

work in Waltham, Mass. Mr. Francis Cabot Lowell, for whom the city of Lowell, Mass., is named, returning from England in 1812, after a two years' visit, which he employed largely in examining the improvements introduced in manufactures, attempted the construction of a power loom. He employed Mr. Paul Moody, of Amesbury, Mass., an ingenious mechanic, to build the machine, and it was finished, patented, and in successful operation in 1815. Probably the efforts of Mr. William Gilmour, who, in 1814, came to this country from Glasgow, bringing patterns of the power loom, and who was employed by Judge Daniel Lyman, of Providence, R.I., the associate of Mr. Lowell in the enterprise, contributed to the success of the Waltham loom. About the same time Gilmour built looms for several of the Rhode Island manufacturers. His loom cost only \$70, while the Waltham loom cost \$300.

From this time forth power looms became the rule, and hand looms the exception. New patents were being issued frequently, and new styles of the loom were being constructed. The mills which had been employed mainly in spinning yarn to be woven at home in the family, began to be used for the weaving of cloths, and the immense cotton manufacture of the country may be considered to have been fairly inaugurated.

ON THE CAUSES OF EXPLOSIONS WHICH OCCUR IN THE POURING OF LIQUID METALS INTO WATER.

Dangerous explosions have repeatedly occurred in pouring liquid metals into water. Mr. Kayser refers to a case in Upper Silesia, where in pouring several casting-ladles of melted pig iron into a pan filled with water, a frightful explosion took place, killing one man and wounding several others. Similar cases have been observed at the Altenau Iron Works in the Upper Harz, when for the preparations of a bath liquid iron was poured into a Pattinson pan, and another occurred at the preparation of granulated iron in lead works of the same district. To this end the pig iron was conveyed from the furnace through a groove to a perforated and clay-covered iron ladle, when it was left to drop in a small stream into a basin with water, which had the advantage of a stream of cold water continually passing through it. Explosions had never occurred. One day, however, when experimenting with the thickish product, the holes of the ladle were choked. The iron naturally escaped in a strong body over the rim in the basin. In the beginning it did not show any suspicious effect but after some time, the contents of the basin, water, mud, and glowing iron, exploded among the numerous visitors, who rushed speedily out of the foundry. Happily they escaped with a fright and some slight burns. Kayser refers the causes of these explosions to the following: If liquid metals are poured into water which is nearly boiling, a great quantity of steam is suddenly generated with a detonating effect, equal to that of gunpowder. The shock produced by the high expansive force of the steam is communicated by the medium of the water toward all sides, as it is, for instance, the case in the blasting of ice with petards. When the sides of the vessel do not possess enough resistance in such a case, they are of course shivered to atoms.

If the water bears an insignificant relation to the mass of the metal it is suddenly converted into steam of a much greater volume, a violent explosion ensuing, as metallurgists can attest sufficiently.

If the water is cool, it absorbs the heat contained in the liquid metal, and no explosion can possibly occur. In granulating metals, they are left to flow in a small stream in a vessel of water, which is constantly kept cool.

In the refining of copper, the plates are immersed vertically in the water, in order that the generated steam may escape in safety; if they should be placed horizontally, explosions would most certainly occur. The pouring of the cooling water upon the surface of the copper in the finery must also be done with particular care.

Perhaps it is well known that all throughout Germany at Andreas Eve (30th November), or at the last day of the year, lead is poured into water, and from the forms which it assumes, future events are foretold. When the water is cool, the lead will disappear with slight hisses, and it will be found afterward in different forms in the bottom of the vessel, but if warm, it may occur that the vessel is shattered with violence.

A Practical Guide for the Perfumer.

The above is the title of a new treatise on perfumery by Professor H. Dussauce, chemist, author of several other practical works of high repute. The book contains a description of the substances used in perfumery, and the formulas of over one thousand preparations, many of which have not hitherto been described. It will prove valuable not only to the manufacturing perfumer but to druggists and dealers. Beside the information contained in the technical portions of the work, we find the following remarks upon the nature of perfumes, and their extreme tenuity which will be of interest to the general reader:

"An odor, in general, is an invisible, imponderable emanation from fragrant substances. Odors cannot be propagated in the same manner as caloric and light; their movements are not submitted to the laws of reflection and refraction. They spread incessantly in the air, which is their vehicle, and follow the currents of the atmosphere.

