



Washington, D. C. : I claim the combination of the elliptic wheel and its cylinder with the sliding abutments or stops arranged in such a manner that a continuous propelling force may be communicated to the wheel without exposing it to the unequal pressure of the fluid on opposite sides of its axis throughout the entire revolution in either direction, as specified.

LIST OF PATENT CLAIMS Issued from the United States Patent Office FOR THE WEEK ENDING OCTOBER 2, 1853.

CAR WHEELS.—By J. Baker, of Boston, Mass. : I claim in car wheels the connection and intersection of the convex and rim plates by independent and interlacing branches, as set forth.

SLAT MACHINES FOR WINDOW BLINDS.—By E. R. Benson, of Warsaw, N. Y. : I claim, first, the arrangement for moving the hollow augers back and forth in performing the milling of both ends of the slats at once, combined with the slide, operated as specified.

CORN PLANTERS.—By G. A. Bruce, of Mechanicsburgh, Ill. : I do not claim the dropping slide nor any peculiar arrangement thereof, as they are used in many drills, and are constructed and operated as described.

Second, the manner of feeding the dressing and sticking portions of the machine by means of the slide, operated as specified.

Third, the method described of sticking the wire by means of hooks and drivers, as specified.

MACHINES FOR TOPPING COTTON IN THE FIELD.—By A. A. Dickson, of Griffin, Ga. : I claim the employment of two sets of cutters, one set being adjustable, and revolving in a horizontal direction and the other being fixed, and revolving in a vertical direction, and both sets being set in operation through the action of the driving or propelling wheel, in any manner as specified.

A notice of this invention was published on page 100 Vol. 3, Sci. Am.]

APPARATUS FOR POLISHING ANVILS.—By Mark Fisher & J. H. Norris, of Trenton, N. J. : We claim suspending the anvil in the sliding and vibrating frame, and arranging it in respect to the polishing part of the apparatus, and operating as described.

MACHINE FOR RUBBING AND POLISHING LEATHER.—By J. F. Flannery, of New York, Mass. : I claim, first, the employment of a vertical shaft with arms extending from its sides, for the purpose of carrying the tools and their accompanying mechanism, in combination with a plane surface horizontal table, as described.

Second, I claim the jointed tool holder, either with or without the springs, constructed as described.

Third, I claim the arrangement of a movable table permitting of an enwise and at the same time downward motion, constructed as described.

I do not claim to be the inventor of a rotating shaft with arms extending from its sides, carrying tools for the purpose of dressing leather, only when used in a vertical position and in combination with a plane surface horizontal table ; nor do I claim the springs operating to produce the pressure on the leather, nor do I claim to be the inventor of the sliding bolts.

MACHINE FOR GRINDING PLOW CASTINGS.—By Joshua Gibbs, of Canton, Ohio : I claim the carriage upon which the casting is fastened, with the weight and grooved stand upon which the carriage is moved, arranged as described.

PLOWS.—By R. A. Graham, of New Paris, Ohio : I claim, 1st, the screw belt, or its equivalent, for setting out or in the rear edge of the mould board, with respect to the landside, acting in combination with the bolts E and F, which being tightened, attach to each other, the mould-board, sheath, and tipped or flanged share, as described, and which being temporarily relaxed, permit the vibration of the mould board about the bolt B, without interrupting the continuity of plowing surface, or disconnecting the several parts.

Second, the shifting or adjustable socket attachment of the beam to the sheath, in combination with the dovetail and adjustable connection of the rear end of tie beam to the bolt or equivalent devices, so as to vary the direction of the draught of the plow, to suit the requirement of a change in the flare of the mould board and other objects, as explained.

CORN HUSKING MACHINE.—By T. C. Hargreaves, of Schoenectady, N. Y. : I claim, first, the application of the chisel or chisels, and cutter or cutters, in combination with the gate or gates, operated by gearing or other means, as described.

Second, I claim the construction of the circular plate or its equivalent, as described, in combination with the cutters for severing the cob, and the elbow lever for discharging the husks, as set forth.

Third, I claim the combination of a cam, lever, and spring, with a stud for holding the circular plate stationary whilst removing the ear and husk from the machine, or any other equivalent, as specified.

