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Action of Waves.

The dynamic force hundred by sea waves is greatest at the crest of the wave before it breaks, and its power in raising itself is measured by various facts. Thus, at Wasberg, in Norway, in 1820, it rose four hundred feet; and on the coast of Cornwall, in 1843, three hundred feet. There are likewise cases showing that waves have sometimes raised a column of water equivalent to a pressure of from three to five tons to the square foot. It has also been proved that the velocity of the waves depends on their length; that waves of from three hundred to five hundred feet in length, from crest to crest, travel with a velocity of from thirty to twenty seven and one-half miles an hour—and this, whether they are five or fifty-four feet in total hight.

Waves travel very great distances, and are often raised by far off-huricanes, having been felt simultaneously at St. Helena and Ascension, though six hundred miles apart, and it is thought that ground-swells often originate at the Cape of Good Hope, which extend three thousand miles distant. Nor do waves exert their force at or near the surface only; one instance being mentioned where a diving-bell, at the depth of eighteen fathoms, was moved five feet laterally, in calm weather.

The motion of "shingle," as it is termed, depends on the direction in which the surf strikes the shore, which is influence by the direction of the wind; and this is shown by observations on the French coast, to be in the ratio of two hundred and twenty-nine days from western quarters, to one hundred and thirty-two days from eastern quarters.

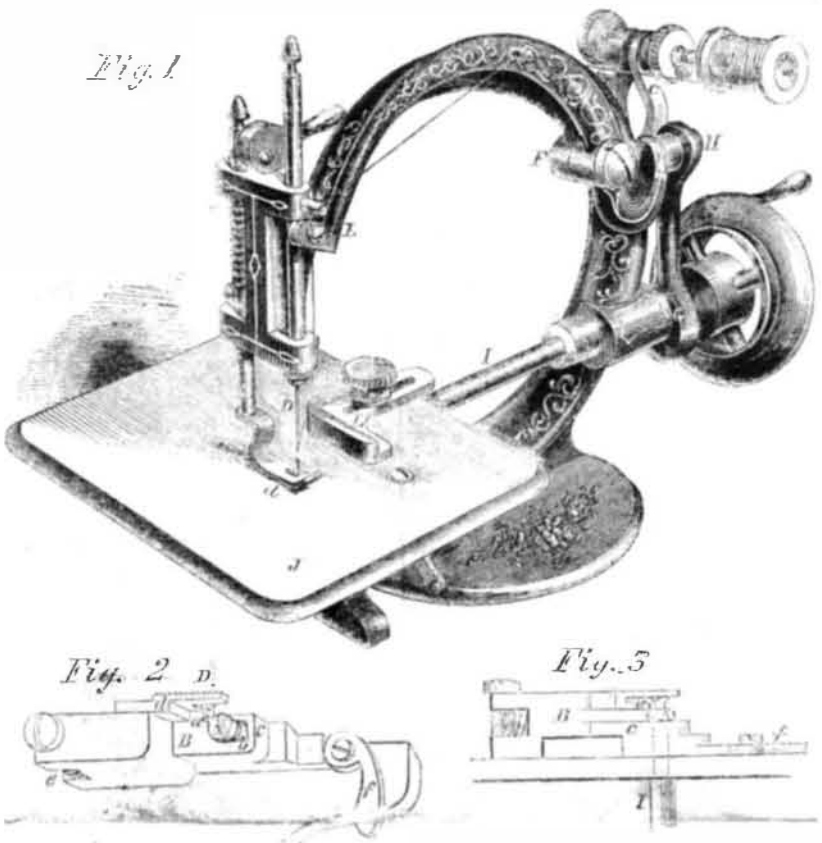
Artificial Pearls.

A very remarkable result of pisciculture has been lately obtained in the department of the Meurthe, when, from a small stream, the enormous weight of 25,000 kilograms of bleak was taken during the last season. The scales of this fish are used for makiug artificial pearls. By an ingenious process they are reduced to a kind of lustrous paste called Essence d'Orient, and the French artificial pearls are simply small hollow glass balls coated inside with this paste and filled with white wax. —*Galignani's Messenger.*

Copying Ink.

M. Henry, of London, has taken out a patent for the use of glycerine in common ink to render it fit for taking copies of letters that may be written with it. Glycerine is a hygrometric liquid, and is suitable for this purpose. It will also tend to keep any substance with which it may be incorporated in a moist or damp state, and is thus very useful for many other purposes.

WILLCOX & GIBBS' SEWING MACHINE.



It is astonishing how, in a few years, the sewing machine has made such strides in popular favor, and become, from being a mechanical wonder, a household necessity, and extensive object of manufacture. While the higher priced varieties have such a large sale, it is no wonder that the cheaper ones sell in such tremendous quantities, and that our inventors are always trying to produce something new and cheap.

The subject of our engravings is the sewing machine known as Willcox & Gibbs' single thread machine, Fig. 1 being a perspective view, and Figs. 2 and 3 diagrams of the feed motion and looper, seen in different positions across the tablet. The inventor is J. E. A. Gibbs, of Mill Point, Va., and he obtained a patent June 2, 1857, which was re-issued July 13, 1858 and another patent August 10, 1858. It is a highly useful machine, and works with wonderful ease.

The principal novelties of the machine are the revolving hook or looper, A, the admirable feed, B, and the peculiar intermittent tension, C. It will be seen by reference to the engraving that a straight needle, D, is used, and that the motion is given to the needle bar by a curved arm, E, pivoted to the frame of the machine at F, and receiving its motion from an eccentric, G, on the pulley shaft, through a connecting rod working on ball joints, H, to give it a universal motion. The pulley shaft, I, it will be observed, passes horizontally under the tablet, J, and has on its end a hook, A, of a very peculiar form, which makes a revolution to each vibration of the needle bar. The action of this hook is as follows:—The needle passing through the goods carrying with it the thread, is met by the point of the hook, *a*, during its upward motion. The point now passes between the thread and needle, retaining the loop, while the needle ascends for a second stitch; on its descent its passes through the loop on the hook, which loop is delivered upon the needle before a second loop is taken by the hook, each loop of the stitch being twisted half of a revolution after it has been drawn through its predecessor, by which means a firmer and more secure stitch is obtained than has hitherto been accomplished by such machines as this. The simplicity and accuracy of this mechanism prevents its dropping stitches, to which many other machines are so liable, and which has hitherto brought the "chain stitch" into disrepute.

The feed is got from an eccentric, *b*, on the pulley shaft directly behind the looper: the feed bar, *c*, carrying the feed surface, *d*, (which, of course, must project through the tablet, J,) is pressed against this eccentric by a spring, *e*, the eccentric, *b*, in fact, revolving in a slot in the feed bar. If the motion of this feed bar be not checked in any way, it will follow the motion of the eccentric, and the feed surface will describe a circle, a portion of the arc of the circle occurring above the tablet on contact with the goods, while the remainder of the circle is completed below the tablet, and away from the goods. The length of the stitch or amount of feed is regulated by a small cam-shaped lever, *b*, against which the feed bar strikes, and the position of this lever can be varied so as to diminish the throw of the feed bar, cutting off a portion of its arc of motion, thus determining its horizontal motion, its vertical throw remaining the same.