"The works of distinguished chemists and natural philosophers prove that an odor is produced by very small molecules which are disengaged from odoriferous bodies; these molecules float in the atmosphere, hanging on the different surfaces they meet, communicating to them their properties. When the odoriferous molecules are in contact with the olfactory

membrane, the sense of smell is brought into action, and the brain perceives the odor. The olfactory apparatus is then indispensable to the impression of odors. For beings naturally or accidentally deprived of this organ there is no odor, just as no sounds exist for him deprived of the sense of hearing.

"The odoriferous molecules or particles are of such infinitesimal tenuity that the bodies which disengage them all the time seem not to lose anything of their weight, or at least to make insensible losses; and however numerous these particles may be, an exact calculation has shown that one grain of musk had in a radius of ninety feet disengaged, in one day, 56,839,616 particles, without any diminution in its weight. This same grain of musk, abandoned to itself for six months in a large garret, communicated its odor to all the objects in the room, and being weighed in an accurate scale, it had experienced no loss.

"A rose, in a few hours, can perfume 10,000 cubic feet of air, without losing in weight.

"A piece of sugar on which a single drop of oil of thyme is poured, and being ground with a little alcohol, communicates the odor of the thyme to 25 gallons of water.

"Haller kept for forty years papers perfumed with one grain of ambergris; after this time the odor was as strong as ever. Bordenave has evaluated a molecule of camphor sensible to the smell to 2,263,584,000th of a grain. Boyle has observed that one drachm of assafoetida exposed to the open air had lost in six days the eighth part of one grain, from which Keill concludes that in one minute it had lost 1.69,120th of a grain, and, by another calculation, he demonstrates that each particle is 2-1,000,000,000,000,000th of one cubic inch. In that calculation, he supposes the particles equally distant in a sphere the radius of which is 5 feet; but as they might be more compressed toward the centre, Keill began again his calculation, and found that in that case it was necessary to multiply by 21 the number of particles, 57,839,616, given above, which produce 1,214,631,936; and he found that the volume of each particle is 38-1,000,000,000,000,000th.

"The prodigious tenuity of odoriferous molecules made Prof. Walker think that the sensation of odors was not due to the contact of these molecules with the olfactory membrane, but to a dynamic action of the odoriferous body on the smelling sense.

"Dr. Starch, of Edinburgh, has published a paper in which we find some very curious experiments on the emission and absorption of odors. According to his theory, the tissues of animal substances have more affinity for odors than vegetable tissues. The absorption of odors by outward tissues is subject to the same law that governs absorption of caloric, that is, black tissues absorb the most odor; and this absorbing power diminishes, as the color becomes lighter, in such a manner that white tissues are those which absorb odor the least.

"Odors impregnate all bodies in different degrees, and combine with nearly all the liquids. Gloves retain for a long time the perfume of ambergris; paper and cotton, that of musk. Oils and greases retain very well balsamic and volatile principles. Water, and especially alcohol, dissolve perfectly the aromatic principles of flowers. It is on this knowledge that is founded the fabrication of waters, oils, essences, pastes, pomades. Thus the perfume of flowers, so light, so fugacious, is rendered stable by art and industry. At the moment the perfume escapes from the flower, man seizes it, masters it, and uses it to increase the sum of his enjoyment.

"Odoriferous bodies may be so all the time or only at certain periods. Thus some exhale their perfume in the morning, others in the middle of the day, some in the evening, and many during the night. Different circumstances may also cause the intensity of the odors to vary, such as dampness, light, heat, etc.; the addition of another substance, also, develops the strength of an odor which, alone, was nearly insensible."

The work is published by Henry Carey Baird, 406 Walnut street Philadelphia, and will be sent to any address free of postage upon the receipt of three dollars.

Woods Used in Cabinet Making.

Mr. Thomas Paterson was one of the working men who visited the Paris Exhibition last year, and ably reported on what he saw there. His report is one of the twelve which compose the little work under the title of "Modern Industries," issued under the auspices of the Paris Excursion Committee. In looking through the magnificent collections of woods from Brazil, Canada, and New South Wales, and the smaller but not less interesting exhibits of Algiers, Natal, Guinea, etc., it is impossible not to be struck, says Mr. Paterson, with the small number of these woods which are in actual use in the manufacture of furniture. Some of the woods are shown to be of large size, and are exceedingly beautiful in color and figure, and many of them would contrast admirably with some of those at present in use.

