

cutter of a harvester machine endwise in opposite directions from a state of rest, by the impulsive stroke of the spring, which said spring is charged by its opposite curvatures, while the cutter remains at rest, the said parts being made and operated substantially as set forth.

Second, I also claim the employment and use of the cam wheel, J, having on its face guides, K1 and K2, substantially as set forth in combination with a crank shaft for the purpose of giving two vibrations to the cutter to one revolution of the cam wheel, substantially as described.

Third, I also claim the combination of the springs, (or springs as may be used) with the cam wheel, crank shaft and vibrating lever attached to the cutters for the purpose of operating the same, substantially in the manner set forth.

**TEMPERING AND HARDENING STEEL AND IRON.**—Horace Vaughn, of Providence, R. I. Patented in England Dec. 29, 1856: I do not claim the use of the within named substances, when the same are used in a state of aqueous solution.

But I claim the use of a bath of chloride of sodium with or without ferro-cyanide or bi-chromate of potash, or either of them, or of other ingredients possessing similar chemical properties combined with animal or vegetable charcoal and ground bone, when the foregoing substances are in a state of igneous fusion, combined and operating as set forth.

**WOOD SCREWS.**—James M. Whiting, of New Bedford, Mass., and George F. Wilbur, of Providence, R. I.: We claim the making of wood screws with the upper side of the thread of greater depth than the under side of the thread, substantially as described.

**ROTARY CUTTERS FOR TONGUEING AND GROOVING.**—James A. Woodbury, of Winchester, Mass.: I claim the combination of the chisel cutter, cutters, with the lip cutter or cutters, substantially as described.

**MILLS.**—Joel Woodward, of Philadelphia, Pa.: I claim, first, the mode of the bush on the plate, A, A, running up inside of the balance syne, C, C, in the manner and for the purposes set forth.

Second, And the mode of the lower stone, K, K, working on a loose or balance syne, C, C, that has a nut or breaker, v, v, resting on or fastened to the top of it, and may work with or without a balance or upper bearing as set forth.

Third, And the manner of the inside pot or teeth, Q, Q, made to raise and lower to open and close the aperture, r, r, by means of the lever, W, (or screw) to regulate the feed of the stones, and grinding of the crusher or breaker in the manner and for the purpose set forth.

**SEED DRILLS.**—George S. Ball, (assignor to Benjamin Kuhns) of Dayton, Ohio: I do not claim the upper or lower slide, such having been used before.

But I claim the slide, A, with the attachment of the clips, c, in combination with the slides, D and E, the whole being arranged and operated in the manner and for the purposes set forth.

**CORN SHELLERS.**—Peter Bergen, (assignor to Jane Ann Bergen) of New York City: I claim the combination of the delivery flap or bottom, n, of the hopper, the piece, p, the pins, m, on the shelling cylinder, the cradle, and the several springs, these several parts being constructed and relatively arranged as described, to operate in the manner and for the purposes set forth.

**RAILROAD CAR WHEELS.**—Henry C. Bulkley, (assignor to James M. Jones) of Springfield, Mass.: I claim, first, my mode of constructing the hub, viz. by reducing the iron around the outer periphery of the hub, and giving the requisite strength, I substitute a flange or ring on the end of the hub, when used in combination with a railroad car wheel of one or more plates for the purpose substantially as described.

Second, I claim increasing the thickness of the disk as it recedes from the hub to the tread of the wheel in the manner and for the purposes described.

**PRESSES.**—Simon Ingersoll (assignor to himself, S. B. Turner and George W. Kimball) of Brooklyn, N. Y.: I am aware that levers similar to those used by me have been used before in various ways, I therefore disclaim them in and of themselves considered.

But I claim the levers, g, h, h, chain, I, shieve, J, when arranged on the beams, E, K, in the manner shown and for the purpose set forth.

**MANUFACTURE OF HOES.**—J. Knight, of Newark, N. J.: I am aware that a wrought iron plate has been applied in the form of a cap, to assist in the union of the steel blade and malleable cast iron eye of a hoe by the welding process, and therefore I do not claim the iron eye of a hoe uniting plate when not interposed between the steel blade and malleable cast iron eye; and I do not claim the lapping of the margin of the wrought iron plate over the edges of the flanch of the eye.

But I claim the welding of a wrought iron plate between the steel blade and the malleable cast iron eye, substantially as and for the purpose set forth; or in other words, I claim the hoe constructed of the three pieces, A, B and C, arranged relatively to each other, and welded together substantially as specified.

