

switch rail with the shoe when arranged in the manner...

GOVERNOR FOR HORSE POWER—Lea Pussey, of Wilmington, Del. : I claim the loaded levers, D D', or sliding weights, provided with brakes, h, connected by a spring and rods attached to an independent rotating disk...

[In this invention there are attached to the arms which are secured to, or project from, the fly wheel shaft, or to the fly wheel itself, loaded levers, provided with friction blocks connected by a spring rod, and fitted wit in a stationary rim, whereby the speed of the horse power, or other machine to which the governor is applied, may be regulated as desired, by a simple mechanical arrangement.]

WASHING MACHINE—Abraham Quimby, of Terre Haute, Ind. : I claim the combination of the approximating plungers E E, with the revolving tub, A, whereby the clothes are subjected to a continuous rotary action, and at intervals to a squeeze or expressing action, thereby thoroughly washed, substantially as set forth.

FLOURING MILL—Cristopher Randa, of Peoria, Ill. : I claim, first, The combined arrangement of the upper and lower stones, C C', reduced from their center outward to mere rim-grinding surfaces comparatively, two annular non-grinding plates F F', one or both concave, placed over the enlarged eye of the stones, and the horizontally revolving fan or blower, G, arranged intermediate between the stones, and crossing vertically the space existing between the same, so as to force the grain, with a direct action, out to the grinding surface, and to give a direct blast, substantially as and for the purposes set forth.

Second, I claim the fan when constructed with its blades radial, and situated in the specified relation to the space existing between the stones, so as to give a direct blast, for the purposes set forth.

Third, In combination with the above, the arrangement for suspending the stones, C C', consisting of rings, D, each having four axes, c c d d' e e f f', and one being arranged on the spindle of the stones, and the other between the standards of the frame, substantially as and for the purposes set forth.

Fourth, The combination of the spirally flanged revolving and sliding cylinder, friction wheels, M N, and spindle, B, substantially as and for the purposes set forth.

APPARATUS FOR DISTILLING SPIRITS OF TURPENTINE—Daniel Reid, of Washington, N. C. : I do not claim the melting and straining of the crude turpentine before its introduction to the retort.

But I claim the employment, in connection with the still, of a steam box, C, constructed with strainers, a, b, of such form and capacity as to receive the barrels of crude turpentine, all substantially as and for the purposes described.

[See description in another column.]

LIFTING JACKS—Albert C. Richard, of Newtown, Conn. : I claim the standard, A, provided with screws and pinions, in combination with the traverse bar, D, and the adjustable friction rollers, M, the whole being constructed substantially as set forth.

LAMPS FOR BURNING COAL OIL, &c.—George Rimmington, of South Brooklyn, N. Y. : I claim the cap, B, formed of two parts, a, b, perforated as shown, and used in connection with the two tubes, e e, the several parts being arranged relatively with each other, and applied to the lamp, so as to operate as and for the purpose set forth.

[A perforated cap formed in two parts, and used in connection with two flat wick tubes placed at a suitable distance apart is used in this lamp, in order that the flame may be supplied with a sufficient quantity of oxygen to support proper combustion without the aid of a chimney. It is especially applicable to lamps in which coal oil is burned.]

LIFE BOAT—Albert L. Shears, of Omro, Wis. : I claim the arrangement of the sides, L L, as constructed with the proper of the boat formed the air chambers, a' a', and being open below, and these sides and air chambers, combined and arranged with the scuppers and valves, in the manner and for the purpose set forth.

GAS RETORTS—T. Sloan, Volney Smith, Manuel Hoover, and R. M. Briggs, of Jackson, Cal. : We claim the employment, in the manufacture of gas from wood, of a cylindrical retort placed horizontally, and having a door to close the opening for the reception of material swinging upon hinges, and shutting with a staple and eye to receive a wedge, the other end being closed with a clamp and wedge.

ROCKING CHAIR AND CRADLE—Austin S. Smith, of Lawrence, Mass. : I do not claim, separately, the adjustable back, nor the adjustable foot rest, for they have been used and arranged in various ways.

But I claim the adjustable back, B, and foot rest, F, connected by the levers, G, and arranged relatively with the seat, P, as shown, and used in connection with the rockers, H H, connected to the legs, a, by the swivel sockets, j, the whole being constructed and arranged substantially as and for the purpose set forth.