The spool-holder, K, consists of a conical sleeve revolving on two cones, the pressure of the cones upon the sleeve being regulated by a thumb-screw and spring; this gives an adjustable tension, while an intermittent tension is given by a lever, C, pressing against one of the cones, and operated by the needle arm, E, in such a manner that during the formation of the loop the thread is left comparatively slack, while the tension is very much increased when the loop is being drawn into the goods.

One cannot but admire the beauty and accuracy of its movements, and the entire absence of all noise, even when it is running at the rate of two thousand stitches and upwards per minute; this alone must prove a great recommendation to it. Another merit is the good workmanship, and the parts are made interchangeable, so that in the event of an accident to the machine, any part can be replaced at a trifling cost. It is sold upon an elegant stand that forms an ornament to a parlor. At the late fair of the Franklin Institute, Philadelphia, it received the highest commendation from a committee of judges, and their report was eminently favorable.

James Willcox, No. 715 Chestnut street, Philadelphia, is the manufacturer and general agent, from whom further information may be obtained.

M. Aime Boupland.

This distinguished botanist died recently at San Borja, Brazil, at the age of eighty-five. In early years he was the companion of Humboldt in his travels on this continent, and collected and classified upwards of six thousand plants then unknown. He was the friend of Napoleon I. and the Empress Josephine, and is the person who advised the Emperor after his abdication at Fontainebleau to retire to Mexico and wait for a future opportunity of becoming again the lion of Europe. After the death of Josephine he returned to South America, and became a professor of natural history in Buenos Ayres. After many travels in the tropics, and imprisonment as a spy in Paraguay, from which he was released in 1829, he retired to San Borja, where, surrounded by rare botanical specimens and beauteous orange groves, he lived in tranquility and died in peace. He published many botanical works in the French language.

Statistics of Lowell Manufactures.

From a small table recently published on the above subject, in Lowell, we learn that there are 399,064 spindles and 12,234 looms at work in that city. There are 2,394,000 yards of cotton cloth made weekly, 44,000 yards of woolen cloth, and 25,000 yards of carpets. The Merrimack Manufacturing Co. makes 340,000 yards of calico per week, and and the Hamilton Co. 148,000 yards. No less than 72 turbine wheels are required to drive the machinery of all the mills, besides several breast wheels; 61,617 gallons of sperm oil and 26,000 pounds of lard are consumed annually.

Strength of Camels.

The Galveston *News* states that one of the camels in that city kneeled down and received a load of five bales of hay weighing 1,400 pounds, which it raised without the least effort, and walked away with apparent ease. In their native country the average load for a full grown camel is some 800 pounds, with which they perform long journeys over deserts with but little food or water.

HOGS IN OHIO.—We learn from an exchange that the number of hogs in Ohio, six months old and over, on the 1st of April, 1858 (a fit day to take a pig census), were 2,554,914. In 1857, there were 2,331,778, thus showing an increase of 223,136 in the year. This prosperity should make that State *bristle* up.

Issued from the United States Patent Office
FOR THE WEEK ENDING JANUARY 18, 1859.

Reported officially for the Scientific American.]

*** Circulars giving full particulars of the mode of applying for patents, size of model required, and much other information useful to inventors, may be had gratis by addressing MUNN & CO., Publishers of the SCIENTIFIC AMERICAN, New York.

POTATO-DIGGERS—R. L. Allen, of New York City: I am aware that the dirt-sifting wings of potato-digging plows are common, and therefore do not claim them.

But I claim the arrangement and combination of the removable wings, b c, with the double mold-board, substantially as set forth.

I also claim the arrangement and combination of the central or dividing bar, a, with the standard, C, by means of the notched fastening, e and d' substantially as set forth.

RING LOCK—Wm. J. Alston, of Williamson county, Tenn.: I claim the friction springs arranged substantially as described, in combination with the inner rings of the locks, for the purpose set forth.

APPARATUS FOR DRYING GRAIN, MALT, &c.—Stephen R. Andres, of Troy, N. Y., and Samuel Andres and McDonough Bucklin, of New York City: We do not confine ourselves to the precise form of our machine described in this specification, as the same may be changed without changing the character of our invention.

We claim the use or employment of a blast or current of hot air introduced into the cylinder through a hollow journal, or its equivalent, when said current of hot air is brought into direct contact with the substance to be dried thereby, in combination with a cylinder made adjustable to any angle, as described.

SYRINGING APPARATUS—Ernst Bagniki, of New York City: I claim the construction of a chair substantially as described, and containing a pump, with an arrangement of the valve chambers, in the manner and for the purpose as specified.

AMALGAMATOR—John Barker and Edward W. Barker, of Baltimore, Md.: We do not confine ourselves to the precise arrangement or form or construction of the parts as described, as other forms and arrangements may be used in carrying out the principles of our improvements.

We claim, first, The combination of a set of crushing or attrition rollers with an upper and lower rubber, arranged substantially as described for the purpose set forth.

Second, We also claim introducing an independent current of water into the amalgamator, substantially as described, so as to flow around the lower end of the feed pipe, and meet and mingle with the inflowing current of material, for the purpose as set forth.

Third, In combination with the rollers we claim constructing the lower rubber hollow, with openings, to admit the quicksilver into the interior for the purpose set forth.

Fourth, Constructing the lower rubber with a vertical passage through its center, arranged substantially as described, for the purpose set forth.

Fifth, The combination of the concave plate, arranged substantially as described, with the rollers, for the purpose of directing the inflowing current to the center, and between the rollers.

Sixth, Constructing recesses on the interior of the casing over the journals arranged substantially as described, for the purpose set forth.

SEED PLANTERS—James F. Beckwith and Adin G. Gage, of South Alabama, N. Y.: We claim the arrangement of the tooth, O, discharge spout, Z, coverers, I, hoppers, B R, frame-piece, A A, lever, F, and bar, D, substantially in the manner and for the purpose fully set forth.

SELF-PRIMER FOR FIREARMS—William H. Bell, of Washington, D. C.: I claim, first, The combination of the shield, f, plunger, i, spring, k, and screw head, h, in the manner described, with the magazine chamber, b, for the purposes set forth.

Second, The arrangement and combination of the pin, n, on the piston, i, and slot, m, in the shield, f, with the slot, o, in the side of the hammer, for the purpose specified.

Third, The removable guard plate, q, as arranged and operated for the purposes set forth.

SOFA FRAME—Peter Born, of New York City: I claim as a new and improved article of manufacture, a complete frame of a sofa made of thin layers of wood in the manner substantially as specified.

[The frame of this sofa is made with veneers on a mold, and the same mold will do for many sofas; it is very strong and elegant, and forms a useful and ornamental article of furniture.]