There was a contribution to the Exposition of specimens of timber, collected by the late Captain Fowke, in which several hundreds of different kinds of wood are arranged in a kind of revolving screen. Each specimen is labeled with its specific gravity, and the amount of weight necessary to break it. Each piece was of the same size—viz., two inches square, and has been actually broken by the weight marked on it, thus giving any one accustomed to work in wood a very good idea of the use it may be put to. Collections of this kind would be of the greatest use. They might be accompanied with a book composed of leaves of the woods, prepared and polished, to show their texture and color, with labels giving the average size of which boards could be cut, the average price, and the market, etc. At present neither artist nor workman is aware of the resources which are at their disposal, and much meretricious ornament would be

avoided if this mine of decorative riches were fully explored. In the French colonies department there were some articles of furniture which have been made from the woods of Cayenne, cut by the convicts sent to that settlement.

That a wide and systematic acquaintance with the resources of any country is the first requisite to the development of its trade may be considered an obvious truism; yet in this country, eminently trading and manufacturing, and depending for its greatness upon the growth of its trade and manufactures, no means are taken to make the traders and workers acquainted with the materials which are being wasted in our vast colonies, but which, if known, would be sources of wealth which we can scarcely over-estimate. The staghorn sumac may be mentioned as an example of a very finely veined wood, which seems to be plentiful, and which, though it does not grow to any great size, would be useful in manufacture. The butternut, a kind of walnut wood, grows to a large size, and seems to be very cheap. The kauru (or New Zealand pine), also, a wood to veneer upon, would, I think, be of the greatest value; as well as the heron pine (which is sufficiently handsome to be used without any veneers), the red beech, and many others.

As a new application, or, rather, the extension of an old process in the treatment of wood, the chairs and settees in the Austrian department, made by bending long slips, may be instanced. Some of these chairs were exhibited in 1862. The manufacture has, however, greatly improved since that time. One chair in the Exposition (purchased by the Prince of Wales) was all that could be wished, both as regards strength and beauty. Though no one would wish to see this system of bending wood applied to all articles of furniture so exclusively as it is applied in the manufacture of these chairs, yet the capabilities of the process are well shown, and much might be learned from them. I noticed a method of producing a very good kind of decoration on polished wood by stamping with what is called by chasers a mull tool, which produces a slightly roughened but regular surface, the pattern being left polished. I observed, also, in passing round the Historical Gallery, a mode of decoration which had an extremely good effect. This was an application of tortoiseshell. The under surface or side applied to the piece of furniture had been polished and gilded, the outside surface of the shell being then carefully smoothed and polished, the gold showing through the semi-transparent shell, and giving all its markings, while the shell protected the gilding, so that, though it had been made for more than twenty years, it was still beautiful and effective. It seems to me much to be regretted that some method cannot be devised which would place all such methods of decoration so completely before all our workmen and designers that they might have them, so to speak, at their finger-ends.—*London Building News.*

Kennedy Electric Clock.

An exhibition of this clock, to gentlemen of the press, was made on Wednesday, at the rooms of the company in this city. The clock is impelled by the motion of the pendulum, and is of extremely simple construction. The pendulum ball contains a permanent magnet, which is alternately repelled by oblong helices placed on either side of it at a proper distance. The helices connect with a zinc and carbon earth battery, and the circuit is alternately broken by a commutator attached to the pendulum rod, which is of rosewood, baked, and saturated with paraffine. The clock will run without winding, or any other attention, after the primary adjustments are made. It is said that its regularity and accuracy are superior to clocks of any other construction. We may, at some future time, give a more extended description of this invention.

Editorial Summary.

WORK TO LINE.—We were once acquainted with a cabinet-maker, a true mechanic of the old school, who was noted for his great skill, and his success in business. It was his pride to feel that, when occasion demanded, he could astonish his workmen by the performance of work which would put their best efforts to the blush. We once asked this man, who was a thinker and a philosopher in his way, what he considered the secret of good workmanship in his special craft. His reply was—it is the secret of success in life—"First, carefully lay out your work, then *work to the line.*"

THE bones of a gigantic race of Indians have been discovered near Marlboro Point, on the Potomac river. The discovery of a large number of beads, moccasins, etc., leave no doubt of the character of the remains. Further investigations are to be made. The condition of the remains indicate that they must be centuries old.

Two more beautiful frescoes have been found at Pompeii, supposed to be portraits of the master and mistress of the house in which they were discovered. The woman is represented as seated, and preparing to write. The frescoes have been sent to the museum at Naples.

HIPPOPOTAMUS has not met with success in Paris. The government was willing, the savans urged the people to eat and set the example, the storekeepers added horseflesh to their stock, but customers were lacking, and there are indications that the movement will be abandoned.

