

**STAVE MACHINE**—William M. Sloane, of Buffalo, N. Y. : I claim operating the two rotary cutters, R R, in a vertically moving frame, F, substantially as set forth. Second, I claim the arrangement of the cutters, R R, and P, relatively to the revolving bed, A, former, L, and feed rollers, for the purposes and substantially as set forth.

Third, I claim the cam, K, when constructed according to the formula and used for the purpose as set forth.

**SEED PLANTERS**—George Smith and A. G. Perry, of Clyde, Ohio : We claim the shaft, O, and spring, P, adjustable spring box, Y, pulley, H, lever, L, seeding cylinder, R, hopper, S, and the cultivator, as described when the whole are constructed and arranged for operation conjointly, in the manner and for the purposes set forth.

**SEWING MACHINES**—E. Harry Smith, of New York, N. Y. : I claim revolving the shuttle by means of a series of drivers, S, on the surface of a disk that is arranged to rotate at an angle to the plane of the shuttle's rotation, by which a continuous motion is given to the shuttle, while the drivers operate in such a manner that the needle and its thread are unobstructed in their action, substantially as specified.

**CHURN**—William H. Tambling, of Berlin, Wis. : I claim arranging a rotating semi-sphere, H, on the upper side of the upper dasher, of reverse acting or forward and back acting, churns, substantially as and for the purposes set forth.

**FOUNTAIN PENS**—Susan E. Taylor, of East Cambridge, Mass. : I do not claim a pen combined or provided with a fountain or reservoir stationary within the handle or penholder, and having a conduit leading from it in a manner so as to conduct ink from the fountain or reservoir, conduit and pen, with a piston to move in the reservoir. Nor do I claim furnishing the fountain with a stop cock arranged in the conduit and to regulate the supply of fluid to the pen. Nor do I claim providing the upper end of the reservoir or fountain with a screw cap, one or more air holes so arranged as to be covered by the screw cap.

But I claim an improved fountain pen, made with a penholder and a separate adjustable fountain, applied so as to be movable with the holder, substantially as and for the purpose as described.

I also claim when the tubular reservoir is provided with a piston and arranged as a small air hole, g, through the side of the reservoir, so that the piston, besides being able to perform the office of elevating the ink into the fountain, may be made to cover the air hole more or less, and to operate as a valve to it, substantially in the manner and for the purpose as described.

**SEWING MACHINES**—John Thomson, of Worcester, Mass. : I do not claim broadly the use of a device separate from the looper for the purpose of spreading the second thread, as such a device has before been proposed. Neither do I claim a double looper to open the loop of needle thread and form a single chain stitch, as such a device has heretofore been used, and may be seen in the patents of Wm. Sage, June 30, 1851, and Hixford & Dimock, Jan. 19, 1855; but neither of these devices are used with or applicable to spreading the second thread to form a loop for the needle, because the device that spreads the said second thread must move between the looper having the eye for the second thread and the under side of the bed of the machine, for if said device moved at the side of the looper the said second thread would draw from its eye down between the two parts, and the spreader become useless. Therefore, I claim the spreading finger, 8, acting between the bed of the machine and the looper, i, that carries the second thread in such a manner that both enter the loop of needle thread, and then the spreader, 8, extends the loop of second thread as it draws from the eye of the looper to the cloth, substantially as and for the purposes specified.

**BRAD PUNCH**—John Thorndike, of North Weare, N. H. : I claim the cylinder, A, C, provided with the rod, B, punch, A, and rod, F, the rod, B, having a spiral spring, D, placed around it, the above parts being used in connection with the reserve box, E, placed relatively with the cylinder, C, and the whole arranged to operate as and for the purpose set forth.

[A notice of this improvement will be found in another page.]

**PROPELLER**—William Thurber, of Olean, N. Y. : I claim the falling face of the blade in combination with the rear inclined surface, P, and the filling, Q, on the back of the blade, the construction and operation being substantially as set forth.

**MACHINE FOR RESAWING LAMBER**—E. H. Titus, of Wilkesbarre, Pa., and John Sharp, of Phillipsburg, Pa. : We are aware that boards or "stuff" have been presented and fed obliquely to saws for the purpose of sawing in taper form, and we, therefore, do not claim broadly such operation.