**STEERING APPARATUS.**—Isaac Moore, (assignor to himself and Francis N. Gove) of Brooklyn, N. Y.: I do not limit myself to the relative sizes of the gears, e and f, nor to the exact arrangement of the screws and nuts, as all these parts are well known and might be varied to suit particular circumstances. And I do not claim the yielding motion between the steering wheel and rudder head as this has before been allowed by means of springs and by ropes of a slightly yielding nature, but I am not aware of any previous instance in which the screws acting on the rudder head have been allowed an endwise motion resisted by springs or equivalent yielding pressure as specified.

Therefore what I claim is the manner described of relieving the rudder stock of any sudden strain or concussion by the endwise motion allowed to the screws, x, x, in combination with the springs, l, l, or equivalent yielding pressure as and for the purposes specified.

**HAND EXERCISER FOR MUSICIANS.**—Jules Monestier, of St. Denis, near Paris, France, (assignor to R. F. Spangenberg, of Brooklyn, N. Y.) Patented in France, Jan 12, 1857: I do not limit myself to any particular size or weight of my "agili-main," nor to the manner of fastening the same in place, although I believe that shown to be the best.

But I claim the manner described of giving agility and suppleness to the writing fingers, and the wrist of musicians by the exercise induced by the application of my "agili-main," substantially as and for the purposes specified.

**PERMUTATION LOCK.**—John H. Morse, (assignor to himself and Lester Patee) of Peoria, Ill.: I do not claim the arrangement by which a change of combination or mental key is produced.

Neither do I claim the arrangement for finding the combination in case it should be lost in making a change.

But I claim the "blind," or shallow slots, iii, or their equivalents, in the circular plates, BBB, made and arranged so as to receive the points of projections, E, E, E, on the bar, A, acting in the manner and for the purpose specified.

**MACHINES FOR BURNING WOOL.**—Thomas Musgrave, of Leeds, (assignor to Anna Musgrave, of Northampton) Mass.: I do not claim the construction of the burring cylinder, or strippers or beaters, nor the combination of beaters or strippers with a burring cylinder.

But I claim the combination of the second burring cylinder and its beaters, substantially as described, with the first burring cylinder and its beaters, substantially as described, by means of an interposed stripper, or an equivalent therefor, as described.

**METHOD OF ATTACHING THE PLUMB LINE TO A PLUMB AND LEVEL INDICATOR.**—John L. Rowe, (assignor to Frederick Stevens) of New York City: I do not claim the employment of two spirit levels.

Nor do I claim the employment of a pivoted pointer to indicate the plumb.

But I claim the attachment to a plumb level indicator, made substantially as described, of the reel, E, and cord, H, as and for the purposes set forth.

[An engraving and description of this invention will be found on another page.]

**SEED PLANTERS.**—Samuel Thompson, (assignor to himself and A. W. Taggart) of Hopedale, Ohio: I do not claim separately the reciprocating slides, F, for distributing the seed, for they are a well known device and in common use.

But I claim the cutters, D, attached to the wheel, C, of the framing, A, in combination with the seed distributing slides, F, operated by the cams, e, attached to the cutter wheels, C, substantially as and for the purpose set forth.

[This invention consists in having a series of cutters attached to the periphery of wheels, which are placed in a framing and combined with reciprocating seed slides in such a way that the cutters will form holes in the sod to receive the seed dropped by the action of the slides. The framing being also provided with adjustable supplementary wheels, whereby the cutter wheel, may, when necessary, be raised above the surface of the ground, and the machine readily transferred from place to place. This invention is designed to plant seed in newly broken prairie or similar soil, and to overcome the difficulty attending the planting of seed in soil having a tough sod upon its surface.]

**LIGHTNING CONDUCTORS.**—Oven White, (assignor to Henry C. James) of Racine, Wis.: I claim, first, a lightning conductor consisting of iron wires encased in sheet copper, for the purpose of increasing the strength and the conducting power of the rod, without materially lessening its flexibility, or greatly increasing the expense of manufacture, as set forth.

Second, The sheet metal joint or clutch for connecting additional rods or points to the main rod, as described.

**TIRES OF CARRIAGE WHEELS.**—James M. Whiting, of New Bedford, Mass., (assignor to himself, George F. Wilson, and Alfred Anthony, of Providence, R. I.): I claim the making of the hub an elastic compound cylindrical lever, each end of which rests for a fulcrum on vulcanized india rubber or gutta percha, or other elastic substance, in combination with the coupling nut, by which the pressure thereon may be regulated.

I also claim the grooves in the body of the hub, or their equivalent, and the projections on the outside of the box, or their equivalent, in combination with the said elastic substance.

**COTTON PRESSES.**—Henry Shadrer, of Burnsville, Ala.: I do not claim the use of racks, as they have been heretofore used, neither do I claim the toggle joints.

But I claim the construction and combination of the double racks with the toggle joints as above described for the purpose explained, and in the manner as set forth.