COMPOSITION FOR ORNAMENTING GLASS—Jules Joseph Henri Brianchon, of Paris, France: I claim the yellow coloring composed of resin, nitrate of uranium, essence of lavender, and the flux of bismuth; also the orange red coloring, composed of resin, nitrate of iron, essence of lavender, and the flux of bismuth; also the imitation gold coloring, composed of the above described orange red coloring and the yellow coloring mixed together, with additional parts of the preparation of uranium and iron; also the variegated prismatic coloring, composed of ammoniuret or cyanuret of gold, or gold dye, turpentine, essence of lavender, the bismuth flux and uranium; also the mother-of-pearl coloring, composed of the bismuth flux, the flux of lead, chloride of antimony, resin, lavender, or other essence, and colophony; all of the above colorings being made and applied in the manner and in proportion, substantially as set forth.

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

LUBRICATING COMPOUNDS—Reuben R. Brown, of Buffalo, N. Y.: I claim a lubricator made of the ingredients and in the proportions substantially as set forth.

SEEDING MACHINES—W. G Bulgin, of West Jersey, Ill.: I am aware that rotary coulters, I, have been previously used, and also levelers, F, or their equivalents; seed-distributing devices similar to the serrated plate, C, have also been used.

But I am not aware that the parts have been arranged relatively with each other, to operate as shown.

I claim the rotary coulter, I, leveler, F, with share, H, attached, and harrow teeth, K, arranged relatively with respect to each other and to seed box, A, provided with a suitable seed-distributing device, so as to operate substantially as and for the purpose set forth.

[This invention is more especially designed for use in the western States, where wheat is sown directly on corn stubble not previously plowed. The object is to properly prepare the soil by leveling and pulverizing the same, and in distributing the seed evenly in a uniform manner in the prepared soil.]

WIND WHEEL—Abner L, Butterfield, of West Dummerston, Vt.: I am aware that collapsible sails for wind wheels have been previously used, and I am also aware that valves have been employed and arranged similar to those shown and described; I therefore do not claim, broadly, the sails, E, nor the valves.

But I claim attaching the sails, E, to the rames, D, of the arms, C, substantially as shown, so as to permit of a self-lateral adjustment of the same, and using the catches, o, and slides, g, with cords attached, for respectively locking the sails and freeing them from the locks or catches, substantially as described.

[This wind wheel is formed of collapsible sails applied to radial arms, so as to form a very simple and efficient wheel.]

BELT CLASPS—Geo. Churchhill, of Hartford, Conn.: I claim the combination of the plates, A A', pins, B, screws, F, as and for the purpose described,

MODE OF OPERATING WINDOW BLINDS—John Clark, of Williamsburgh, N. Y.: I claim attaching toothed flanches, d, or pinions to the tenons, c', of the slats, C, and having the flanches or pinions gear into a sliding rack bar, D, placed in the stile, B, of the blind, and actuated by the pinion, f, and supplemental rack teeth, e, or their equivalents, substantially as and for the purpose set forth.

[This blind has a much neater appearance than the ordinary one; it is more durable, less liable to get out of repair, and the slats are more readily adjusted, while the cost of construction is not materially enhanced.]

CANTEEN GUN STOCK—Samuel Colt, of Hartford, Conn.: I do not wish to limit myself to any particularity of construction or kind of material.

But I claim so constructing the stock of a gun that it shall constitute a canteen, substantially as described.

BOOT-BLACKING APPARATUS—J. M. Connel, of Newark, Ohio: I make no claim to the construction of brushes of two sections, as shown in several patented knife-polishers.

But I claim as an improvement on the patented boot-blacking machine of J. M. & J. Connel, the concave-edged self-adjusting brush wheel, B, in combination with the spring foot-piece, F, constructed, arranged and operating as described.

PLOWS—G. D. Cotton, of Galesburgh, Ill.: I claim combining and arranging together the beam, D, the standards, d and e, upright, a, lever, E, brace, Z, bar, H, axle, B, and pole, C, said pole reaching forward, and resting upon the neck yoke, in the manner and for the purpose specified.

CULTIVATORS—Jesse Cunningham, of Marshall, Mo.: I do not claim the reversible bar, J, with a marker or wheel, g, attached, for such device has been previously used.

But I claim attaching the furrow shares, H, to a swinging frame formed of the shaft, E, bar, F, and arm, b, placed in a mounted frame, A, in combination with the buttons, C C, provided with step-like projections, d, for regulating or adjusting the hight or inclination of said share frame, and consequently the depth of the furrows, substantially as described.

[This invention consists in a novel way of adjusting a frame to which furrow shares are attached, in order to regulate the depth of the furrows as occasion may require, the share frame being fitted in a frame that is mounted on wheels and provided with a guide.]

RAILROAD CHAIRS—Wm. M. C. Cushman, of Albany, N. Y.: I claim the buttress, E E, at each end of the outside jaw, flanch, or rib, D, in combination with the top or bearing surface, c, as and for the purposes described and set forth.

HORSE RAKES—L. S. Deming, of Newington, Conn.: I claim the combination of the fingers, B, shaft or axle, A, cam, F, and lever, G, these several parts being constructed, arranged, operated and operating in the manner described, for the purpose specified.

SPOKE MACHINE—L. J. Dickason and John Frazee, of Georgetown, Ohio: We claim, first, The described mode of operating the cutter frame, J, with its cutters, K, and also the emery wheel, h, and its frame, L, so as to throw them all clear of the spoke, S, after the operation of twining and smoothing, that is to say, we claim the employment of the two arms, R' R'', upon the shaft, R, operated by means of a hand lever, R''', in the manner and for the purposes set forth.

Second, We claim the adjustable spring rests, N' N'' when arranged and operating in the manner and for the purposes set forth.

Third, We claim the spring arm, n, spring catch, m', pitman, n', and bent lever, n'', in combination with the lever, K'', clutch, I, and rod, l, all arranged and operating so as to throw the pulley wheel, H, in and out of gear with the shaft, R, substantially in the manner and for the purposes set forth.

MACHINE FOR MAKING PRINTERS' RULES—Richard Doble and M. Angelo Starr, of Richmond, Ind.: We claim the combination of the graduated plates, H H, having arc-formed and radial graduations, and guide bars, J J, with their clamping screws, g g, and screw clamps, h i h i, the whole applied, arranged and operating substantially as described, in relation to the saw, D, for the purpose set forth.

[By a combination of graduated plates, guide bars and clamps, arranged in relation to a circular saw, for mitering or otherwise cutting off the rules to the desired length, a very perfect and efficient machine is obtained.]

RAILROAD CHAIRS—Henry A. Landry, of Camden, N. J., assignor to R. G. Ransford, of Troy, N. Y.: I claim the improvement of a projecting piece of metal either cast on the railroad chair, or made of wrought iron or steel, and affixed and rising up alongside of the rails on railroads where two rails meet, and of sufficient hight to receive all or a part of the weight of the machinery, while passing over that particular part of the rails, as described, disclaiming any right to any particular form or pattern of chair to which my improvement may be applied.