But we claim the tilting frame, D, provided with feed and pressure rollers, f, n, and also with the planer, j, and jointing cutters, t, if desired, the frame being applied to the machine and arranged to operate substantially as and for the purpose set forth.

[This invention consists in having the feed rollers, pressure rollers, rotary planers and jointing cutters fitted within an adjustable frame, in such a manner that the rollers are rendered susceptible of an independent adjustment to conform to the varying thickness of boards or other "stuff" to be resawed, and the frame, at the same time, allowed to be tilted or inclined so that the "stuff" may be presented obliquely to the saw when required—the whole being so arranged that the stuff may be resawed into strips or pieces with parallel or taper sides as occasion may require, and in either case planed and jointed at the same time.]

**BURNING FLUID LAMPS**—Hiram Todd, of Columbus, Ohio : I do not claim the application of a water chamber around the wick tubes of lamps, to apply water to the wick to extinguish the light or any such device.

But I claim the arrangement of the water chamber, D, with the tubes, B, C, and wick tube, I, constructed and operating as and for the purposes set forth.

I also claim the arrangement of the safety valve, F, and tube, E, with the wick tube, I, in the manner and for the purposes specified.

**COTTON GINS**—J. Alexander Ventress, of Woodville, Miss. : I claim in combination with the ribs set close up to the saws, forming of a clear space between the ribs at that point where the cotton carries the cotton through them, to prevent said cotton from being brought in contact with said ribs, substantially as and for the purpose set forth.

**METHOD OF FASTENING THE WICK TUBE OF LAMP CAPS**—William W. Wyles, of Longmeadow, Mass. : I claim the method of fastening the wick tube and spindle for raising and depressing the wick in lamp attachments, without the use of solder, in the manner described.

I claim no other part of the attachment.

**SEED PLANTERS**—Augustus Wales, of Pontiac, Ill. : I claim the arrangement of the two cranks, g, to the wheel, f, the pitmans, h, h, the levers, i, i, and rollers, D, D, with gates, E, E, provided with slides, c, c, all being constructed and operated in the manner set forth and for the purpose described.

**BEDSTEAD**—C. A. Warner, of Bristol, Conn. : I do not claim either of the parts separately considered, as I know they have been in use.

But I claim the arrangement of the staples and pins, C, D, pulleys, B, spindle, F, ratchet, G, pawl, H, in the manner and for the purpose as described.

**ATTACHING AND HOUSING PROPELLERS**—William Webster, of Jefferson county, Washington Territory : I claim, first, The sliding ports, G, H, I, (of any shape required by the form of hull and propellers,) and con-

nected apparatus by which they are operated for covering and uncovers the propellers, substantially as specified, in combination with the trunk, J, and trap hatch, P.

Second, The pipe, F, leading from the propeller chamber to the pump well, as and for the purpose described.

Third, The mode of attaching and detaching the after propeller blades as and for the purpose specified in combination with the slide ports and propeller chambers.

Fourth, The air chambers in the bow and stern as arranged relatively to the propeller recesses or chambers, substantially as and for the purpose described.

**FIRE LADDERS**—Joseph Welte, of Buffalo, N. Y. : I do not claim the ladders described, nor their combination, nor the extension thereof, by any means. Neither do I claim hinging the ladders to the carriage.

I claim the combination of the right angled levers, B and P, (hinged to the carriage) with the frame, B, and windlass, E, for the purpose of elevating the ladders and lowering the foot thereby easily to the ground, and for detaching the same from the carriage, substantially as set forth.

I also claim the combination of the right angled frame, h, i, including the wheels, i, i, with the top most ladder, for the purposes as set forth.

**SEWING MACHINES**—H. B. West and H. F. Willson, of Elyria, Ohio : We claim the spring looper bar in combination with the eccentric, I, and the oscillating fork, J, and stationary projection, N, against which the outer end of the looper bar strikes, for the purpose of carrying the looper bar back and forth as required and giving it two intermittent or stop motions, carrying the looper into a position where the needle will pass through it, and allowing the spring again to recoil immediately after the needle has passed through said loop—the whole being constructed in the manner and for the purposes described.

