of steel, with holes of different sizes through their surfaces, for the reception of the wire to be cut. In its operation the handles are opened until a certain sized aperture in one of the disks comes in line with its equivalent opening in the other disk; the wire is then passed through and clipped by compressing the handles.

The ordinary nippers are apt to bend the wire in cutting; they also leave a rough burr on the ends of the pieces. But with Mr. Grover's improvement, wire may be very rapidly cut to any size or length, without the least bending, and with perfect smoothness. It is evidently a valuable improvement. Piano-forte makers and all others who have occasion to use large quantities of wire, reduced to particular shapes and dimensions will appreciate its excellence.]

STEAM GAUGE COCKS.—Albert Bisbee, of Chelsea, Mass. I claim the arrangement, substantially as specified, of the india rubber disk, or facing, to the screw plug, or stopper, imbedded and bound at its edges by an extension of the body of the plug, as described, with the stationary annular stopper seat of the cock, essentially as set forth.

FEED WATER APPARATUS FOR STEAM BOILERS.—Joel Denmore, of Blooming Valley, Pa. I claim the arrangement of the tube C, to enter the boiler at the water line, B, with the steam chest and pump cylinder, constructed and operated in the manner described, by which the steam of the boilers assists the pump worked by the engine, to force water into the boiler, as herein set forth.

MACHINE FOR FELLING TREES.—Thomas Durden, of Montgomery, Ala. I claim the employment of cutters, C, C, C', of the peculiar form shown, in combination with the feeding arrangement K, L, M, substantially as, and for the purposes set forth.

Like the claim, providing each of the jaws of the dog with a projection, b, and arranging and operating them as shown, for the purpose set forth.

[In the above improvement no saws used, the cutting being done by means of knives which project horizontally from an upright shaft. Rapid motion is communicated to this shaft by means of cogged gearing; there is also a connection between the gearing and a screw which feeds the cutters up towards the tree as fast as they enter; the feeding parts are therefore self-operating. The frame of the machine rests on a four-wheeled truck, so that it may be conveyed about from place to place with facility. The apparatus is firmly attached to the base of the tree by means of a pair of iron spurs; a hole is bored, the spurs inserted, and then wedged.

This appears to be an excellent machine for the purposes intended. It is very compact, light, portable, and performs its work with rapidity. By the use of cutters, instead of saws, all the difficulties which attend the use of the latter, such as gumming up and sticking, are totally avoided.]

MOWING AND REAPING MACHINES.—Wm. Burgess, of London, England. Patented in England, Aug. 16, 1854. I claim a "spiral or screw" has been employed for the purpose of clearing the track, in order that the wheels may operate upon the ground, and I make no claim to such a device.

But I claim as my improvement in addition to reaping or mowing machines, combining the archimedean screws with the platform thereof, for the purpose of delivering the cut crop off from the same, substantially in the manner as described.

[There is such a large number of American improvements in harvesters already existing in this country that the bringing of one over from England seems almost like carrying coals to Newcastle. The above improvement, however, strikes us as a very good one.]

CARD PRINTING PRESS.—D. K. Winder, of Cincinnati, Ohio. I claim the combination of the connected chambers, C and D, of the platen, with the spring driver, E, of the bed, constructed, arranged, and operated in the manner as specified, for the automatic feed and delivery of cards.

LANTERNS FOR LOCOMOTIVES.—J. H. Kelly, of Rochester, N. Y. Ante-dated June 30, 1855. I disclaim the arrangement of lateral flues, as applied in the lamp case of Salmon Bidwell; also the arrangement of flues, as used in the patent of J. A. Williams; my invention being an improvement on both of these.

I claim the construction of locomotive lamp cases, with vertical descending flues open at bottom only, constructed substantially as set forth, for the purposes specified.

MACHINERY FOR PICKING FIBROUS MATERIALS.—Richard Kitson, of Lowell, Mass. I do not now claim, broadly, the application of a fan to the cylinder, in any manner, as one method of applying a fan is embraced in my patent of Oct. 31, 1854.

Without claiming here the use of a notched plate for securing the teeth to the cylinder, I claim casting or forming the notched plate with locking pieces, for the purpose of entering between the prongs, f, of the teeth, into the grooves, which are formed in the cylinder, to receive the teeth, and fitting down to the bottom parts or crotches, g, of the teeth, and thus securing them in place.

[In machines for picking cotton and other fibrous materials, the picking cylinder is generally covered with what is termed a "fillet"; this consists of a sheet of leather filled with ordinary card teeth. The heavy work at which pickers are employed requires that the teeth should be very firmly secured—else they break, bend, or otherwise refuse to do good work. Mr. Kitson's improvement consists in making the teeth separate and in attaching them, without any fillet, to the cylinder. His mode of attachment is such that they may be made larger and stronger, with corresponding advantages in durability, economy and thoroughness of operation.