MISTAKES WILL HAPPEN.—An error crept into our Mining and Manufacturing Items, last week, in regard to the amount of lumber shipped from the Saginaw Valley. Instead of four hundred, it should have been four hundred millions of feet.

STARVATION IN THE RED RIVER COUNTRY.—Accounts from the Red River region indicate that the ravages caused by the grasshoppers, render famine imminent. The St. Paul Press says: "Nothing but the most prompt and most energetic measures, prosecuted upon the largest scale, can avert from the people of Red River the most awful calamity of modern times" It adds "that the time for obtaining relief is extremely short, as within a few weeks the people may be walled in by five hundred miles of snow from any possible aid except what they may dribble through on dog trains."

ARTIFICIAL MAGNETIC OXIDE OF IRON.—M. Sidot has communicated to the Academy of Sciences a paper "On the Artificial Production of Magnetic Oxide of Iron." This he does by introducing a small platinum disk, filled with colcothar, into a porcelain tube, situated in a direction parallel to that of a dipping needle. After keeping the tube at a temperature a little below a white heat for about an hour, the colcothar will be found transformed into a grayish metallic oxide, the particles of which are strongly agglomerated together. This mass possesses the property of polar magnetism.

AMERICAN RIFLES FOR FOREIGN GOVERNMENTS.—We hear that the Remingtons, of rifle notoriety, have built for the Swedish government 30,000 of their rifles and nearly completed an order for 40,000 for the Danish government. It is said, also, by our informant, that the Chassepot, not proving all that was expected, the French government are about to contract for a large number of the Remingtons adapted to the French rifles, the Remington breech being preferred.

THE following professors of Cornell University have been elected: Rhetoric and Oratory, H. B. Sprague, principal of State Normal School of Connecticut; General and Agricultural geology, Prof. C. Fredrick Hart, of Vassar College; Botany and Horticulture, Prof. A. N. Prentiss, of Michigan Agricultural College; Director of Shops, John L. Morris, of Ovid. The University opens October 7th.

THE following is one of the many good things from Dickens' pen: "The first external revelation of the dry rot in men is a tendency to lurk and lounge; to be at street corners without intelligible reason; to be going anywhere when met; to be about many places rather than any; to do nothing tangible but to have an intention of performing a number of tangible duties to-morrow or the day after."

THE Sicilian Railway Company not long since bought, in Catania, for the purposes of its business, a house two stories high, formerly belonging to the Jesuits. The workmen, in demolishing the walls of the building, found a cavity, within which were three human skeletons, still having the decayed fragments of priests' cassocks clinging to them.

WE have seldom seen more sense compressed into less space, than is contained in the following sentence, by Josh Billings: "I am loudly in favor of new things, but I am opposed to enny man, even wun ov our colored associates, thinkin' he has discovered a new truth just because he haz, for the fust time in his life, stumoled into an old one."

The codfish has been elevated to the dignity of oysters and strawberries, and is now canned for use. It is prepared by clearing it of skin and bone by desiccation. One Philadelphia concern puts up three tons daily.

THE safe of the Adams Express Company, which was sunk with the steamer W. R. Carter in the Mississippi river about two years ago, has been recovered. It contained \$230,000 in national currency, all of which has been regained without serious damage.

THE American Institute has decided to hold no Fair this year. The want of a suitable building is the reason.

OFFICIAL REPORT OF PATENTS AND CLAIMS Issued by the United States Patent Office.

FOR THE WEEK ENDING SEPTEMBER 22, 1868. Reported Officially for the Scientific American.

Table with 2 columns: Fee type and Amount. Rows include: On filing each caveat (\$10), On filing each application for a patent, except for a design (\$15), On issuing each original patent (\$20), On appeal to Commissioner of Patents (\$30), On application for Renewal (\$30), On application for Extension of Patent (\$50), On granting the Extension (\$50), On filing a Disclaimer (\$10), On filing application for Design (three and a half years) (\$10), On filing application for Design (seven years) (\$15), On filing application for Design (fourteen years) (\$30).

PATENTS ARE GRANTED FOR SEVENTEEN YEARS, the following being a schedule of fees:— On filing each caveat, \$10. On filing each application for a patent, except for a design, \$15. On issuing each original patent, \$20. On appeal to Commissioner of Patents, \$30. On application for Renewal, \$30. On application for Extension of Patent, \$50. On granting the Extension, \$50. On filing a Disclaimer, \$10. On filing application for Design (three and a half years), \$10. On filing application for Design (seven years), \$15. On filing application for Design (fourteen years), \$30.