**USE OF DENTISTS' PATTERN PLATES**—William M. Wright, of Pittsburg, Pa. : I make no claim to the casting of such work, the process being described in the Dental Journal of 1852.

But I claim the use of metallic pattern plates or their equivalents, made as described for the purpose set forth and specified.

**OBTAINING PURE SULPHUROUS ACID**—Joseph Albrecht, (assignor to Charles E. Rull), of New Orleans, La. : I do not claim to have made any new discovery in chemical science, but I have applied known principles of science in such new and useful manner as to greatly improve the act of making pure sulphurous acid on a large scale.

I claim the described process for the purification of sulphurous acid gas by absorbing the acid into water or an alkaline solution, and the subsequent expulsion therefrom by the use of heat or steam, substantially as set forth for the purposes described.

**ORE SEPARATOR**—Hezekiah Bradford, (assignor to Horatio Bogert), of New York, N. Y. : Having thus pointed out what distinguishes my invention from the old and well known hand jig, the mode of construction which I have tried with success, and the modifications which I have contemplated the better to distinguish the character of my invention from merely formal changes.

What I claim, is making the sieve box, which has an up and down motion, with apertures above the sieve or the equivalent thereof, which acting in and in combination with water or a surrounding tank or trough, substantially as and for the purpose specified.

And I also claim in combination therewith, the partition, or its equivalent, in the water tank, substantially as specified, to keep the matter which is washed over separate from the substances which pass through the meshes of the sieve, as set forth.

I also claim covering the surface of the sieve with particles of matter of larger size than the meshes of the sieve, that they may lay on and not enter or pass through such meshes, but act as valves to such meshes as described when such mode of operation is to be employed for separating substances of different specific gravity, which have been prepared and assorted so as to be of less size than the meshes of the sieve that they may pass through such meshes freely, substantially and for the purpose specified.

**DOUBLE ACTING GUN LOCK**—Eliash Brey, (assignor to himself and J. S. Swartley), of Pennsylvania, Pa. : I claim the swivel hammer, H, in combination with the center swell pin, C, or its equivalent, constructed, arranged and operating substantially as and for the purpose set forth.

**CONVERTING PEAT INTO CHARCOAL**—J. Burrows Hyde, (assignor to Anna M. Hyde), of New York, N. Y. : I claim the process described of converting peaty matters, into charcoal by previously submitting them to heat in a drying chamber, described and heated as set forth, and by carbonizing the material and subsequently cooling the same in the manner set forth.

**SASH FASTENER**—Solomon Carhart and Wm. Moore of Brooklyn, N. Y. (assignors to James H. McWilliams, of New York, N. Y.) : We claim the hinged drop, e, and plate, d, attached to the lowersash in combination with the plate, f, attached to the upper sash when the said drop, e, is kept beneath the edge of the plate, f, by means of the bolt, Q, or its equivalent, substantially as and for the purposes specified.

**APPARATUS FOR RECTIFYING**—Ethan Campbell, (assignor to Henry Thayer), of Cambridgeport, Mass. : I do not claim that the pan, condenser, column or receivers are of my invention.

But I claim the general combination of the different parts, with the attachment of the air pump so as to produce the effect desired.

I claim combining with the rectifying column, B, the vertical discharge pipe, j, and the series of horizontal pipes which connect it with the column, B, as set forth.

**SEWING MACHINES**—Thomas A. Dugdale, (assignor to himself and John A. Burbank), of Richmond, Ind. : I do not claim giving motion to the shuttle and feeding device by means of the vibrating motion of the needle arm. I do not claim the spiral groove, cam, eccentric or inclined plane, neither separately nor combined, as they have before been used.

But I claim the construction of lever, I, with its circle at the end, through which upright, F, works in combination with stud, i, and slot, f, and eccentric, M, and feed hand, m, the whole being constructed, arranged and operated substantially as described and for the purposes set forth.

**DEVICE FOR SECURING CUTTERS IN ROTARY PLANING MACHINES**—Sander F. Fortman, (assignor to Henry Z. Drew), of New York, N. Y. : I do not claim a beading or rebating cutter attached to the cylinder of a planing machine in itself.

But I claim securing a beading or rebating cutter into a slot in the stock of a planing machine cylinder by pressure from the straight cutter or knife, and from a screw running nearly parallel with the axis of the rotary cutter, substantially as and for the purposes specified.