The above is a good invention. Mr. K. is the patentee of several other ingenious improvements in machines for preparing and manufacturing fibrous goods.]

FIRE ARMS.—Wm. W. Marston, of New York City. I do not limit myself to the size or arrangement of the barrel with my improvements; neither do I make any claim for rotating and cocking a fire arm simultaneously; neither do I claim the seer K, to act upwards and rotate the barrels, as this is also well known.

But I claim, first, elevating the hammer to cock and discharge the piece by means of a cam, d, revolving with the barrels or chambers, and formed with any points, s, there are barrels or chambers, so that the hammer shall be raised and discharged by simply rotating said barrels or chambers, as specified.

Seco, d, I claim the revolving face-plate e, formed with projections on its face, to take these seer, k, and with notches on its edge taking the stop, l, on the trigger, the two acting to rotate and stop the barrels at the precise point required, and prevent the strain on the trigger from turning the barrel too far, as specified.

Third, I claim the mode specified of constructing and fitting the parts of the cam, d, face plate, e, trigger, k, seer, k, and stop, l, so that the hammer shall be cocked by one, two, or more pulls on the trigger, in the manner, and as specified.

SAFETY APPARATUS FOR STEAM BOILERS.—John M. Reed-r, of Nashville, Tenn. I claim connecting the valve stems, D, and D', so that the valve, H, may be raised by hand from the outside to flood the fire, or may be weighted from the outside to increase the steam over a given quantity, as set forth.

PLANE BIT.—Horace Harris, of Gorham, N. Y. I claim the adjustment of the cap and bit with the grooves at each side, and of the thumb-screw at the top of the cap and bit, for the regulation of the cut of the bit, while the iron is held fast in the stock by the wedge fastening.

DOVETAIL KEY CUTTER.—A. P. Hughes, of Philadelphia, Pa. I claim the combination of two angular V-shaped and adjustable cutters, with the guiding tube, or its equivalent, substantially in the manner and for the purpose specified.

INSTRUMENT FOR DETERMINING LATITUDE AND LONGITUDE.—John Stinson, of Danville, N. J. I claim the use of the circle, C, with its shaft or handle, provided with the cross piece, G, and the cross piece, H, or their equivalent, the whole being suspended from, or near the center of the circle by means of the plumb wire and rod, I, which rod is pivoted so as to move freely in the plate, passing through the axis of the circle, the whole being for the purpose above described.

[If we understand the design of this invention, it will (provided it operate successfully) enable the navigator to ascertain his exact position at sea at any time of day or night, without quadrant or chronometer, the only requisite being a sight of any known heavenly body. An important improvement truly—if it will do the work.]

BRICK MACHINES.—G. W. B. Gedney, of New York City. I claim the off-bearing boards applied and arranged as specified.

I also claim the fingers for placing the board from the mold on to the endless apron.

COOLING CAST IRON CAR WHEELS.—J. M. Sigourney, of Watertown, N. Y. I claim the arrangement of the mold, churning ring, P, operated in the manner set forth, for equalizing the cooling of the car wheel.

[To cast a car wheel, so that it shall come forth from the mold, perfectly sound in all its parts, and sufficiently strong in those parts where strength is required, is what many have essayed but few successfully accomplished. The great difficulties to be overcome lie in the unequal contraction of the metal while being cooled in the mold.

We are told that Mr. Sigourney has so successfully mastered these obstacles as to be enabled to cast car wheels with almost as much rapidity and certainty as the commonest iron castings are produced.

His improvements relate to a peculiar treatment of the mold, after the metal has been poured in; also in proportioning certain parts of the pattern to accommodate shrinkage. It is said that car wheels can be turned out on Mr. Sigourney's plan at a cost less by 50 per cent. than any other, while the article produced is much superior. We regard the above as an important improvement.]

REVOLVING FIRE ARMS.—Frederick Newbury, of Albany, N. Y. I do not claim the use of an oblique toothed ratchet wheel, nor the revolving mandrel attached to both cylinder and ratchet wheel.

But I claim the method of operating an oblique toothed ratchet wheel by the direct action of the upper limb, or cam end of the trigger, which trigger, also, by the same action, cocks and discharges the hammer, and holds the cylinder firmly in place during the firing of the piece, substantially as set forth.

I also claim the employment and use of a slot in the trigger directly upon the hammer, in order to enable the trigger to replace itself behind the hammer as before the discharge of the same, substantially as set forth.

I claim the apparatus for attaching and detaching the barrel to the stock, to wit, the catch lever lying in the track, underneath the cylinder, with its hook, finger-piece, and spring, together with the recess and stop in the block.