CAR COUPLINGS—Wm. Layland, of Mixerville, Ind.: I claim the employment of the combined adjustable latch and catch, F T, when constructed and operated substantially as described for the purposes set forth.

VENTILATING REGISTERS—Joseph Leeds, of Philadelphia, Pa.: I claim, in combination with a register, the hanging of the valve, A, by its center, as shown, so as to make said valve a regulator or cut-off to the ascending current of air, from N to M, and at the same time a regulator of the ingress or egress of air to or from an apartment, and thus causing a register to serve the purpose of a ventilator, as described.

MACHINE FOR BENDING UMBRELLA RIBS—Ferdinand Lehr, of Hoboken, N. J.: I do not claim a mandrel around which the wire is bent by a revolving stub, as such mandrel has been affixed to the shaft carrying the revolving stub; in that case, however, difficulty existed in removing the spoke or rib, when bent, from off the said mandrel, but by my machine, the mandrels and bending stubs withdrawing from each other, and the mandrels pulling out of the hole or eyes, this difficulty is avoided.

What I claim is, first, A reciprocating pincer, taking the wire from a fixed, and drawing the same through the machine, dropping said wire, and then returning below to its previous position, so as to be out of the way of the bending or coiling of the wire into eyes or loops, as set forth.

Second, I claim attaching said pincers and traveling carriage by one side thereof, while the power for sliding said pincers lengthwise of the machine is applied to the other jaw, whereby the clamping and releasing of the wire is effected by the act of moving said pincers, as set forth.

Third, I claim attaching one end of said pincers on a stud or shaft, in combination with the stops, 6 and 7, spring, 9, and slotted connecting link, f, whereby the sliding, clamping, depressing and elevating motions are given to the pincers by the reciprocations of said rod, f, as set forth.

Fourth, I claim the shear, i i, receiving the compound motion set forth from the cams, n and 10, in the manner and for the purpose specified.

Fifth, I claim the clamping levers, k k', in combination with the ledges, 13 14, and shafts, p p', that press against and hold the wire while the loops are being formed as set forth.

Sixth, I claim the mandrels, in combination with the turning shafts and stubs, when the said mandrels are projected from the blocks, or their equivalents, for the wire to be bent around the same, to form the loops or eyes in the spokes or ribs, and withdrawn from said eyes, when the same have been bent, substantially as set forth.

Seventh, I claim the arrangement of the sliding bar, b, and the connections therefrom to the clamping levers, k k, and slides, m m', whereby the clamps and mandrels, z, are simultaneously actuated as set forth.

Eighth, I claim the sliding stocks, v v, carrying the shafts, p, and turning stubs, for allowing the withdrawal of said stubs out of the way of the traveling pincers, substantially as set forth, and in combination therewith, I claim the bar, n', and connections therefrom to said stocks, v v, for communicating endwise motion to said stocks, for the purpose, and as specified.

Ninth, I claim the sliding mandrel, z', and turning shaft, p 2, connected as set forth in combination with the jaws, 32, or their equivalents, for turning the eye or loop in the end of the spoke, or rib, as described and shown.

Tenth, I claim the arrangement of the cranks, q and t, and slotted connecting rods, q, and t', for communicating motion successively to the slides, r and u', and from the same to the turning stubs or loop formers, as set forth.

MILK COOLERS—Joseph Mansfield, of Jefferson, Wis.: I claim the improved portable milk cooler, when constructed in the manner and for the purpose set forth.

HEMP BRAKES—Richard Mansley, of Philadelphia, Pa.: I do not claim, broadly, the employment in hemp brakes of horizontally moving slides, with bars so situated that the hemp may be presented vertically to the machine, as such a device has been heretofore used.

But I claim operating slide, D, with its transverse bars by the cam, H, arm, G, and spring, J, when arranged substantially as described, and when the said spring is so graduated that the slide shall instantly recede after reaching the limit of its outward movement, as and for the purpose set forth.

MACHINERY FOR TARRING OAKUM—Richard Mansley, of Philadelphia, Pa.: I claim the perforated vessel, F, or its equivalent, placed within a stationary vessel, D, which contains the compound for tarring oakum, a jet of steam being admitted to the stationary vessel, while a reciprocating motion is imparted to the perforated vessel, as and for the purpose set forth.

HORSE SHOE MACHINE—B. A. Mason, of Newport, R. I.: I claim the combination of the four hammers, arranged in pairs, the two constituting each pair being mounted to strike simultaneously, and in opposite directions, and the two pairs working at right angles with each other, or nearly so, substantially as described and for the purpose set forth.

I also claim the employment of an elastic bush, in the connection of the hammers with the cranks by which they are operated, substantially as and for the purpose set forth.

HOLDERS FOR LAMPS—Charles Monson, of New Haven, Conn.: I claim the mode or means, substantially specified, of counterbalancing the system of levers or lazy tongs, or the same and one or more articles suspended from, or supported by them, and this, whether the counter-balance weight be applied so as to push or pull on the levers of the lazy-tongs, as explained.

I also claim the method substantially, as described, of steadying the tube or rod, or its equivalent, suspended or extending from the lower termination of the system of crossed levers or lazy-tongs, viz., by the collar or slide, p, the levers, o, o, and the connections, f, g, applied to the part, e, and the lazy-tongs, and made to operate essentially, as specified.

CONSTRUCTING A COMBINED STREET-PAVEMENT RAIL ROAD TRACK—Richard Montgomery, of New York, N. Y.: A combined street pavement and railroad track constructed substantially, as shown and described.

REVOLVING FIREARMS—Henry S. North, of Middletown, and Edward Savage, of Cromwell, Conn.: We are aware that many applications of packing rings or thimbles, have been made to breech-loading fire-arms, to be acted upon by the force of the explosion, to close the joint between the chamber and the breech, and the application has been made to fire-arms of the same kind, of a thimble to be acted upon by a similar agency, to close a joint between the chamber and barrel. We, therefore, disclaim, entirely, the use of rings or thimbles when not applied as herein described, in combination with a rotating chambered-cylinder, having also a longitudinal movement.

But we claim, First. The employment of the movable, cylindrical bushing-rings or thimbles, b, b, applied substantially, as herein described, within cavities, i, i, formed in the front portions of the chambers of a rotating, chambered-breech, which has a longitudinal movement to operate and be operated upon, substantially, as specified in combination with a valve-like seat, e, e, which is formed upon the rear of the barrel.

Second. The combination of the slide, F, working in the bottom of the cylinder frame, A, and the double-jointed trigger-guard, D, E, part of which constitutes, also, a part of the lever, through whose agency the rotation of the cylinder and cocking of the hammer are effected, the whole operating substantially as and for the purpose specified.

[This is an improvement in that class of revolving fire-arms, in which the many-chambered cylinder rotates upon an axis parallel with the bore of the barrel. One feature of the invention is, the employment of movable cylindrical bushings or thimbles, fitted into centers joined around the front portions of the rotating-cylinder in such a manner as to fit to an external seat at the rear end of the barrel, while the latter enters within the chambers, and as to allow the gases resulting from the explosion of the charge to act upon their rear ends to drive them forward against the barrel, and make them form close joints therewith, for the purpose of preventing the escape of fire or gas.