ANNUNCIATORS FOR HOTELS.—By Wm. Horsfall, of New York City : I claim, as described, the manner of constructing and arranging the index plates, in combination with the alarm and its necessary attachments, so that each plate can be operated, and its number exposed to view, and also the alarm sounded instantly after, by simply employing a rod, having a tripping arm, as specified.

I also claim, as described, throwing the index plates back to their proper position by means of the eccentric rod, in combination with the peculiar construction and arrangement of the rods and index plates, the eccentric being operated in any manner as described.

[This is a very simple and effective apparatus : see notice on page 276, Vol. 3.]

STRAW CUTTERS.—By Richard Ketchum, of Seneca Castle, N. Y. : I claim the method, as described, of hanging and operating the cutter by means of its pivoted attachment to the slide, in combination with a guide rod, the latter being made adjustable by the helical spring at the top, or other equivalent device, as set forth.

Further claim, in combination with the inclined reciprocating knife and simultaneously with the descent thereof, giving to the gauge a lateral curvilinear or oblique downward action away from the rear end of the knife towards the front end thereof and below the cutting edge of the table, substantially as described, whereby the straw is restrained from being crowded towards the back end of the knife by the inclination of the cut, and a free escape established for the cut particles to pass off, as specified.

CAR WHEELS.—By Z. H. Mann, of Newport, Ky. : I claim the construction, as described, of a cast-iron railroad car and locomotive wheel, whose web or portion connecting the hub and rim, consists, at the hub, of broad radiating plates in the plane of the axis, whence turning alternately to the right and to the left, they contract in the direction parallel with the axis, and expand proportionally in the direction of revolution, those of each alternate set uniting as they approach their respective margins of the rim concave, so as to form flanges having openings left for each intermediate plate on the other side, forming a brace and counter-brace wheel, possessing the requisite lateral stability and continued support at the rim, together with adequate provision for the strain arising from shrinkage, &c. And this I claim, whether the said web be formed in a cyma reverse curve, as described, or in any way substantially equivalent.

SMUT MACHINES.—By Benjamin Rutter & Henry Rowser, of Piqua, Ohio : We claim the narrowing of the spout near the grain discharge, in combination with the curved passages, which receive and discharge at their respective apertures the light grain and trash taken from the grain discharge aperture.

ROTARY STEAM ENGINES.—By John C. fr. Salomon, of

Washington, D. C. : I claim the combination of the elliptic wheel and its cylinder with the sliding abutments or stops arranged in such a manner that a continuous propelling force may be communicated to the wheel without exposing it to the unequal pressure of the fluid on opposite sides of its axis throughout the entire revolution in either direction, as specified.

I further claim, in combination with the revolving wheel or piston, the arrangement and operation of the valves described in such a manner that as the effective propelling area of the piston surface exposed to the impelling fluid, between either two abutments diminishes, the wheel is assisted by an increasing area of piston surface exposed to the action of the fluid, on the opposite sides of the abutments, as specified, whereby the propelling fluid may be worked expansively without impairing the uniformity of the active power of the engine, as set forth.

[Why abandon gas?]

COOKING RANGES.—By G. S. G. Spence, of Boston, Mass. : I do not claim to combine a hot air fire with a fire place, and a flue extending directly therefrom, to and underneath an oven and up the rear end of such oven, that such hot air flue shall pass only in contact with the back of the fire place and with the oven flue.

But what I claim is the arrangement of the fire place, boiler chamber, and smoke flues leading under the oven and in rear of the back thereof in combination with the peculiar arrangement of the hot air chambers, whereby the fire place and oven flues are not only made to heat the air flues, but the bottom plate of the boiler is also made to impart heat thereto, and the backs as well as the front of the upright air flue, is also heated by the smoke flue through which it passes, as specified.

BURGLAR ALARMS.—By Edward Brown, of Ringe, N.H. (assignor to Josiah Norcross, M. D., of South Reading, Mass.) : I do not claim the combination of an alarm clock with a lamp-lighting apparatus, they being applied that, on an alarm being sounded by the clock works, they shall set free the separate machinery by which the lamp and friction match are rotated, the latter being carried against a roughened surface, for the purpose of igniting it.