[This chair is provided with rockers, attached in such a way that they can be turned from one leg to another, and this, combined with a movable back and foot rest, forms a very convenient cradle from the rocking chair.]

SEED DRILLS—John C. Stevens, of Lee, Mass. : I do not claim, broadly, the perforated and reciprocating seed slides, h, for they have been used in various machines.

But I claim connecting the bars or beams, H, to the frame of the machine by means of joints, I J, arranged as shown, to prevent the front a d converging ends of the boxes from coming in contact with each other when raised, and using in connection with the bars or beams thus hinged a distributing mechanism, arranged substantially as shown, so that the distributing device will be thrown out of gear with the wheels, G, simultaneously with the elevating g of the bars or beams, H, and consequently the teeth, N.

[This invention consists in having two seed boxes hinged or jointed obliquely to a frame in such a way that they may, when necessary, be raised or turned upward without interfering with one another, so that their teeth will be free from the ground; the seed boxes being also arranged relatively with the seed distributing device, so that they will be thrown in and out of gear with the driving wheels by the same movement.]

RAKING ATTACHMENT TO HARVESTERS—J. A. St. John, of Janesville, Wis. : I claim the particular means employed for operating the rakes, viz., the reciprocating slide, I, arm, J, crank, K, shaft, M, with the rakes attached, in connection with the lever, h, pinion, N, and segment, O, the whole being arranged as shown and described.

[This invention consists in the employment of a double vibrating rake, so arranged as to traverse over the platform of the harvester, and open and close at the desired points, so that the cut grain will be raked from the platform and deposited in proper gavels upon the ground.]

WRENCH—George C. Taft, of Worcester, Mass. : I do not claim a wrench having its movable jaw operated by two reversed male screws extending in opposite directions either from one another or from a rosette.

Nor do I claim a wrench in which the sliding jaw is operated by a single male screw rosette working in a rack applied to the stationary jaw.

Nor do I claim a wrench having its sliding jaw operated by a single male screw, whose milled head enters a recess or notch made in the shank, and has a pivot extending from it and working in a step made in a projection from the handle, such being the construction of the wrench of Doring Coes, as patented April 16th, 1841. From this latter my improved wrench differs materially, inasmuch as it has two reversed male screws and its rosette, instead of being stationary in other respects than being capable of being revolved, will move endwise with the screws when they revolve. Furthermore, my improved wrench has the cylindrical slider, K, so made as not only to revolve with the male screws, but move endwise with them, and perform the function of maintaining the male screw rosette in connection with its screw rack at whatever distance the rosette may be from the projection, O. No such slider is found in Coes' wrench, because it is not necessary there, for in such there is no endwise movement of the screw, and no worm rosette and rack to be maintained in connection. Coes uses a pivot working in a cup or step, and both are so formed that no endwise motion of the pivot can take place.

But I claim a wrench provided with two reversed male screws for operating its movable jaw, arranging the lowermost screw, G, to work in a screw rack, H, on the shank, A, of the wrench, and providing, I claim, a screw with a cylindrical slider, K, extending below it, and operating so as not only to turn around, but move longitudinally with the screw, and in a socket piece, O, connected with the handle, the whole being substantially as described.

FRED REGULATOR FOR STEAM BOILERS—Leonard Thorn, of New York City : I do not claim to have invented the combination of a cock and float to regulate the supply of water to a boiler.

But I claim making the stem or arm of a hollow float, which is applied to the cock in the manner described, with a passage through it, connecting with a passage leading through one end of the plug of the cock, and thereby forming a communication from the interior of the float to the atmosphere, for the purpose set forth.

[A full description of this invention is given in another column.]

ATTACHMENT FOR OPENING AND CLOSING DOORS, &c.—Ar. Weber, of New York City : I claim the levers, D D', pivoted to the inner d, of the casing or sill thereof, the inner ends of the levers gearing into each other, and the outer ends connected by the arms, C, to the doors or shutters, A, A, the whole being arranged substantially as and for the purpose set forth.

[To the inner side of a blind or shutter a projection is attached, to which a pin is secured; this pin is fitted in the outer end of a slotted lever, the inner end of which is of semicircular form, provided with teeth which gear into a corresponding lever and pin on another blind or shutter, so that by moving one blind or shutter, the other will be operated simultaneously in the same direction.]

PORTABLE SODA WATER APPARATUS—E. D. Wheeler, of Murfreesboro', Tenn. : I claim inclosing the charge in a long fibrous case or bag, A, when said case or bag is used in combination with a soda water apparatus constructed and operating as described.