Another feature of the invention is, in the combination of a slide fitted to work longitudinally under the cylinder-frame, and a jointed trigger-guard, part of which also constitutes a part of a lever for effecting the operations of rotating and locking the chambered-cylinder, and of cocking the lock, such combination being for the purpose of preventing the mechanism by which the above-mentioned operations are effected, from encumbering the exterior of the piece in any of its conditions, and allowing such mechanism to be operated by the left hand to repeat the fire without removing the piece from the shoulder, or even disturbing the aim.]

WASHBOARD—John K. O'Neal, of Kingston, N. Y.: I claim the flexible rubber, B, constructed as described, and combined with the washboard, A, so that its upward movement shall be assisted by a spring, or its equivalent, arranged substantially as specified.

COLORING AND CURING TOBACCO-STEMS—Benj. Payn, of Albany, N. Y.: I claim coloring and curing tobacco-stems at one operation, by subjecting them to the action of steam, as and for the purposes set forth.

CLOTHES-SPRINKLER—Thomas Payne, of Ridgefield, Conn.: I claim a clothes-sprinkler, having an interior self-closing stopper, and made and operating substantially in the manner and for the purpose set forth.

FURNACES—Samuel Pierce, of Troy, N. Y.: I claim the series of detachable or removable heat-radiating plates, J, J, constructed with points or stems, a, a, projecting from their surfaces, both of the surfaces being radiating surfaces, in the manner and for the purposes substantially as described.

Also, in combination with a hortizontal fire-box and fire-chamber, and the outer casing, K, I claim a series of plain heat-radiating plates, or a series of corrugated heat-radiating plates, arranged substantially in the manner, and for the purposes as described.

CARPET-SWEEPER—Samuel F. Pratt, of Roxbury, Mass.: I claim, in combination with the case, A, and the rotary brush, B, of a carpet-sweeper, a serrated or toothed-clearer, E, applied so as to cleanse the brush, during and by its revolutions.

I also claim the arrangement of serrated or toothed-clearers on opposite sides of the brush, in order that it may be cleansed while being rotated in either direction.

I also claim the arrangement of the serrated clearer in the case of the carpet-sweeper in such manner that the said clearer shall form part of, or be maintained by the dust-receptacle. I do not claim the application of a single elastic-tired driving-wheel, to the driving-wheel affixed on the brush shaft; but claim the arrangement of two of the elastic-tired wheels on opposite sides of the driving-wheel of the brush-shaft, as described, and so applying the said shaft in the case and to the fork of the handle, as to enable the brush-wheel to be forced in close contact with its drivers, not only when the machine is moved in either direction, but by the force exerted through the handle, and to so move the machine, the same insuring the rotary motion of the brush, whenever the machine may be in the act of being moved on and over a carpet.

MODE OF ATTACHING THILLS TO VEHICLES, &c.—R. B. Prindle, of Coventry, N. Y.: I claim the flange on the bolt or pin, so made and inserted that it cannot be removed when the joint is varied from the position in which the bolt is introduced.

COUPLING GUN STOCKS WITH PISTOLS—Samuel Colt, of Hartford, Conn.: I claim the neck piece, B', with its projecting end, B2 B2, passing under shoulders in the lock frame, in combination with the holder pins, d d, and clamping bar, f, arranged and operating substantially as described, for the purpose set forth.

FILE HANDLES—William W. Draper, of Greenfield, Mass.: I do not claim the application of jaws to tool handles.

Nor do I claim the described mode of operating such jaws.

But I claim the centralizing socket, or socket piece and spring, in combination with the handle and the fastening jaws and their operative mechanism, applied within the said handle, the whole being made to operate substantially in manner as described.

BATHING APPARATUS—Charles Escudier, of Pattersonville, La.: I claim the new application in bathing apparatus of two boilers and steam pipe connected thereto, affording, when united, an apparatus for the application of whatever kind of bath that may be desired.

OX YOKES—James D. Foster, of Montgomery, Ala.: I claim constructing the bows, B, of four parts, a a b b' the parts, a a, being permanently attached to the stock A, and the parts, b b', attached by hinge joints, c c, to the parts, a a, and provided with a fastening, C, substantially as and for the purpose set forth.

[The object of this invention is to facilitate the adjustment of the yoke to the necks of the animals, and also to facilitate its detachment therefrom. The invention consists in forming each bow of the yoke of four parts, the two upper parts of each bow being permanently attached to the stock, and the lower parts attached to the upper parts by hinges or joints, so that the lower parts may be opened or distended to be readily fitted and secured on the necks of the animals, or removed therefrom.]

MACHINERY FOR MOVING RAILROAD CARS ON RAILWAYS—Ambrose Foster and Harvey Brown, of New York City: We do not claim the moving of cars on railroads by stationary power and an endless rope or chain, for that is an old device.

But our improvement consists in the mode of attaching to and removing the cars by means of the devices above set forth.

We claim, first, The rope-supporter, H, constructed and arranged substantially in the manner and for the purposes set forth.

Second, We claim the sliding rods, E, with the coiled springs, F, attached, or their equivalent, for the use and purpose set forth.

Third, We claim the grab or catch, G, constructed, arranged and operated substantially in the manner and for the purposes set forth.

VEGETABLE CUTTER—J. Fraser, of Rochester, N. Y.: I claim the combination of the eccentric rod, k, arranged substantially as described, with the pivoted or adjustable bed, B, which bears the knife, G, for the purposes specified.

CATTLE PUMP—Hugh Gerred, of Sparta, Ill.: I do not claim, broadly, a valvable bucket attached by a pulley to a platform, irrespective of the arrangement of the parts shown and described, for such device has been previously used, and may be seen in the device of Jared Ayers, patented April, 1856.

But I claim the arrangement and combination of the guides, f, bucket, D, the latter having a valve, c, clasp, d, and spring, e, the trough, F, platform, E, and wheels m l i g, as and for the purposes shown and described.

[This pump is formed by a peculiar arrangement of gearing, connecting a treddle with a lifting pulley, whereby cattle, in treading on the platform, in quest of drink, will, by slightly depressing the platform, raise the water from the well.]

STEAM VALVE—Henry Goulding of San Francisco, Cal.: I claim, first, Supplying the working cylinder of the engine or machine at each successive stroke with its impelling gas or vapor from reservoirs previously charged therewith, and under the control of a valve or valves, essentially as set forth, the same serving as a substitute for a cut-off to work the gas expansively, in the manner described.

Second, Operating a valve in part or in whole by the gas or steam, at full pressure, from the supply pipe acting to propel it in the one direction, when the same is used in concert with an opposing force to the valve, produced by the expansion of the gas in its passage to or performance of its work, substantially as specified.