In my alarm apparatus, the spring which moves the match holder not only performs the operation of moving such match holder, but it elevates the bell and its spring until the slide is brought up against the shaft, which, taking place, the accumulated force on the bell causes the bell to vibrate and sound the alarm.

I therefore claim the improvement of so connecting the match holder, and the bell spring, O, with the slide, that the spring, P, of the slide, in combination with the opening of the door shall not only elevate the match holder, but set the bell in motion so as to cause the alarm to be sounded by it, as specified.

MACHINES FOR PARING APPLES.—By E. L. Pratt, of Worcester, Mass. (assignor to James Sargent & D. P. Foster, of Shelburn, Mass.) : I claim hanging or connecting the block which carries the knife to the rod, which carries said block, so that the block and knife can vibrate in one or either direction by means as described, so as to allow the knife to vibrate and accommodate itself to any irregularity of the surface of the apple or vegetable pared, as described.

HYDRAULIC RAM.—By J. C. Siroe, of East Bradford, Pa. : I claim the application of the brachystochome curve to the conduit pipes of hydraulic rams, as set forth.

[See notice of this invention on page 156, Vol. 3.]

TURBINE WATER WHEELS.—By Henry Vandewater, of Albany, N. Y. : I claim the manner of regulating the discharge openings of the buckets from the outside, in combination with the central gate, for adapting the wheel to varying heads of water, and to the nature and amount of work to be done by it, consisting of the circular gate constructed, arranged, and operated with the wheel, as set forth.

AIR ENGINES.—By J. A. Woodbury, of Winchester, Mass., and Joshua Merrill and George Farn, of Boston, Mass. Patented in England, Jan. 5, 1853 : We claim in atmospheric air engines, supplying the air pump from a receiver into which air has been condensed, by a hand pump, auxiliary engine, or otherwise (the hand pump or auxiliary engine being used for the purpose of charging and sustaining a uniform pressure in the receiver, from which the air is supplied), when the same is done in combination with a second receiver into which the air is to be still more compressed and maintained at a uniform pressure or nearly so, by the application of heat to the air on its passage to the working cylinder, as set forth.

STOP COCKS.—By Elizur Wright, of Boston, Mass. : I claim the combination of a ball with an elastic cylindrical ring seat, constructed with or without wires, as described, for the purpose of forming a valve.

THROTTLE VALVE ARRANGEMENT.—By J. E. Anderson, of New York City : I claim the combination to serve the purpose of a throttle valve or regulator, of two hollow cylindrical valves connected together with a lever on opposite sides of its fulcrum, and having slotted openings communicating with similar openings in the cylindrical valve, the several openings being arranged as set forth.

[Mr. Anderson is a practical engineer, and has patented a very simple improvement. See notice on page 333, Vol. 3.]

MAGAZINE GUNS.—By E. H. Graham, of Bedford, Mass. : I do not claim a rotary magazine connected with the barrel of a fire-arm, such being in common use in repeating guns ; nor do I claim to combine a magazine for powder, balls, and priming, with a hollow cylinder or tube made to encompass and revolve on a barrel, while the barrel is provided with holes or passages to receive the load from the magazine when the latter is turned around on its axis to a suitable position. Nor do I claim the combination of a rotary charge receiver (plate) with a receiver or breach of a gun and a stationary loading magazine affixed on the barrel or breach.

What I claim is the arrangement of the series of ball chambers, &c., and the series of powder chambers, &c., in concentric circles and on the side of the gun barrel and out of the sight range, and so as not only to revolve and work against a common plate affixed to the side of the gun, but to operate in conjunction with a rotary charge receiver placed within the barrel, as specified, such arrangement of the magazine chambers, not only causing the powder of the charges to be kept in separate chambers so as to lessen the danger of accident, but causing the magazine to be so arranged as to be out of range of the sight in taking aim.

I also claim to so combine the percussion hammer or cock, the rotary charge receiver, and the rotary magazine with the trigger guard, that by the movement of the said guard away from the stock, they may be simultaneously put in motion, and the hammer brought up to full cock, as specified.

PLOW BEAMS.—By L. B. Griffith, of Honeybrook, Pa. : I claim constructing a plow beam of four round iron rods, center piece and clamps, in combination, as described, the rods being of uniform size, from end to end curved to the shape specified and welded together at the places designated, the center-piece and rods being held firmly in their position by the clamps, as described.