SEAL AND STAMPING PRESS.—Edmund Morris, of Trenton, N. J. I claim the causing of the frame which contains the die, or plate, to work to and fro on a joint or hinge, so that the latter may be turned over with its face upward, as described, in a convenient position, to receive a supply of ink.

PIANOFORTE ACTION.—Jno. S. Morton, of New York City. I claim the arrangement and operation together, shown and described, of the lever, b, pivoted to the jack, post, or cushion, e, and block, c, with the jack and hammer to effect the repeat, and whereby, while the use of an additional spring or weight, is dispensed with, the weight of the hammer operating on the lever, returns the jack to its notch in, or position under the butt, essentially as set forth.

[This invention consists in the peculiar application of a lever to the jack, in combination with a block attached to the hammer, whereby, after the hammer escapes, it is caught at a short distance below the string, and held in readiness for a free and rapid repeat; whereby, also, the return of the point of the jack into the notch of the hammer butt is facilitated.

In all pianoforte movements, one of the most important requisites is such an arrangement and connection of the keys with the hammers, as will permit an easy and perfect repetition of the same rate. Mr. Morton's improvement appears to possess superior excellencies in this respect. It has been practically applied to several of the ordinary instruments, and is said to render them equal in touch and tone to the best grandaction pianos. [This is so it is certainly a very valuable invention.]

METALLIC PLATES FOR PRINTERS.—S. W. Lowe, of Philadelphia, (assignor to himself and J. M. Beck, of Harrisburgh, Pa.) I do not claim engraving or etching designs, or figures of any kind, upon metallic plates or surfaces of any material, for the purpose of printing therefrom, as these processes have been known and practiced for a long time.

I claim coating the plane or unengraved face or surface of the plate (which is intended for leaving the white or unprinted surface of the paper), with a mercurial amalgam, that will have the effect of preventing the ink used in printing therefrom, from adhering to or soiling the same, whilst the figures engraved or etched thereon, readily receive the ink, and thus admit of printing from the plate, by a letter or any other press, either from the plate alone, or from the plate in the same "form" with the type, without the "wiping" heretofore required in printing from steel or copper plates, substantially as described.

I also claim the coating the plane surfaces of etched or engraved plates, with an alloy of tin and mercury, substantially and for the purposes as described, and also the coating of etched or engraved copper plates, in the same manner and for the same purposes, and the coating of the plane surface of metallic embossing plates, in the same manner and for the more especial purpose of using the sunken parts, when filled up with a resinous substance as a plate to print from, thus saving an extra color plate, when it is desired to have the parts to be embossed, first printed in any color.

[The finest specimens of engraving are produced by the use of flat plates, composed of steel or copper. The picture is first drawn upon the plates, and then cut out, line by line, by means of a tool called a "graver." To obtain an impression, the plate is smeared all over with a thick paste-like ink, care being taken to fill up the sunken lines of the engraving. The plate is now put upon a small stove and slightly warmed, and then the printer wipes off with a cloth, and with the palm of his hand, all the ink that is on the surface of the plate, but leaves the engraved lines full. The plate and the sheet of paper on which the print is to be taken, are now passed through a press of great power; the latter forces the paper into the inked lines of the engraving, and the picture is thus produced. The operation, it will be observed is a slow one compared with printing from types and analogous raised surfaces.

One of the most extensive uses for which copper and steel plate printing is at present employed, is in the production of bank notes. In no other way can those beautiful pictures which adorn our paper currency, be so distinctly and accurately produced. It is a species of printing which is very costly, comparatively, but its results are very perfect. Many vain endeavors have been made to cheapen it; the invention above recorded seems intended for this purpose; it is certainly very novel.

The inventor intimates, in his claims, that if the steel or copper plates are covered with a mercurial amalgam, as he proposes, they may be printed on common presses, with types, the same as wood engravings. Should this discovery prove thus practicable, it will be a glorious auxiliary to the typographic art.]

SAWING MILL.—D. S. Howard, of Lyonsdale, N. Y. I claim the method of setting the log forward, after each board is severed, by mechanical devices, operated by the weight of the log, substantially as specified.

Second, the method described of cutting from either end of the log, with a circular saw, by hanging the saw in a vertical frame, or its equivalent, so that the axis of the saw may be above the log, when cutting from one end, and beneath it when cutting from the other end, so as to cut either way, against the grain of the wood.

I claim the self-setting arrangement described, whether in connection with the circular saw, or the single or double-edged, reciprocating saw, as equally applicable to either.

COOKING STOVES.—Jno. Van, of St. Louis, Mo. I claim the arrangement of the water cylinder, with separate chambers, fire cylinder, or space, in its center, opening through its top and cross heating tubes, combined and operating, substantially in the manner and for the purposes set forth.