Third, The combination of the valve, B, and valve cylinder or case, A, with its reservoirs, E F, and the several inlets or outlets for action together, in the manner described, and whereby the one valve, B, is made to govern the ingress and egress of the gas to or from the reservoirs as well as to control the inlet and exhaust of the working cylinder, as set forth.

CORN-PLANTERS—James Hughes and Nathan Stoneleiper, of Cambridge, Md.: We claim the detached arrangements of the gravitating trigger, H, connecting rods, I, perforated slide, F, hoppers, e and e', and scorer, D, operating as described, to deposit seed at each pressure, and relaxation of the thumb of the driver.

HEATING APPARATUS—Rensselaer D. Granger, of Philadelphia, Pa. Ante-dated Nov. 24, 1858: I do not claim, broadly, an air chamber situated in a casing and exposed to the action of the fire within the same, as such a device has been heretofore used.

But I claim combining the air chamber, C, with the separate perforated chamber, H, having an independent communication with the air, substantially as set forth, so that the said perforated chamber may serve the double purposes of consuming the gases arising from the ignited fuel, and of preventing the rapid destruction of the bottom of the chamber G, by the action of the fire.

COAL STOVES—R. D. Granger, of Philadelphia, Pa. Ante-dated November 24, 1858: I claim hanging within the stove, and immediately above the fire, a perforated chamber H, when so constructed and arranged, that the air shall have free access to the interior of said chamber, and when the latter shall admit of being readily raised and lowered, or its position in regard to the fire, otherwise altered, for the purpose specified.

FISH TRAP—Robt. Gray, of Anson, Me: I claim the strainer, the vibrating slats, T T', and the V-shaped chambers V V', all in the manner and for the purposes specified.

FASTENING FOR BREASTPINS, &c—Benj. F. Grinnell, of New York, N. Y.: I claim the permanent hook, D, and spring, E, in combination with the hinged pin, C, of a breast-pin, or other article of jewelry, when the spring is so bent as to direct the pin, when the latter is depressed into the hollow of the hook; and when the spring and hook are otherwise arranged in respect to each other, substantially, as set forth.

HOUSE VENTILATION—John H. Griscom, of New York, N. Y.: I claim the employment of an auxiliary flue or tube, connecting the hot-air flue with the ventilating-flue, in the manner and for the purpose proposed.

COTTON CULTIVATORS—John M. Hall, of Warrentown, Ga.: I claim, in combination with the series of adjustible, revolving hoes, the scrapers, K, K, in advance of them, substantially in the manner and for the purpose described.

APPARATUS FOR EVAPORATING SACCHARINE JUICES—Lyman P. Harris, of Mansfield, Ohio: I claim, First, The stationary, yet portable fire-place, B, with the stops, C, C, and the springs, H.

Second, I claim the portable, movable, and inclined furnace, A, and its combination with the stationary fire-place.

Third, I claim the handles, M, and their springs, L, and their combination with the springs, H, also, the rod, F, or its equivalent.

Fourth, I claim the racks, O, and their combination, also the movable flue or plate, P, and its rod, R, and their combination with the movable furnace, A, and stationary fire-place, B.

Fifth, I do not claim the heater, 8, nor evaporator, 10, as my invention, but I claim, as an improvement, the application of one or more strainers, 2, and valves, 1, to the heater and evaporator.

COFFEE ROASTERS—Theodore Heerman, of Mitchelsville, Tenn.: I claim, First, The specified arrangement of the plates or shelves D, D, for the purposes set forth.

Second. The combination of a window or windows in one or both ends of a coffee-roaster, with the inclined, elevating plates or shelves, substantially as, and for the purposes set forth.

CORN PLANTERS—John L. Hoag, of Geneva, Ill.: I claim the arrangement and combination of the arm (g,) lever, K, and bar, H, said lever serving as an oblique brace to hold the bar H, (as is shown in Fig. 2,) as and for the purposes set forth.

I also claim the arrangement and combination of the lever, (h,) slide (i,) lever (j,) upright, Q, bar, P, and swinging-frames, O, M, as and for the purposes shown and described.

[The nature of this invention consists in the peculiar manner of operating a distributing slide, and also, in a peculiar manner of arranging the furrow, and covering shares, whereby they may be raised and lowered as desired.]

REVOLVING HARROWS—Mark W. House, of Cleveland, Ohio: I claim the combination, with the spindle, of a revolving harrow, of the cap, e, and box, d, for the purpose, and substantially in the manner described,

CATTLE PUMPS—John H. Irwin, of Carlenville, Ill.: I do not claim the use of rising and falling platforms separately considered, but claims the platforms B, B', weight, F, drum, C, and pulley, D', placed loosely on drum, C, and connecting with it by the pull, e, and ratchet, D, the whole being combined and arranged to operate as and for the purpose set forth.

The cattle walk upon a platform that is capable of rising and falling, and which is connected by means of ropes or chains, to a drum that has a pulley of comparatively large diameter placed loosely upon it. The weight of the cattle depresses the platform, rotates the drum and pulley, which can only move in one direction, and so elevates the water.]

COMPOSITION FOR LINING METAL PIPES—Wm. Johnston and Hugh Forbes, of Brooklyn, N. Y.: We do not claim inserting an india rubber, gutta percha, or equivalent pipe previously made into a metallic pipe; nor do we claim the apparatus by which it is applied. But we claim the composition of matter, substantially as set forth, for lining metallic or other pipes, or surfaces of a similar kind, substantially as set forth.

HARVESTERS—Wm. F. Ketchum, of Buffalo, N. Y.: I do not claim the use of a cap, or an opening in the guard-tooth, generally to prevent clogging; but I claim the combination of the openings in the guard-tooth below the cutters, with the caps above the cutters, substantially as described.

ROLLING AND PRESSING WOOL—Wm. W. Purdy, of Liverpool, Ohio: I claim the combination of the sectional rollers. I and I', with the strap, F, and breast-piece, F, for the purpose of rolling and pressing fleeces of wool, as describe

TRUSS SPRINGS—J. W. Riggs, of New York City: I claim constructing springs for trusses in the manner and for the purposes substantially as set forth.

METHOD OF PACKING CARTRIDGES—E. K. Root, of Hartford, Conn.: Not wishing to confine myself to any exact shape of package, peculiar mechanical construction of box, or arrangement of the cartridges and caps, what I claim is putting up cartridges between two blocks, or their equivalents, substantially as described.

I also claim forming in the package, or holder, as described, a receptacle or receptacles for containing caps or other primings, substantially as described.

SEEDING MACHINES—John F. Seaman, of Clyde, N. Y.: I do not claim the distributing device formed of seed cells, f, made in a cylindrical head, e, in connection with cut-off brushes, h, for this is an old and well-known device.

Neither do I claim, broadly, rotating covering shares, irrespective of the construction and arrangement shown.

What I claim is, operating the seed-distributing device by means of the part, b, of the handle, C', attached by a pivot, d, to the other part, c, of said handle, and connected at its lower end to the shaft, E, by a cord, or chain, i, the above parts being used in connection with the spring, F, attached directly to the other handle, C, of the implement, and to the shaft, E, by a cord or chain, k, the whole being arranged substantially as and for the purpose set forth.