82,268.—REED FOR MELODEON.—Rogers A. Abbott (assignor to himself and Gustava W. Inzalls), Worcester, Mass. I claim the improved reed, as made with an arched head and for the purpose specified.

82,271.—CLAMP FOR RAILROAD RAIL.—William B. Atkinson, Pittsburg, Pa. Antedated Sept. 9, 1868. I claim the T-headed bolt or pin, D, plate, G, and wedge or key, F, combined and applied to the securing of a guard-rail, substantially as herein set forth.

82,272.—PENCIL SHEATH.—Samuel Ayres Danville, Ky. I claim, 1st, The combination of the slotted funnel-shaped holder, A, spring, C, and friction roller, D, the perforated wings, E, and the adjustable protecting tube, G, having the perforate diaphragm, G2, all combined and arranged as described, for the purpose specified.

82,273.—PRODUCTION OF GAS, AND ILLUMINATING STREET AND OTHER CARS.—Arthur Barbarin, New Orleans, La. I claim 1st, The method of generating illuminating gas on railway or street cars, or other conveyances, by the use, in such conveyances, of one or more chambers of compressed air, operating in connection with a carbureting vessel and burner, for the consumption of the carbureted air, substantially in the manner herein set forth.

82,274.—HORSE YOKE.—Thomas J. Barnes, Cambridge, Ill. I claim, 1st, Connecting the parts, A and B, of the yoke to the hames, F, by means of the clips, G, constructed and attached to said hames, substantially as herein shown and described.

82,275.—BURGLAR ALARM.—Henry P. Beardsley and Geo. Wilcox, Corunna, Mich. I claim, 1st, The stack or chimney, A, with the curve, a, as shown, and the water vessel, C, together with the supply and discharge pipes, b and d, the whole constructed and arranged substantially as herein described.

82,276.—REGULATOR FOR STEAM-ENGINE.—Julien Francois, Belleville, Paris, France. I claim the arrangement, in the cylinder, F, provided with steam admission and discharging openings, as described, of the spindle, C, and annular spiral disks, A, mounted upon the said spindle, and united or riveted together in the manner specified, and provided at the points where their outer and inner edges are in contact with a packing, B, as set forth.

82,277.—SPARK ARRESTER FOR STEAM GENERATOR.—Walter C. B. an (assignor to himself L. L. Baker, and R. Hamilton), San Francisco, Cal. I claim, 1st, The stack or chimney, A, with the curve, a, as shown, and the water vessel, C, together with the supply and discharge pipes, b and d, the whole constructed and arranged substantially as herein described.

82,278.—MILLSTONE BALANCE.—Walter C. Benn (assignor to himself, Livingston L. Baker, and Robert Hamilton), San Francisco, Cal. I claim the combination of the adjustable weights, D, D, and their ways, C, C, together with the operating screws, E, E, and the elevating screws, b, b, or an equivalent device, when used for balancing millstones, the whole constructed and arranged substantially as herein described.

82,279.—COMBINED PISTOL AND SWORD.—Charles E. Billings, Springfield, Mass. I claim, 1st, The construction of the lower guard of the sword hilt, and the pistol barrel in one and the same piece, and pivoting the same to the extension forward end of the handle, substantially as and for the purpose set forth.

82,280.—CLOTH DRYER.—Josiah B. Blood, Lynn, Mass. Antedated September 12, 1868. I claim the combination of the strips, A, B, C, D, E, F, forming the frames, in the manner and for the purpose substantially as above set forth.

82,281.—KNITTING MACHINE.—Benjamin Bollinger and George G. Nolle, New Berlin, Ohio. We claim the spring, K, N, constructed as described, in combination with a needle of a knitting machine, substantially in the manner and for the purpose herein specified.

82,282.—LAND MARKER.—Wesley L. Bower, Joliet, Ill. I claim the combination of the swing seat, m, and upright frame, l, with the hinged frame, e, all arranged and operating as and for the purposes set forth.

82,283.—STEAM GENERATOR.—H. G. Brooks, New York City. I claim, 1st, The arrangement, in the fire-box of a locomotive or other boiler, of perforated fire brick walls, extending upward divergently from the contracted grate surface to the walls of the fire box, substantially as set forth.

82,284.—PROJECTILE.—Charles F. Brown, Warren, R. I. I claim, 1st, The tube, B, and plunger, C, arranged within the hollow projectile, A, the plunger serving to separate the powder in the shell from the fuse in the tube, while the shell is undisturbed in motion, as specified.