COMPOSITION FOR ARTIFICIAL LEATHER—Samuel Whitmarsh, of Northampton, Mass. : I do not claim, broadly, the saturation of cloth and other fabrics in linseed oil containing amber or other substances.

But what I claim is the fabric specified, composed of cotton or other fibrous substance in a woven or unwoven condition saturated or coated with a compound of linseed oil and burnt amber that has been prepared as described.

[See notice on page 310.]

CHANGING ROTATING INTO RECIPROCATING MOTION—S. L. Wiegand, of Philadelphia, Pa. : I claim, first, The oblique wheel adjustable in an axis transverse to the revolving shaft.

Second, Giving a permanent lead to the motion by a permanent inclination of the wheel, A, in combination with a variable inclination.

Third, Conveying the vibratory motion to the rods by means of ball and socket or universal joints, when said joints are used in combination with the frame.

POWER AND HAND DRILLS—Horace Woodman, of Bladford, Me. : I claim, first, Constructing an eye or box in the upper end of the post, A, in combination with the hollow shaft, B, and spindle frame, D, arranged substantially as described, whereby the spindle carried by the frame, D, may be set and operated at any required distance from an angle to the said post, A, as set forth.

Second, The combined arrangement of the hollow shaft, B, frame, D, gears, F F', and spindles, C, and G, with their projecting ends substantially as described, whereby the drill spindle may be driven either directly or through the medium of shaft, C, and bevel gears, as and for the purposes set forth.

Third, The arrangement of the movable platen or face plate, U, with the sliding clamp jaws, W, collar, V, and set screw, X, as specified.

VAPOR LAMPS—Horatio Bateman, of Boston, Mass., assignor to Wm. F. Bateman, of Harvard, Mass. : I claim constructing the spur or tongue, e, with a suitable eye for the insertion and retention of the wick, as set forth.

MACHINE FOR CUTTING PIPE—Mic hel Bowes (assignor to himself and Geo. B. Waterhouse), of Charlotte, N. C. : I claim, in combination with the cutter, the two revolving disks with the series of holes, the holes of one disk being furnished with loose sleeves or rings, for the purpose of adapting the machine to the cutting off of pipes of various sizes, as set forth.

STEAM TRAP VALVE—J. W. Hoard (assignor to himself and G. B. Wiggins), of Providence, R. I. : I claim the construction of the valve, substantially as described with a metal stem, part of which is hollow and communicates with the hollow interior of the valve, and is fitted with a hollow cap, G, which also serves as a nut to secure the valve against longitudinal expansion, whereby provision is made for filling it with liquid and confining such liquid therein.

[This invention consists in a hollow valve of india-rubber or spheroidal form filled with alcohol, mercury or other liquid, so applied in a cylindrical chamber at the extremity of the coil or train of steam pipe that when surrounded by a temperature of 212° Fah. a space will be left between it and its chamber for the escape of the water of condensation from the pipe, but that when surrounded by a temperature above 212°, it will be caused by the expansion of its contained liquid by the heat, to expand laterally and close the chamber, and thus prevent the escape of the steam.]

STOVES—Charles Hoodstatter (assignor to Joseph Firman), of Rome, N. Y. : I claim the flues, H H' and H 2, and partition, J J', in connection with the ovens, I and I', when the whole are arranged in relation to each other in the manner as and for the purposes set forth.

EXTRACTING TEETH—J. B. Francis, of Philadelphia, Pa., assignor to Wm. Harper, Jr., assignor to J. B. Francis, of said Philadelphia, Pa. : I claim the combination of the electro-magnetic machine, or its equivalent, with the forceps for removing teeth without pain, arranged and operating substantially in the manner described.

KNIFE CLEANERS—Wm. Miller, of Waltham, Mass., assignor to himself and D. S. French, of Wadham's Mills, N. Y. : I am aware that knife cleaners have been constructed, in which a box is employed to hold the polishing material and deliver it to the rubbing surfaces, I therefore lay claim to no such invention.

But what I claim as an improvement in knife cleaners is the shelve, B, operating in the manner substantially as set forth.

RAILROAD CAR COUPLINGS—Allen Lapham and Danl. H. Burns, of Brooklyn, N. Y., assignors to themselves and C. H. Durgin, of New York City : We are aware that automatic car couplings have been used, examples of which may be seen in the patents of D. R. Pratt, Dec. 12, 1848, and A. G. Safford, Dec. 11, 1849, and we therefore lay no claim to such.