This is a good seed-planting device, designed for planting seed, chiefly corn, in check-rows. It is not liable to become choked, and is perfectly under the control of the operator.]

HORSE-SHOE MACHINE—Solomon Shetter, of Allegheny, Pa.: I claim, first, The curved arms, w l, of clamps, s, moved and operated by the friction rollers, 2, and the backward and forward movements of table, c, when the clamps, s, are used in connection with the dies, t and w, as described and for the purpose set forth.

Second, The use of the flexible strip, n, for the purpose of operating the clearer, u, as described and for the purpose set forth.

Third, The arrangement on the upper surface of table, c, of dies, t and w, springs, x, the under jaw, v, of the shears and the clearer, u, when used and operated in connection with the clamps, s, friction rollers, 2, roll, t 1, shear, d, and swage, f, as described and for the purposes set forth.

SWEEPING MACHINE—Stephen Wm. Smith, of Brooklyn, N. Y.: I claim, first, The combination of the gears, F and G, with the driving wheel, constructed and operating substantially as described and for the purposes specified.

Second, The method of adjusting the brush by the plate, K, which admits of both vertical and lateral adjustment, as described and specified.

Third, I also claim preventing the escape and rising of the dust, by means of the flexible curtain, L, arranged and operating substantially as described and specified.

MANUFACTURE OF WHITE LEAD—Benj. F. Smith, of New York City: I claim the manner of filling the chamber with metallic lead by means of the open work tables or racks in which the lead in detached pieces rests, arranged one above the other in successive and close series substantially as described, and whereby a more thorough and equal circulation of the fumes or gases amongst the lead is produced.

I also claim constructing the converting chamber with an inclined bottom, substantially as and for the purposes set forth.

I also claim the method described of extracting from the converting chamber the carbonate of lead, and other incidental products, by means of a current or currents of water passing through said chamber from top and bottom, substantially in the manner and for the objects set forth.

I also claim subjecting the carbonate of lead and other incidental products, previous to their extraction from the converting chamber, to the action of steam, substantially in the manner and for the purpose specified.

INSTRUMENT FOR TURNING THE LEAVES OF MUSIC BOOKS, &c—C. B. Thayer, of Boston, Mass., assignor to himself and Chas. Robinson, of Cambridgeport, Mass.: I claim the double holding cords, E E E, elastic springing cords, G G G, or their equivalents, back, or catch band B, provided with clamps, C D, and notch, and the curved concentric rod or way, F, arranged and operating in connection with, and in relation to each other, substantially in the manuer and for the purpose specified.

I also claim the escapement catch, H, constructed, arranged and operating in connection with the curved rod, F, and thimbles of the holding cords, E E E, substantially as described.

HORSE-POWER—Ferdinand M. Sofge, of Columbus, Ga.: I claim the combination of the cogged wheel, A, having the supporting flange, No. 1, and the wheel, B, with corresponding cogs and bearing, revolving upon the supporting ring, I; the whole constructed and operating substantially, as and for the purpose set forth.

COOKING STOVES—P. P. Stewart, of Troy, N. Y.: I claim, in combination with a stove, such as described, making the front plate of the oven open with doors, and an apron to receive and hold a tin kitchen or roaster substantially as specified, that the heat radiated by the front plate of the fire-chamber may be aided by the heat radiated by all the oven plates, as specified when combined with an end door, whereby the draught may be controlled without the aid and independent of the front doors. And I also claim the boiler having a removable cover and two inclined flues, which are separate at the lower end, united into one at top to connect with the chimney substantially as described, in arrangement with the exit flue space, to which the boiler is fitted, and into which the gaseous products of combustion are discharged from the series of direct and return-flues, substantially as and for the purpose specified.

DEVICES FOR GATHERING GRAIN INTO GAVELS—W. M. Waggoner, of Middletown, Ind.: I claim the stationary fingers, E, E, G, G, and the fly or gathering fingers, H, H, attached to a suitable framing or stanchions, mounted on wheels, and arranged to operate substantially, as and for the purposes set forth.

[This device can be used by an operator, and shoved along the ground underneath a windrow of grain which it will gather into gavels, and bind each gavel into a sheaf, the work being performed with great facility and very expeditiously.]

DEVICES FOR REEFING SAILS—Louis B. Wakeman, of Baltimore, Md.: I claim the employment of the smooth-surfaced clamp E, E, as described, when in combination with the forked screw-bolt, 5, or its equivalent, carrying the blocks through which the rolling halyards, d', d', pass for the purposes set forth.

I also claim giving direction to windlass ropes, d, d, by the bent arm, b, when in combination with the clamp, E, E, and forked screw-bolt, 5, when fitted with an ordinary block, operating in the manner and for the purposes set forth.

HARVESTERS—Wm. M. Whitely and Andrew Whitely, of Springfield, Ohio: We claim a finger so constructed, that the slot or opening above the cutters shall increase in capacity from front to rear, in combination with the clearing projection described, passing directly into the rear corner of said opening in the manner described for the purpose specified.

We also claim forming the clearing projections of a bent extension of the cutter, substantially, as described.

RAILROAD CHAIRS—John Young, of West Galway, N. Y.: There may be modifications of my construction, therefore, I do not design to confine myself to the precise devices shown.

I claim the combination of bearing surfaces, a, capable of forming any desired angle with each other, and the securing portion, a', of the chair, substantially as and for the purpose set forth.

GRAIN-FAN AND CORN-SHELLER—Hamilton E. Smith, of Philadelphia, Pa., assignor to himself, D. B. Nelson, of Cortland Co., N. Y., and John L. Myers, of Chemung Co., N. Y: I do not claim broadly combining a grain-fan and a corn-sheller in one instrument; I claim arranging the spiked roller, C, and slotted shield, D, of a corn-sheller on the frame of a grain-fan in respect to, and in combination with the seive frame, E, blower, G, and inclined plane, J, of the said grain-fan, in the manner herein described, so that the said blower, seive-frame, and inclined plane may serve the purpose of separating the cobs from the shelled kernels of corn, and the latter from the chaff and other refuse

THE MANUFACTURE OF STEEL—Frantz Anton Lohage, of Unna, Prussia, assignor to Edmund Leopold Bewzon, of Boston, Mass. Patented in England, Jan. 29, 1850: I would observe that the commencement of the process, that is, the fusing and boiling the pig iron is similar to the operation usually carried on in the puddling furnace in the manufacture of wrought iron, I do not, therefore, intend to claim such part of the process.

But I claim regulating the heat and stopping the decarbonization of the fused mass of metal in the finishing process in the puddling or reverberatory furnace, as set forth, before it becomes converted into malleable or wrought iron, and whereby I obtain steel in the manner specified.