SELF-ACTING SWITCHES.—By A. S. Littlefield, of Portland, Me. : I claim the combination of the transverse rock lever, the shaft, the toothed sector, and the rack, as applied to the switch, and the main and turn-out tracks, and made to operate, as specified.

And in combination with the toothed sector, I claim the locking plate, provided with notches, as specified, the same being for the purpose of locking the switch, as described.

CUTTER FOR BORING WHEEL RIMS.—By J. S. Maring, of Westport, Mass. : I claim the combining the backer with the shaft, and the knife, for the purpose set forth.

FILES AND RASPS.—By Hiram Powers, now residing in Florence, Italy : I claim forming perforations or throats to the cutting edges of files, or rasps, for allowing the particles cut away, to pass through, and to prevent the instrument from clogging or choking, as described.

[Mr. Powers, is our eminent American sculptor.]

MACHINE FOR TURNING SPIRAL MOUNDINGS.—By Philip P. Ruger, of New York City : I claim combining with a rotary progressive motion of the article to be cut a series of cutters placed around the article to be cut, of any desired configuration or varieties of configuration to form and complete the pattern of the said article, said cutters being made to revolve in a stationary frame perpendicular to the axis of motion of the article to be wrought,

either in a radial line, or somewhat inclined thereto, so as to form the desired figure, and under-cut to any desired extent.

GOLD WASHER.—By John H. Ward, of Sonora, Cal. : I do not claim washing or agitating the mass of earthy matter containing the gold in a tub, box, or cistern ; nor do I claim simply washing the earth without a current. I claim the employment of the reciprocating perforated trough, armed with cutters or breakers, in combination with the sieve and ascending trough, arranged beneath the reciprocating trough, and in combination with said reciprocating trough, I claim the percolating plate, arranged above the same.

PROPPELLERS.—By T. P. Ware, of New York City : I claim a propeller having one or more blades, the front and rear edges of which are of unequal stiffness, the blades or blades thus constructed being arranged upon an oscillating shaft, and operating as set forth.

GUIDE FOR DOWELLING FELLOWS FOR WHEELS.—By Wm. C. Deam, of Jacksonville, N. Y. : I claim the combination and arrangement of the tube, guides, and set screw, for the purpose of holding the wood and guiding the bit as set forth.

DAGUERRETYPE PLATE HOLDER.—By Marshall Finley, of Canandaigua, N. Y. : I do not claim holding daguerreotype plates to be buffed, by the outward pressure of spiral springs, against the turned edges of the plates. I claim constructing a solid daguerreotype plate holder or block having fastenings at each corner made by spiral springs, in combination with tightening bolts, having concave heads in which the bent or turned corners of the plate to be buffed are hooked, so as to admit of a uniform buffing, as set forth.

MACHINE FOR JOINING STAVES.—By C. B. Hutchinson, of Syracuse, N. Y. : I claim, first, the use of the circular cutters, in combination with the movable pliers or bearings, and the cam or levers or other suitable means of moving the same simultaneously and equally along said circular guide ways, so that the saws or other cutters may be instantaneously adjusted for any required width of stave without stopping their motion or changing their direction towards a constant central point.

Second, I claim the use of the wing or leaf gauge, in combination with the index moving over a graduated arc or dial, both moving in connection with the saws, so as to indicate at a glance the width between the saws, and to guide the operator in setting the stave on its bevel and in adjusting the saws.

Third, I claim the mode of joining staves to any required bevel without bending or springing them by rotating them endwise, in a plane perpendicular to their width, between saws or other cutters, so inclined as to give the correct bevel, whether adjustable as above or not, said rotation being upon a circle or other proper curve, such as to present each part of the stave to the action of the inclined cutters at the precise point or position to give it the required or desired width or bilge, the rotation being obtained by means of a central arc piece moving over rollers about a constant center of motion, as described.

[This is a very excellent improvement, and we hope soon to illustrate it.]

DECHLORINATING BLEACHED FABRICS.—By J. A. Roth, of Philadelphia, Pa. : I claim the process of removing chlorine from fabrics by means of the solution described, and dechlorinating or removing the same, by any other solution substantially the same, as described.