**SEWING MACHINES**—Westley Miller, of Cambridge, N. Y., assignor to himself and Wm. P. Prescott, of New York, N. Y. : I do not claim a looper moving in the arc of a circle, as that has before been used. Neither do I claim moving such looper by a disconnected driver.

But I claim the hooked piece, l, and straight side, l, on the looper stock, g, in combination with the finger, h, having a reciprocating motion on the slide, f, whereby the necessary motions for taking a loop pausing during the ascent and commencement of the descent of the needle thread are given from the continuously reciprocating finger, h, without the use of springs, as described and shown.

**QUILTING FRAME**—John King (assignor to himself, Wm. Hegbie, Henry Link, and G. R. Comstock, of Little Falls, N. Y. : I claim the arrangement of the shafts, C, G and H, and connecting bar, R, operating substantially as and for the purpose described.

**DRAWING ROLLERS**—S. P. Spencer (assignor to himself, S. S. Spencer and H. Boardman), of Lancaster Pa. : I claim providing the lower roller with grooves, d, and the upper roller with leather collars, c, the said collar, c, being garraged to run into the grooves, d, substantially as and for the purposes described.

[This invention consists in a certain construction of drawing rollers, which not only insures a much more perfect drawing, but reduces the first cost of the rollers, and also the cost of keeping them in repair.]

**REVOLVING FIREARMS**—F. D. Newbury, (assignor to R. V. De Witt, Jr.), of Albany, N. Y. : I claim, first, The trigger, T, formed, fitted and operating as described, for the purpose of cocking the hammer, revolving the cylinder, holding the cylinder in the act of firing, and firing the piece.

Second, The combination of hammer, its pin, b, the trigger, and the ratchet wheel, formed and arranged substantially as and for the purposes set forth in this specification.

**APPARATUS FOR HEATING TIRES**—J. J. White (assignor to himself and Francis Fox), of Philadelphia, Pa. : I claim the casting, B, with its revolving grate and lid, in combination with the fire chamber S, and fan, R, or other equivalent blowing apparatus, when the whole are arranged for joint operation, substantially as and for the purpose set forth.

**VALVE GEARING FOR STEAM ENGINES**—J. E. Allen, of New York City : I do not claim the use of a sliding toe, like g, applied to the arm of the valve rock shaft.

But I claim the arrangement of the swinging plate or open arm, F, with its two pointed swinging piece, H, or equivalent, substantially as described in combination with the angle rock shaft, B, its arm, L, and movable toe, g, to operate the two induction valves as described.

[A notice of this improvement will be found in another column.]

**RAILROAD CAR BRAKES**—H. M. Collier, of Binghamton, N. Y. : I claim the arrangement and combination of the rock shaft, R, with the spring, H, and the axle boxes, I, I, substantially as shown and described.

**DESIGNS**

**STOVES**—James Horton (assignor to David Stuart and Richard Peterson), of Philadelphia, Pa.

**STOVES**—Joseph A. Reed (assignor to David Stuart and Richard Peterson), of Philadelphia, Pa.

**COOKING STOVES**—G. Smith and H. Brown (assignors to Leibbrandt, McDowell & Co.), of Philadelphia, Pa.

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**Recent Patented Improvements.**

The following inventions have been patented this week, as will be found by referring to our List of Claims:—

**VALVE GEAR FOR STEAM ENGINES**—John F. Allen, of New York, has invented an improved valve gear, which consists in a certain arrangement of parts for operating the valve rock shaft of a steam engine in such a manner as to effect the induction of the steam at the proper time, and cut it off, at various points in the stroke. The invention can be used with both slide and poppet valves.

**GRINDING MILL**—An improved mill for grinding bark for tanning purposes, has been invented by B. A. Beardsley, of Waterville, N. Y. It consists in the employment of a series of conical toothed grinding shells, stationary toothed arms, and toothed cases, arranged relatively with each other, so that the grinding capacity of the mill is greatly augmented.