But we claim a tilting hook and lever acting in combination, constructed substantially as described, whereby the coupling mechanism is rendered automatic and capable of being disconnected instantaneously irrespective of the tension or draft of cars, substantially as set forth and specified.

ROTARY LAST HOLDER—David Philbrick, of Manchester, N. H., (assignor to himself and Elmer Townsend, of Boston, Mass.) : I do not claim a cylindrical journal and a circumscribing socket held together not only by a groove running around the journal, but a pin or screw extending from the socket into the groove.

Nor do I claim attaching the radial arm to a revolving plate held to the circular face of a support or standard by a clamp.

But what I claim is, my improved support piece of the radial arm, viz., as made of a standard and plate, K, recessed as specified, and a circular plate, I, formed to enter the recess of the plate, K, and to make with such a deep-tailed groove or its equivalent for receiving the head of the clamp screw, L, the two plates being confined together by a screw and nut constructed and operating as and for the purpose set forth.

I also claim the improved last holder, hinge, and clamp as made essentially as above described, viz., with its clamping and hinge pin, constructed with a head to bear against one end of the male part of the hinge and to turn and be supported in one of the prongs of the fork of the hinge as explained.

HARVESTERS—Wm. H. Seymour and Henry Pease, (assignors to Wm. H. Seymour and Dayton S. Morgan,) of Brockport, N. Y. : We do not claim hinging the tongue to the frame of the machine, nor supporting it between guides, nor raising and lowering the cutter by elevating and depressing the rear end of the tongue when the latter is combined with a lever screw, windlass, or other similar contrivance to aid the attendant of the machine in raising and lowering the end of the tongue.

But we claim the arrangement of the tongue on a pivot in advance of the cutter, and in a guide, provided with a detent, in rear of the cutter, the whole being arranged as described, so that the attendant can conveniently and readily by means of the link raise the cutter by lifting directly the rear end of the tongue as set forth.

CASTING FAUCETS—Oliver F. Wood, of Pittsburgh, (assignor to Thomas R. Wood, of Philadelphia), Pa. : I do not claim as novel the faucets in themselves considered, or as new articles of manufacture.

But I claim constructing the faucets by placing the spigots within a mold formed for the tubes of the faucets and casting the tubes around the spigots substantially as shown and described.

[This invention consists in placing the spigot of the faucet within a mold which is formed for casting the body or tube of the faucet, so that the body or tube of the faucet may be cast around the spigot, and the latter thereby fitted accurately in place without any after-work or finishing whatever, the spigot being properly finished before being placed in the mold.]

RAILROAD BRAKES—Joseph Harris of Alleghany, Pa. : I claim, first, the combination of the cross arms, on each of several cars, with a chain shaft on one car connected as described by chains, rods, or ropes for the purpose of adjusting and operating the brakes in the manner substantially as set forth.

Second, The combination of the tumbler, h, with the extension shafts, f f', the purchase rods, m m, and springs, s, to act automatically as a railroad brake—substantially in the manner described.

CUTTING DEVICE FOR HARVESTERS—Henry Green, of Ottawa, Ill. Patent March 21, 1854. Ante-dated Sept. 21, 1853 : I claim placing the blade or the cutting teeth of a harvesting machine on the vibrating bar to which they are secured so that the said blade or cutting teeth may extend back and behind such bar substantially in the manner and for the purpose specified.

MOWING MACHINES—Henry Green, of Ottawa, Ill. Patent March 21, 1854. Ante-dated Sept. 21, 1853 : I claim, first, a cutting apparatus behind the driving wheel of a machine adapted to mowing when this is combined with a tongue or pole hinged substantially as described and with proper means substantially such as described, for causing the cutting apparatus to run in close proximity with the ground, the whole combination being substantially such as and for the purposes set forth.

I also claim arranging and combining the finger beam with the rear end of the main frame of the gearing in such manner that while the portion of the finger beam to which the cutting apparatus is secured, extends below the frame, and may run close to the ground, the rear end of the frame will be carried above the stubble, and this relative position of the rear end of the frame, of the finger beam and of the ground, will not be disturbed by the rising and falling of the finger beam, or of the driving wheel to follow inequalities in the surface of the ground in their respective paths.