LOOMS FOR WEAVING COACH LACE.—By J. H. Merrill, of Richmond, Va. : I claim, first, the revolving pier, Q, constructed as described, and operated by the spring, X, which, Q, connecting rod, S, lever, W, and cam, T, and V, in combination with the finger, A, constructed and operated as specified, wedge M and cylindrical stand, N, by which combination the needles upon which the pile is formed are seized, removed from the finished portion of the fabric, carried up, inserted under the colored warp threads by the means of the hand, and released, substantially as specified.

Second, the construction of the stationary shuttle box, as described, having itself on sustained by and movable about the projecting rod, so as to operate the un gearing apparatus upon a miss-throw of the shuttle, in the manner specified.

Third, the combination of the sliding reed with the stationary shuttle box, when constructed and operated as specified.

Fourth, the combination of the notched wheel, Z, rock shaft, Y, and spurs, T and P, with the lever, N, spring, C, shaft, L, rod R, and bar, M, arranged as described, for operating the un gearing apparatus, as specified, when a derangement occurs in the machinery operating the needles.

Fifth, the spring, K, as arranged upon, in combination with the rods, D, by means of which the strain upon the eyes of the harness is diminished, as specified.

COOKING RANGES.—By John P. Hayes, of Boston, Mass. : I claim, first, the receiving box flue, formed under the oven, as specified.

Second, I claim so combining a movable oven sliding upon a stationary bottom through which the hot air is admitted, with the smoke flues about the same, so as to catch the smoke, &c., to pass about and over the oven, and the hot air to pass into the same, as described.

MACHINE FOR PUNCHING METAL.—By O. J. Davis & T. W. Stephens, of Erie, Pa. : We claim disconnecting the punch stock from the machine automatically at each operation of the punch by means of a weighted lever and key, or their equivalents, for the purpose of affording the operator time to place his sheets without regard to the motions of the machine, when, by a slight movement of the ball or lever upon the rising of the punch, the connection can be again formed, as described.

CAMPFIRE LAMP.—By John Newell, of Boston, Mass. : I claim, first, the silencing of the perforated metal or brass, copper, or iron wire gauze used in safety lamps and cans, or other vessels designed to prevent explosions from the vapor of camphene burning fluid, &c., the silencing being applied for the purpose of preventing the corrosion of the metal or wire gauze, as described, by the most economical process.

Second, the introduction of perforations, as described, in the caps of lamps, used for burning camphene, burning fluid, &c., so small as not to admit the communication of flame through them, for the purpose of allowing the escape of the vapor formed within the lamp, from camphene, burning fluid, &c., and thereby preventing the bursting of the lamps by the pressure of the vapor. I do not claim the use of any perforations in lamps for burning camphene, burning fluid, &c., except such as are constructed, so as to prevent the passage of flame on the principle of Sir Humphrey Davy's discovery relative to the passage of flame through perforated metal.

[This excellent safety lamp is fully illustrated on page 268, Vol. 3. It is now in general use.]

PLANING MACHINE.—By R. H. Prindell, of Fayette, Co., Ky. (assignor to Wm. J. Thurman, of Washington, Ky.) I claim, first, the combination of the differential velocities of feed motion, and the motion of the knives ; that is, when their relative speed is such that the knives shall cut on their back as well as on their forward motion, as set forth.

Second, giving to straight edged planes for dressing lumber, a partial reciprocating rotary motion about their own center, for the purpose as described.

Third, I claim a yielding pressure roller placed in front of the stocks in combination with an endless planing bed, for the purpose of feeding planks, &c., to the planes, as set forth.

[NOTE—Eight of the patents issued in the above list were secured through the "Scientific American Patent Agency." Besides the large amount of home business, we have secured, since the first of last October, over sixty foreign patents, and have lost only ONE application. The Prussian Government refused to grant us a patent for a very useful invention applied for through our Agency in Berlin : no reasons were given, and no satisfaction could be obtained from the "old fogies" who preside over that Department. Prussia is evidently determined on the stand-still policy.]

RE-ISSUE.