I also claim the hinge connecting the lower ends of the toggle levers with the follower in combination with the operation of the levers as described by which both followers are operated in the same time and with the same application of power.

RE-ISSUES.

**RAILROAD CAR WHEELS.**—W. B. Treadwell, of Albany, N. Y. Patented Jan. 9, 1847: I claim, in railroad wheels to be cast in one piece with a chilled rim, the forming of such wheels with a hollow concentric annulus or ring, the plates forming a curve substantially as specified to yield by bending to the unequal contraction, in combination with the connection thereof with the rim at or near the middle of its width by means of the solid ring, substantially as described, to give the required support to that part of the rim which is most exposed to fracture in use, as set forth.

And I also claim, in combination with the hollow annulus or ring connected with the rim by a solid ring substantially as described, the inner hollow annulus or ring next to and connected with the hub substantially as described, and connected with another hollow annulus or ring by a solid ring, substantially as described, whereby ample provision for yielding to the unequal contraction is obtained, while at the same time the metal composing the wheel is so disposed as to prevent in a great measure the injurious effects of vibrations, and to resist the jars and concussions to which railroad wheels are exposed in use.

ADDITIONAL IMPROVEMENTS.

**HANGING CARRIAGE BOXES.**—J. M. Jones, of Palmyra, N. Y. Patented July 22, 1851: I claim the combination and arrangement of the disk, or fifth wheel, D, attached to the front axle, the embracing circularly flanged annular disk, with its laterally projecting arms or trunnions to which are attached the bars or spring levers, K, so as to preserve the horizontal position of the fifth wheel while allowing the necessary play of the said bars, in the manner described.

**AUTOMATIC RAILROAD CAR BRAKE.**—W. R. Jackson, of Baltimore, Md. Patented Sept. 8, 1857: I claim the arrangement of parts described, or its equivalent, for the simultaneous compression of the forward and rear springs, and the consequent operation of the brakes, the same consisting in the combination of the lever, L, with the slide bar, B, and pushing rods, D, D, constructed, arranged, and operated substantially in the manner specified.

To Raise Potatoes.

A correspondent—Wm. Aldridge, of Goreland, Ind.—writing to the *Prairie Farmer*, states that having noticed how potatoes were interrupted in their growth, and invariably pined away and died if disturbed and bruised when wet with dew or rain, he selected a patch of a potato field, the whole of which was good soil and in good order to try an experiment. This patch he only plowed once, and then loosened the soil with the hoe when the vines were above ground, and in the heat of the day when they were perfectly dry. He never touched them afterward until they were dug in October last year. These vines kept green throughout the season, and the yield of potatoes was very large. The other portion of this same potato field was purposely worked three times, when the vines were wet with dew. These blighted early, did not produce half a crop, and the potatoes were of a very inferior quality. The ground, seed, and time of planting in both patches were the same.

At this season of the year, the foregoing may be very useful information to many of our farmers, who do not generally pay the least attention in cultivating their potatoes as to whether they are wet or dry.

How to Cool Water.

If it is desired to cool water for drinking in warm weather, and ice cannot be obtained for this purpose, let it be kept in an unglazed earthenware pitcher wrapt around with two or three folds of coarse cotton cloth kept constantly wet. The theory of cooling water in this manner is the absorption of heat from it, by the evaporation of the moisture in the cotton cloth—expansion produces cold, compression heat.

Recent Patented Improvements.

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

**IMPROVED PRINTING PRESS.**—G. W. Davis, of Seneca Falls, N. Y., has invented an improved printing press, the improvement in which consists in the employment of a swinging platen, adjustable spring frisket, inking device, and a reciprocating bed, arranged so that the several parts are, by the most simple means, operated conjointly by the movement of a single lever. The improvement is intended chiefly for hand presses.

**GALVANIC BATTERIES.**—By the application of covers of non-conducting material through which the binding screws pass, and protecting the binding screws by means of washers from the action of the acids, the inventor, G. Doyle, of Ottawa, Ill., has produced a battery which is free from the common objection of local action between the jars, and the corrosion of the binding screws is prevented.

**MACHINE FOR SHELLING PEAS.**—This invention consists in the employment of rollers in connection with a series of endless cords, arranged and used with or without a vibrating hopper, so that the peas may be shelled and separated from their pods with the greatest facility. W. J. Stevenson, of New York, is the inventor. An engraving of this invention will soon appear in our columns.

**BRICK MACHINE.**—This is an improved machine for molding bricks, and is designed chiefly for manual operation. The object of the invention is to obtain a simple device, that cannot readily get out of repair, and one that may be easily manipulated with but a small expenditure of power. J. L. Ransom, of Charleston, S. C., is the inventor.