KNITTING MACHINES.—Clark Tompkins and Jno. Johnson, of Troy, N. Y. We claim, first, the manner in which we cause the frame which carries the take-up mechanism, to revolve in the same direction and with the same velocity as the needle cylinder, as specified and for the purpose set forth.

Second, combining the web-shaping plates, S and C, with the take-up mechanism, substantially as described, for the purpose specified.

CURTAIN FIXTURES.—P. H. Niles, of Boston, Mass. (assignor to R. C. Webster, of Watertown, Mass.) Ante-dated March 15, 1855. I claim the combination of the bracket, having a hole of double diameter with the spring pin and the roller end, either with or without a spool thereon, fitted to correspond to said hole, and dispensing with the knob or cap, on the other end of the roller, substantially as described.

CLEANING COTTON.—Samuel W. Brown, of Lowell, Mass. First, I claim my within-described dome, having a rack or grind, in the upper portion of it, under which the cotton is thrown by the first beater, in connection with the fan in the exhaust pipe, leading from the top of the dome, for exhausting the dust from the cotton as it is thrown forwards by the first beater, essentially in the manner, and for the purposes set forth.

Second, I claim the use and application of two or more sets of secondary feed rolls, in connection with the beaters, which rolls take the cotton from the dome and deliver it to the second beaters, in several different places, so as to completely separate and agitate the cotton, to straighten and even the fibers and free the dirt from it, essentially in the manner, and for the purpose set forth.

HEATERS FOR SMOOTHING IRONS.—Newell Cleveland & James J. Johnson, of Alleghany, Pa. We claim the grated, or lattice worked heater for box smoothing irons, substantially as described and represented.

DESIGNS.

OVENS OR COOKING STOVES.—G. W. Chambers, of Troy, N. Y. assignor to P. A. Palmer, of Leroy, N. Y.

CAST IRON MONUMENT.—J. H. Wilson, of Chesterfield, Ill. I claim a design for a cast-iron monument for the head of graves, combining the figures of the harp and heart, with a recess for the insertion of a miniature likeness and inscription, and a socket for hair.

Scientific Notes.

REVOLUTION IN GAS LIGHTING.—We were much interested the other day, at the store of Mr. N. W. Turner, with the inspection of an apparatus for generating gas from a new material, and the joint patentees for which are Messrs. A. A. Davis, of Lowell, and Mr. Cunningham, of Nashua, N. H. The materials for generating the gas, which is effected without the application of external heat, and by mere chemical action, consist simply of zinc and hydrochloric acid. This yields a gas of great purity and brilliancy as contrasted with the coal gas, the same quantity yielding twice the illuminating power. The whole apparatus is contained in a cylinder three feet in height and sixteen inches in diameter; and by it every family may be its own manufacturer. Nor is there much care or attention required in its management, but a machine capable of generating sufficient for eight lights will require looking to and feeding only once a month or so. The residuum is chloride of zinc, and it is estimated will be fully equal in value to the original substances. —[Boston Evening Traveler.]

This extract we have selected from one of our exchanges which gives the above credit to the Boston Traveler; and the New York Tribune of the 15th inst., under the head of "new inventions," presents the same article with some additions, and giving the same credit. We are surprised that the Traveler which often contains much correct scientific matter, should publish such scientific errors. The gas produced in the manner described will not give a good light, and the method of making it is not new. The gas is nothing more nor less than hydrogen, produced by the decomposition of the water—the oxygen of it combining with the zinc and leaving the hydrogen to escape. This gas requires carbon to make a white light, as it produces only a faint blue light burned by itself in the atmosphere. The machine described must contain some camphene, benzole, or naphtha to carbonize the hydrogen gas or it will not be able to produce a good light—and yet nothing is said about this. The same gas can be produced in the manner described by the use of hydro-sulphuric acid to dissolve the zinc, as in galvanic batteries. This gas cannot be produced so cheap as coal gas.

ALCOHOL FROM GAS.—Berthelot, the eminent French chemist, has succeeded in preparing alcohol by causing oiliant gas to unite indirectly with two equivalents of water. This discovery is interesting, because, except alcohol of sugar juice, it has been exclusively formed by fermentation. Pure and previously boiled sulphuric acid by long agitation with oiliant gas slowly absorbed the latter; and this on being diluted with water and distilled yielded alcohol. This is a discovery in synthetic chemistry. Oiliant gas can be obtained by heating a mixture of one volume of alcohol with two of oil of vitriol sulphuric acid.

PIANOFORTE WIRES.—The excellent wire strings of the American piano of Ladd & Co. Boston, which has been so successful in Paris, were made at the wire factory of Washburn & Co., Worcester, Mass.