And third, I claim the combination and arrangement of a metallic shoe substantially such as described, the finger beam, and gearing frame, substantially as set forth.

REEL SUPPORTS IN MOWING MACHINES—Henry Green, of Ottawa, Ill. Patent March 21, 1854. Ante-dated Sept. 21, 1853 : I claim in machines adapted to mowing the method of supporting the reel upon the end of the finger beam without obstructing the action of the divider, by means of inclined arms, substantially as described.

CUTTING DEVICE FOR HARVESTERS—Henry Green, of Ottawa, Ill. Patent March 21, 1854. Ante-dated Sept. 21, 1853. I claim, first, a vibrating cutter having a proper form of cutting edge in front and notched or indented in the rear thereof in combination with guard fingers across which it vibrates, substantially as set forth.

Second, The combination of a cutting edge at the front of a vibrating cutter, for severing the stocks of grass or grain, with a cutting edge at the rear for cutting up and facilitating the discharge of obstructing matter substantially as set forth.

DESIGNS.

SET OF PRINTING TYPE—George Bruce, of New York City.

TOWEL STANDS—Nathaniel Waterman, of Boston, Mass.

Statistics of Population in Scotland. The returns of births, marriages, and deaths in Scotland for 1857, just published, show that one birth in every 29, one death in every 49, and one marriage in every 143 of its inhabitants has taken place. The birth rate, which was thus, 338 for every 10,000 of the popula-

tion in Scotland, was, in the same year, 343 for every 10,000 in England. So far as a three years' average can determine such a point, it would appear that the mean mortality in Scotland has been in the proportion of 200 deaths to every 10,000 persons living, whereas in England the proportion of deaths during the same year has been 216 to every 10,000 living—producing a deficiency on the part of England of 91,259 lives in the three years. In Scotland, the inhabitants of towns were cut off during the year at the rate of 244 in every 10,000 persons, or one death in every 41; whereas in the rural districts the proportion was only 157 deaths in 10,000 persons, or one death in 63. The proportion of marriages is considerably below the ten years' average in England, the former showing only 69 marriages in every 10,000 persons, and the latter 84. This fact, and the circumstance that the returns show the number of illegitimate births to be greater, would seem to indicate that some causes are in operation which are not favorable to the morals of the population in Scotland.

Inter-oceanic Canal to the Pacific.

Lieut. T. A. Craven, U. S. N., has made a report in reference to the practicability of an inter-oceanic communication from the gulf of Darien to the Pacific ocean, by the Atrato and Troando rivers, in which, after giving full details of his late survey, he thus briefly sums up the actual physical difficulties to be overcome in cutting the proposed canal:—

- 1. A cut through some five miles of submerged mud at the mouth of the river, with the prospective certainty of constant dredging to keep it open.
2. The Herculean labor and incalculable expense of cutting through the lagoons of the Truando, and the embedded logs of the Paicos Caides, where the whole country is inundated during at least nine months of the year, and where the floods of a day may destroy the work of a week.
3. The vast expense attending the removal of basaltic rock, in a country where labor and provisions must all be imported at most extravagant rates.
4. The want of an anchorage on the Pacific coast.
5. The fatal effects of the climate, which, it may be safely estimated, will disable at least one-third of any force that may be sent there.

You will not be surprised that, with the preceding arguments, I am of the opinion that the proposed canal is impracticable, as involving an expenditure of treasure not easily estimated, and a sacrifice of life from which the stoutest heart may shrink. Human perseverance and ingenuity may, it is true, overcome the obstacles enumerated; but at least two generations must pass away ere the world can realize the accomplishment of a much less extensive work than that contemplated."

Great Success.

It will be noticed by reference to the official list as it is published in this number, that there were issued from the Patent Office last week eighty-seven patents.

Of this number thirty-two were granted to inventors whose papers were prepared and presented through the SCIENTIFIC AMERICAN Patent Agency. Inventors who have business of this character to transact will need no other assurance than the above, that what cannot be successfully accomplished through us will scarcely be worth contending for. The scrutiny and care with which our cases are examined before the application is made for the patent, and the attention paid to prosecuting rejected claims, inspire inventors generally with full confidence that whenever an invention is novel and entitled to a patent, it is sure of success in our hands.

We do not expect and do not ask for protection for any improvement unless it is new, and by careful examination into our cases we are able to report unfavorably upon more than one-half of those that are presented to us, without incurring the expense of an application. Circulars of advice sent free of charge.