**COMPENSATING REGULATORS FOR WATCHES.**—Dana Bickford, of Westerly, R. I., has invented an improved regulator for watches, which affords great facility for connecting the compensation, as the effective length of the curb is varied, without shifting the curb pins on the hair spring. When the compensation is insufficient, it is corrected by simply tightening a set screw furthest from the curb pins; and when it is too great, it is corrected by tightening a set screw nearer to the curb pins; in either case loosening the screw which previously held the curb, so that the curb may be left perfectly free to expand or contract.

**RAILROAD BRAKE.**—This invention consists in introducing small adjustable auxiliary wheels between the main wheels of the truck, so that when the train is passing around curves, those wheels which are in line with the inward or shortest curve of the track may be suspended above the rails, while the small wheels rest on the rails and perform the office of the large wheels in such a manner, owing to their decreased diameter, as to allow the main wheels of the outward or longest curve to run over a greater length of space in a given time than the small wheels travel over—thus compensating for the difference in the length of the inner and outer curves of the track. This arrangement of small wheels allows of all the large wheels being suspended, and the speed of the whole train reduced to a mere fraction in a few moments, without danger of one car crowding upon another. It is the invention of John C. Fr. Salomon, of Baltimore, Md. Mr. S. patents, in connection with the above, an improved style of brake peculiarly adapted for his invention. We regard this as one of the good improvements of the age.

**IMPROVED DIVING BELL.**—The principal object of this invention is to establish a communication between the interior of a diving bell and the surface of the water, so that the divers may be permitted to come out of the bell and above the surface of the water at their own pleasure, without the tedious and laborious operation of raising the bell.—This object is attained by providing the diving bell with a tube or hollow trunk, of sufficient length to extend from the body or working chamber of the bell to above the surface of the water, and of sufficient size for a man to pass through, the trunk being provided with a man-hole valve at or near its junction with the working chamber of the bell, and another further up, so that by opening only one of these valves at a time, the descent into, and the ascent from, the working chamber can be effected with a very little loss of compressed air from the bell. Benjamin Maillefert, of Astoria, N. Y., is the inventor.

**LUBRICATOR.**—W. Clough, of Madison, Ind., has invented an improved lubricator for railroad axles, which consists in a hand attached to a sleeve, or hub, which is fitted to work on a spindle within the oil box, and which has also attached to it a slotted jointed arm. This arm is connected with an eccentric wrist at the end of the axle, the said arm, hand, and sleeve being so arranged that, by the rotary motion of the wrist with the axle, the hand is caused to receive a swinging motion, which alternately dips into the oil in the oil box, to take up a small quantity of oil or grease, and lift it up into contact with the journal, and to deposit the oil so taken up, or a portion of it, upon the journal. The invention also consists in making the slotted arm, sleeve, and hand of a single piece of wire, in such a manner that the sleeve constitutes a spring, which enables the hand to rest for an instant against the journal to insure the deposit of oil thereon, and serves to obviate any liability to breakage of the arm or hand, by the concussions produced by their very rapid motion.

**TUBULAR WROUGHT IRON AXLES AND SHAFTS.**—This invention consists in the manufacture of tubular wrought iron bars for axles, shafting, or other purposes, from a solid pile, by means of rolls, with a system of grooves properly constructed, by which every portion of the iron is subjected to the same degree of drawing and compression, and the bars are rendered much more sound, and of more uniform texture than tubular bars, produced by making a faggot of a number of segments arranged together, with a central opening between them, and then welding and drawing them between rolls. This last is, we believe, the only method heretofore practiced of making tubular wrought iron axles, &c., and which method, owing to all the drawing effected by means of rolls, being on the outside, with no resistance on the inside of the tube, tends to open the grain of the iron instead of closing it. It is the invention of E. W. Stephens and Richard Jenkins, of Covington, Ky.

**GAS APPARATUS.**—John G. Hock, of Newark, N. J., has invented some improvements in the manufacture of illuminating gas, particularly designed for small gas-works for dwelling houses and public buildings, though they are wholly or in part applicable to gas-works on a larger scale. One improvement consists in certain provisions for vaporizing the tar from coal or other gas, and returning it in a state of vapor to the retort, to be decomposed and converted into gas, which improvement is also applicable to rosin oil or other substances in a liquid state, or capable of liquefaction by heat previous to its introduction to the body of the retort, to be decomposed or converted into gas. Another improvement consists in a certain construction of the condenser, whereby provision is made for varying the surface of pipe exposed to the cooling influence of the atmosphere. And a third improvement consists in a certain mode of providing for a constant supply of water to the channel, by which the sealing of the cover of the lime purifier is effected.