PADDLE WHEEL—Nelson Orcutt (assignor to himself and G. W. Gregory), of Binghampton, N. Y.: I claim the centrally suspended paddle or bucket, without any stop, means, difference of area or of weight for holding it in a working position, but left entirely to the action of the forces exerted upon it during the revolution of the wheel, as set forth.

[An engraving of this will shortly appear in our columns.]

UMBRELLA FRAMES—Joseph Bloom, (assignor to R. E. Rogers), of Philadelphia, Pa.: I claim, first, The bow or rib, constructed substantially as described. I am aware that the bow or rib, and the brace or sustaining rod have been attached to collars upon the standard by a piece of metal having an enlarged end affixed to the end of the bow or rib, and a like piece of metal affixed to the end of the brace; the enlarged end fitting into a slit of a sheet metal collar, the flange of which must be swaged down upon the enlarged end, in order to hold it in place, and I therefore do not claim this method; but I claim connecting the bow or rib and the brace, or sustaining rod to the collars upon the stem or standard, by the means set forth. I am also aware that the end of the brace or sustaining rod has been connected to the bow or rib by the end of the brace being riveted to a band, which may be sprung into a groove in the inner surface of the bow or rib, and I therefore do not claim this method of connecting the two parts here named; but I claim connecting the brace or sustaining rod to the bow or rib by the spring-board embracing the bow, as set forth.

RE-ISSUE.

VENTILATING WINDOW FOR RAILROAD CARS—George Neilson, of Boston, Mass. Patented May 30, 1854: I claim the convergent ventilating window as made with defiecting and light penetrating sides or surfaces, and an air opening, and a closing window or cover, essentially as explained and to be applied to the opening of a side of a railway car, substantially as specified,

And I claim the arrangement of a defiector guard entirely around the window opening, and in respect to the deflecting sides, as specified, not intending to claim a defiector or guard as applied to a car-window opening, but to claim its arrangements on four defiecting sides or planes, and entirely around the opening between them, as set forth.

ADDITIONAL IMPROVEMENT.

HOMINY MORTARS—John Reezer, of Chillicothe, O. Patented March 2, 1858: I claim the application and combination of the slide with its spring, and roughening of the lower end of the pestle, for the uses and purposes specified and substautially set forth.

DESIGN.

COOKING STOVE—J. K. Hyde, of Troy, N. Y.

Minerals of California.

The Santa Cruz (Cal.) *Sentinel* contains a brief account of the great mineral wealth and the variety of minerals found in the California coast range of mountains. It states that these elevations, extending through the counties of Santa Clara and Monterey, and bounding the western line of the Tulare Valley, is little known to the geologist, mineralogist and paleontologist. They contain the quicksilver mines of New Almaden and New Idra; gold is known to exist in Santa Cruz and Monterey; a vein of silver ore has for many years been opened at Alisal; and silver, almost pure, has been found near Pacheco's Pass. Other minerals also abound, among which we may enumerate copper, lead, cobalt, chrome, antimony, copperas, alum, saltpeter, gypsum, alabaster, lime rock, asphaltum, and coal veins of great value. Fossils of fish, crustacea, mollusca, infusoria, mammalia, polypi, and of vegetation are so extraordinarily abundant throughout this region that it is more curious to see the geological formations without fossils than with them. The range offers to the mineralogist and paleontologist one of the richest fields of observation on the face of the earth, if not the richest—exceeding the *mauvaise terre* of Nebraska. Humboldt and other travelers in the Peruvian Andes, mention the existence of fossil mollusca in the immediate proximity to the richest mines. It seems that our Pacific coast range shows similar indications for the future.

Camphor Ice.

This substance, which is a very delightful thing to rub on the exposed parts of the person, to prevent chapping and sores from cold, is made as follows:—Take one pound of almond oil, one pound of rose water, one ounce each of wax and spermaceti, two ounces of camphor, and one ounce of rosemary. Melt the camphor, wax, and spermaceti in the oil by a gentle heat, then add the rose water, stirring briskly or rubbing in a large mortar, and lastly, the perfume. The consistence may be varied by increasing or diminishing the proportion of wax and spermaceti.

Photographic Agents.

Under the recent discoveries in photography by M. Niepce de St. Victor, of Paris, it is found that almost all soluble chemical substances are rendered available in the practice of the art. Take a sheet of paper and impregnate it with any soluble substance, let it dry in a darkened room, and then isolate it under a negative, take it back to the dark room, and treat it with any of the re-agents capable of combining with the substance operated upon, and you will have a picture of almost any color you desire; for example, if the paper be impregnated with nitrate of uranium, then exposed in the camera, and treated with a solution of red prussiate of potash, a beautiful red picture will be obtained; and if this be afterwards treated with sulphate of iron, a fine blue picture will be produced.

The Great Chess Contest.

The match between Morphy and Anderssen, the celebrated German player, has terminated in favor of Morphy, who won seven games to Anderssen's two, and two drawn. Herr Anderssen is a professor of mathematics in one of the gymnasiums of Breslau, and ranks among the very foremost of European chess-players. He carried off the first prize in the London Chess Tournament held in 1851, against Szen, Mayet, Horwitz, Staunton and others.

Mr. Morphy, says the *Illustrated News of the World*, may now fairly take rank as the champion of the Old World as well as the New. No Englishman is found to do him battle, and every foreigner of note has now, with the exception of Der Luja, fallen an easy prey to the youthful conqueror. It is a question whether he be not the finest player to whom the world has yet given birth.

To Destroy the Turnip Fly.

Mr. Wimball, of Adermaston, England, has taken out a patent for destroying the turnip fly and other insects injurious to crops, and it may be useful in the same manner for destroying the cotton fly, and the wheat midge in our country. The apparatus consists of a small furnace placed on a small wheel-barrow, the fire being operated by a revolving fan blast, through a strap from a pulley on the wheel shaft. On the top of the furnace is a tube chimney bent downwards and capable of being turned in any direction. Sulphur is thrown in small pieces, from time to time, on the fire, and the blast directs the gases thus generated through the bent smoke tube among the plants on which the insects are operating. This appears to be a useful invention, and one not expensive or difficult for any farmer to carry out into practice.

Ornamenting Glass.

J. J. H. Brianchon, of Paris, and the chief of the Sevres porcelain manufactery, has invented a series of compositions for enameling porcelain, glass and similar materials, to imitate gold, white and colored mother-of-pearl, the various and changing reflections of shells, of all kinds of minerals, and of the optical prism. The substances used are metallic salts, with carbonets of hydrogen, which are laid on a glazing or varnish, and then subjected to the proper heat, in a furnace. The patent was granted this week, and although the processes are too long to describe here, we can say that the products are beautiful, not only from the extreme delicacy of the tints, but from their durability and perfection.

Trees for Telegraph Posts.

A correspondent proposes that poplar trees be planted along all our railroads and used as telegraph posts. The under branches can be cut down, so as to leave the trunks as clear as the posts now employed. It will take some years for such trees to grow, but if they then make permanent posts, not subject to be blown down during gales of wind, they will be superior to bare poles and should be planted.