**DEVICE FOR UPSETTING TIRES**—G. W. Cooper, of Morenci, Mich., is the inventor of this device, which consists in a novel arrangement of the jaws or clamps which grasp the tire or bar to be upset, and which, owing to their peculiar arrangement, will allow the bar, while being compressed or upset, to be firmly pressed down upon its bed. This renders the device much more efficient than those now in use.

**PORTABLE SAFE**—The object of this invention is to obtain a safe for domestic or family use, and one that may be constructed at a comparatively small cost, be perfectly fire-proof, and though small, be sufficiently large to contain jewelry, and small valuables. Theodore Sharts, of Albany, N. Y., is the inventor.

**BRAD PUNCH**—John Thorndike, of North Weare, N. H., has invented an implement, the object of which is to facilitate the driving of brads, and consequently expediting the labor of "sticking" or attaching molding or beading to various articles of joinery, cabinet and similar work.

**DEVICE FOR SKINNING EELS**—This invention, which is certainly novel, and to the use of which we hope the eels will soon become accustomed, consists in the employment of a clamp or holder and decapitating knife, used in connection with a griper and ripping knife, or their equivalents, whereby the desired work, viz., the skinning of eels, may be performed very expeditiously, and in a manner far preferable—i. e., to the operator, not

the eels—to that done by hand. The inventor is Adam Emeigh, of Jerusalem, N. Y.

**IMPROVED PROCESS OF MAKING OLD RAILS INTO NEW ONES**—Old railroad rails are taken, and with them the "pile" is formed, so that the labor and expense of the preparatory rolling of each old rail into flat bars, as at present practiced, is avoided, and new rails are rolled direct from the old ones, equally as good, in every respect, as the ones rolled or constructed by the old process. Giles Edwards, of Johnstown, Pa., is the inventor.

**LAMP**—W. H. Racey, of Saint Augustine, Fla., has invented an improved lamp, the object of which is to supply the flame with a large or requisite amount of oxygen, without the employment of the glass chimney, that is generally used at present. This lamp is more especially adapted to burn coal oil, and other substances rich in carbon, although it is applicable to any light-producing material. The illuminating fluid known as coal oil, gives, when properly consumed, a beautiful light, but on account of a chimney having to be added to the lamp, it could not be moved from place to place; with this lamp it can, and therefore this invention will do much to encourage the use of this cheap source of illumination.

**Dudley Observatory.—A Row.**

This institution, not yet fairly under weigh, has got into trouble, and the trustees have summarily removed Mr. B. A. Gould from the post of Superintendent Astronomer, for alleged impertinence and incivility, and also for his want of attention to what they conceived to be the business of the Observatory. The Albany *Aryus* contains a full and spicy account of the whole proceedings, to which we would refer such of our readers as may be further interested.

This matter is akin to the troubles which for some years past have disturbed and nearly destroyed the usefulness of the American Association—a small clique who have their headquarters at Cambridge, Mass., and whom the Albany trustees designate as the "wise men of the east," assume to dictate and rule in all matters of science, and attempt to ostracise all who do not in some way bow before the great New England university. These men have studiously resisted all attempts to introduce practical topics for discussion in the Association, and do not consider the thoughts and suggestions of any enterprising mechanic as at all worthy of their attention. They would much rather discuss the question "Why roosters crow at night," or the "mathematics of phylotaxis," or still better, spend their time in self-adulation.

Since the above was written, Mrs. Dudley has requested a majority of the trustees to resign, and the Scientific Council has also reprimanded them. Altogether it seems as if our quiet gubernatorial city was going to be the scene of a great disturbance, and, until the difficulty is settled, we hope that the stars will not miss their accustomed watching. Really these quarrels in an institution designed for the world's benefit make the combatants look very small, and cause the world to lose its appreciation of men of science.

**Facts about Gunpowder.**

The heat given out by the combustion of gunpowder is 1,145° Fah. The temperature of the flame must be 5,390°. The tension of the gases at the moment of explosion does not exceed 4,373 atmospheres, in place of 50,000 or 100,000, at which it has been estimated. The amount of force exerted by one pound of gunpowder is 221,240 pounds raised one foot high.—*Cosmos*.

**Explanation.**

Owing to the publication in this number of our paper of the report of the decision in Goodyear's case, we are compelled to postpone the continuation of the articles on boilers and furnaces until next week, when we will give the third of the series.