82,285.—ROTARY STEAM ENGINE.—Arthur W. Browne, Brooklyn, N. Y., assignor to Charles B. Squire, New York City. I claim, 1st, The arrangement of the abutment, B, pressure chamber, C, and the cocks, D and D'.

82,286.—MOP HEAD.—John D. Browne, Cincinnati, Ohio. I claim the fixed jaw, A, having the grooves or recesses, c, c, on the socket, B, in combination with the loose jaw, D, d, and nut, C, substantially as and for the purpose specified.

82,287.—SASH PULLEY.—John D. Browne, Cincinnati, Ohio. I claim the recessed lugs, a, of the face plate, A, in combination with the holding pins or rivets of the case plate, B, in the manner substantially as described, and for the purpose set forth.

82,288.—HAY RACK.—Stephen Brownell, Irving, N. Y. I claim the combination of the separate bed plates, A, with projecting pins, a, secured thereto, separate angular cross-pieces, B, B, with projecting pins, b, secured thereto, separate side rails, C, and separate center board, D, the parts being built up one above another, and connected together, and adapted to operate as herein represented and described.

82,289.—SAW.—Benj. E. Burgess, Norvell, Mich. I claim making a saw that is to cut one way only, with the cutting teeth, B, and C, and the clear g' tooth, D, formed of each section, and the space, E, between the sections, and all arranged as specified.

82,290.—PRUNING AND HEDGE SHEARS.—Lawrence Campbell, Mansfield, Mich. I claim the cutting blades, C and J, the latter provided with cutting hook, K, when used in the cutting and operating in combination with the handles, B and E, and connecting arm, F, substantially as and for the purpose set forth.

82,291.—BOLT BUCKLE.—F. Clausen, San Francisco, Cal. I claim, in a bolt buckle, the beveled projecting lip, B, in combination with the slotted bar, C, rotating on its axis, as shown, and the operating lever, h, the whole constructed and arranged substantially as and for the purpose specified.

82,292.—HORSE RAKE.—Wm. H. Cook, Bridgehampton, N. Y. I claim the combination of the standard, H, lever, I, and perforated shoe, K, the rake head, G, substantially as herein shown and described, and for the purpose set forth.

82,293.—POST HOLE BORER.—John Cothron (assignor to himself and O. J. Maves), Illinois, Ill. I claim the shaft, K, knife, M, with its buckets gears, o m p, and their shanks, and frame which they are attached, w, e, a, with pins, b, with its connecting rope, g, frames, E and A, of a post hole borer, all constructed, arranged, and operated substantially as and for the purpose specified.

82,294.—DOOR FOR FURNACE.—Wm. W. Crane, Philadelphia, Pa. I claim the door plate, B, rim or elevation, A, and the door, C, when constructed and arranged substantially as and for the purpose shown and described.

82,295.—WINDLASS.—Augustus Day, Detroit, Mich. Antedated Sept. 16, 1868. I claim, 1st, The friction bands, G, in combination with the pawls, F, the rod h-reof, as described, and the cylinder, B, when operating substantially as and for the purpose set forth.

82,296.—MACHINE FOR CONVERTING RECIPROCATING INTO ROTARY MOTION.—Jacob G. Desher, Alhertown, Pa. I claim the combination, in a man power machine, of the vibrating foot-board, A, the trunnions of which have rectangular bearings, substantially as described, with the pitman beams, B, pitman, D, and crank shaft, b, all arranged and combined substantially as shown and described for the purpose set forth.

82,297.—LANTERN.—Anthony M. Duburn, Chicago, Ill. I claim, 1st, The sheet metal rim, A, when formed in the shape shown and described, and for the purpose set forth.

82,298.—BEE HIVE.—George Eason, Lyons, N. Y. I claim, 1st, The box, A, provided with the porch, B, and a g' side, E, combined with a division board, D, all as and for the purpose set forth.

82,299.—HAND SAW.—James E. Emerson, Trenton, N. J. I claim a shouldered and beaded screw bolt for holding a saw to its handle, so that said screw bolt may be held from turning under the action of the nut, and constructed to operate as and for the purpose herein described and represented.

82,300.—CONCRETE BLOCK MAKING MACHINE.—Owen V. Evans (assignor to himself and James R. Yoakley), Ripley, Ohio. I claim, 1st, The combination with the rule, B, of the disk, O, and slide, F, each having a longitudinal segment, M, pin-on, P, and rack, Q, substantially as and for the purpose described.