SPARK AND GAS CONSUMERS.—By David Matthew, of Philadelphia, Pa. : I claim the manner in which I have constructed and arranged the respective parts that constitute the inner and outer cases of the apparatus which is placed at the top of the chimney ; also, I claim the manner of constructing and arranging the trumpet-mouthed tube within the inner case, said tube being di-

vided into two or more parts, and being made to deposit and discharge the larger portion of the sparks by the aid of the opening between said parts, as described.

I also claim the manner in which I connect the apparatus at the top of the chimney, with the furnace or fire-box, by means of the tube or pipe G, the cases, and the openings thence into the fire-box or furnace, for the purpose as set forth.

I also claim the manner of preventing the entrance of water into the fire chamber, by the employment of the tubes, M, in combination with the tubes, H, G.

DESIGNS.

BEDSTEDS.—By J. H. Barth, of Indianapolis, Ind.

COOKING STOVE.—By Julius Holzer (assignor to North, Chase & North), of Philadelphia, Pa.

STOVES.—By G. H. Tryday (assignor to North, Chase & North), of Philadelphia, Pa.

STOVES.—By G. Smith & H. Brown (assignor to North, Chase & North), of Philadelphia, Pa.

COOKING STOVES.—By H. H. Huntley (assignor to D. E. Goodhue), of Cincinnati, O.

STOVES.—By G. Smith & H. Brown (assignors to C. W. Warnick & F. Liebman), of Philadelphia, Pa.

Steam Boiler Explosions.

MESSRS. EDITORS.—My attention has been drawn to some strictures by "An Engineer," in your paper of Sept. 24, intended as criticisms on a communication which I read before the American Association for the Advancement of Science, at Cleveland, in August last. There is a lack of courtesy and an offensive dogmatism of the engine room in these remarks which relieve me from all obligation to notice them. I think it due, however, to your more candid readers to copy from Liebig and Kopp's Report on Chemistry, &c., for 1847, a single paragraph which may be more convincing than anything I could say :—

"Donny has shown (Am. Ch. Phys. [3] XVI. S. 167) by a series of well devised experiments, that water possesses a tendency to evaporate only when exposed to a vacuum or a space filled with gas, and that the process of ebullition is induced by the air alone, which is present in the water. He succeeded in heating water previously freed from air with great care to 135° cent. (equal to 275° Fah.) without inducing ebullition. His experiments certainly prove, in a most convincing manner, that a space filled with gas or a small bubble of air, is absolutely necessary for the evolution of steam in the body of the water, and that accordingly the process of ebullition, in its principle, coincides with that of evaporation."

No one who has examined Donny's experiments, can doubt his conclusion as thus stated. Perhaps this may be entitled to more weight than even the assertion of "An Engineer," and perhaps if he had understood me, in some slight degree, he might have saved me this labor of citation.

I am unfortunate, Messrs. Editors, in having been imperfectly reported, and also in having been put first in the Topographical Engineers and then in the Navy, whereas I am simply a Lieutenant in the Corps of Engineers, U. S. A., and would not have our honored Navy or the Topographical Engineers held responsible for any short-comings of mine. Yours, &c. E. B. HUNT.

Renton's Process of Making Iron.

The papers at Cleveland, Sandusky, and Detroit, are much occupied with a discussion of the results arrived at by the introduction of Renton's new process of making wrought iron direct from the ore by the use of mineral coal instead of charcoal. It appears that a quantity of the Lake Superior iron ore was sent by the Cleveland Iron Company to Cincinnati, where it was manufactured into iron by a new process, in a furnace built by W. C. Davis & Co., under the superintendence of the patentee. A few weeks ago, a trial was made, and during the first six hours 1,249 pounds of blooms were made out of 2,436 pounds of ore. A portion of their iron was rolled into bars, and was found, by severe test, to be an article remarkable for toughness. Similar results were attained with Ohio and Virginia limestone iron ores. According to the Cleveland Herald, the new process economizes fuel, as by measurement it only takes one and a half tons of mineral coal to make one ton of blooms. By this method the Ohio ores will yield about forty per cent. of iron and the Lake Superior ore from fifty to sixty per cent., and the cost of making a ton of iron will be considerably reduced.

Gen. Talmadge, who has been for so many years President of the American Institute, is dead. He died very suddenly in this city, on Thursday, the 30th ult. He was no ordinary man, and at one time possessed considerable political influence in this State.