82,301.—BABY WALKER.—Frederick A. Geisler, Bristol, R. I. I claim the oscillating yoke, G, made in two parts, a, b, the former pivoted to the bolt, d, to the crank shaft, E, and provided with a socket, in which the shaft of the arm, b, is adjusted by the set screw, c, as herein described, for the purpose specified.

82,302.—WHIP GOAD.—Frederick Flanders, Franklin, N. H. I claim the whip stock, metallic tip, B, hollow screw, C, spur, c, and screw D, when combined and arranged as and for the purpose described.

82,303.—MACHINE FOR FELLING TREES.—M. R. Fory, New York City. I claim the frame, B, carrying a series of permanent and a series of detachable augers, and constructed and adapted to the truck, A, as and for the purpose described.

82,304.—KNIFE FOR CUTTING GREEN CORN FROM THE COB.—Washington L. Gilroy, Philadelphia, Pa. I claim, 1st, A green corn knife for table use, having a blade, a, provided with a series of transverse cutting edges, a', a', substantially as described.

82,305.—BEDSTEAD FASTENING.—Chas. M. Gilbert, Philadelphia, Pa. I claim the combination of a key or wedge, 2, with the bolt, 1, tube or barrel, 5, spring, 3, slotted rail, 4, and post, 6, as hereinbefore described.

82,306.—MATERIAL.—John M. Groh, Benedict, Md. I claim the material, consisting of a wooden block, A, having an interior groove, B, extending to receive the fluted bar, through a notch, in the flange of said block, as herein described, for the purpose specified.

82,307.—WIND WHEEL.—B. H. Goodale, Newburyport, Mass. I claim the combination, with the hinged wings, of means, substantially as described, for folding the sails, and for the purpose specified.

82,308.—TRUNK CASTER.—J. W. C. Haskell and Joseph E. Haskell, Chicago, Ill. Antedated Sept. 11, 1868. We claim the plate, A, provided with the hole, d, for the projection of a cast-iron ball, and made angular, so as to form a guard for the trunk corners, in combination with the plate, b, c, and ball, e, substantially as specified.

82,309.—MANUFACTURE OF BROMINE FROM BITTERN.—Gustav A. Haemann, Natrona, Pa. I claim, 1st, The use, in the manufacture of bromine, of a sandstone trough or vessels, furnished with a bore, C, for the introduction of steam, so as to dispense with the insertion into the liquor of metallic tubes.

82,310.—HENS' NEST.—B. F. Hayward, Nebraska City, Nebraska. I claim the nest box, C, pivoted bottom board, D, link, h, levers, E, and grating, 4, all constructed and operating substantially as described, with a box, A, all as set forth.

82,311.—FURNACE FOR WORKING IRON.—John Heatley, Etna, Pa. I claim, 1st, An air chamber, g, under the bottom plate of a heating or puddling or rolling furnace, provided with such communications as to receive air from without, heat it, and discharge it into the furnace, fire-space, or ash pit, substantially as and for the purposes hereinbefore set forth.

82,312.—CENTRIFUGAL MACHINE.—S. S. Hepworth, Boston, Mass. I claim, 1st, The suspension of the shaft, B, and curb, A, of a centrifugal machine, from a screw, a, or other equivalent device, substantially as shown and described, and for the purposes set forth.

82,313.—MACHINE FOR EXTRACTING PRECIOUS METALS FROM ORES, &c.—Geo. E. B. Hill, Virginia City, Nevada. I claim the index levers above arranged, and compounded and added to the cres. pup. talms, and slimes, in about the proportions herein specified for the purpose set forth.

82,314.—HAY RAKER AND LOADER.—William H. Hiteshaw, Perrysburg, Ind. I claim the teeth, D, constructed with arms, d', and wheels, E, and operating substantially as herein shown and described, and for the purpose set forth.

82,317.—ARRANGEMENT OF MECHANISM FOR OPERATING PUNCHES.—Luther W. Holmes, Grand Lodge, Mich. I claim the construction and arrangement of frame or standard, A, with its guide pieces, D and E, sliding stirrup, C, with sliding pin, G, cam lever, L, roller, I, and bed plate, in the manner as shown and described, and for the purpose set forth.

82,318.—STILL.—Nicholas Hotz, Green Point, N. Y. I claim, 1st, The process, substantially as herein described, of effecting continuous redistillation within a still, through it may be, the action of a single heater or generator, by causing the vapor rising from the one distillation to be condensed within the mesh through a worm or worms, or their equivalents arranged therein, and afterward returned for distillation over again, thus separating the more from the less highly volatile portions, and at the same time heating the mash.

2d, The combination of the mesh receiving chamber or vessel, A, with the mesh vessels, D G, and H, and pipes, C, F, and J, provided with suitable plungers or valves, for passage of the mash to each of the lower vessels in succession, substantially as specified.

3d, The combination, with any desired number of mash chambers or vessels, A, D and G, and mesh receiver or generator, H, of two or more distilling chambers or separators, N, K, arranged to connect by pipes with worms or other condensing devices, located in the mesh vessels, A, D and G, for operation, substantially as herein described.

4th, The construction of the distilling vessels or separators, N and K, by means of an overflow pipe or pipes, n and r, substantially as and for the purpose set forth.

5th, The combination, with the mesh boiling vessel or generator, H, of the column, L, arranged to connect with a worm, or its equivalent, in an upper mesh vessel, essentially as herein set forth.

82,319.—VELOCIPEDE.—David Hunt, Jr., Worcester, Mass. I claim, 1st, The combination of the seat, G, with the braces or standards, H, H, and the crank or supporting shaft, A, substantially as and for the purpose set forth.

2d, The peculiarly constructed frame, D, in combination with the cap, E, axle, A, and chair, G, substantially as and for the purpose set forth.

3d, The combination of the standards, H, H, and piece, P, having ears, a, with the chair seat, G, and frame, D, substantially as and for the purpose set forth.

4th, A velocipede, the parts of which are constructed and combined together, substantially as shown and described.

82,320.—WOOD PAVEMENT.—David Woodwell Hunt, San Francisco, Cal. I claim a pavement, the blocks of which are secured in position by means of cement run into horizontal grooves or recesses cut around each block, the blocks and grooves being formed and arranged substantially as described.

82,321.—OIL CUP.—Edwin Hurd, Virginia city, Nevada. I claim the arrangement of the frame, E, the hollow cylinder, a, pivoted within it, and having passages for the reception of oil, for the escape of air, and for the delivery of the oil through the pivots on which it turns, substantially as described.

82,322.—HEATING APPARATUS.—J. Fienzi Jenness, Norwich, Conn. I claim, 1st, The steam space or spaces, D, between the several chambers and dishes, B, B, substantially as described, and for the purpose set forth.

2d, The vessel or table, A, chambers, C, and space, D, with induction and suction pipes, pans, B, and covers, O, when combined and arranged substantially as described, and for the purpose set forth.

82,323.—NECK TIE.—Asa Johnson, Brooklyn, N. Y. Antedated Sept. 11, 1868. I claim a neck tie formed of wire cloth or gauze, substantially as described, as a new article of manufacture.

82,324.—CAR BRAKE.—G. N. Jones, Oshkosh, Wis. I claim, 1st, The combination, with the friction pulleys, of the shaft, I, connected from car to car, as described, and slides, L, connected to the sliding pulleys by a cord and lever, for actuating them, substantially as and for the purpose set forth.

2d, The combination of the slides, L, actuating shaft, and means for allowing the slides to pass out of action, with the shafts, when the brakes are brought into action, substantially as and for the purpose set forth.

3d, The combination, with the slide, L, of the collar, P, lever, a, slide, U, and catches, C and C', substantially as and for the purpose set forth.

82,325.—FIRE ESCAPE.—J. L. Jurgens, New Orleans, La. I claim the carriage, A, provided with the adjustable grooved pulleys, B, and operating shaft, D, in combination with the inclined ways, E, E, substantially as and for the purpose set forth.

82,326.—HYDRANT.—Wm. Kearney, Union Township, N. J. I claim the arrangement and operation, in the case, A, of the sliding disk valve, C, perforated at B, and the sliding waste pipe, J, as herein shown and described.

82,327.—STOVE.—J. H. Keyser, New York city. I claim, 1st, The combination of sections, A and B, the latter constituting the fire chamber, and the former an illuminating and heat retaining top section for B, substantially as described.

2d, The construction of section, A, with an internal downwardly-contracted wall, c, with inclined illuminating window, d, and with downwardly-contracted base portion, a, said parts being adapted to fit upon a fire-pot section, B, substantially as described.

82,328.—HEAD BLOCK.—W. A. L. Kirk, Hamilton, Ohio. I claim the index roller, D, constructed substantially as herein shown and described, in combination with the head block, B, C, of a saw mill, as and for the purpose set forth.

82,329.—CAR BRAKE ATTACHMENT.—J. Kirkley, Chicago, Ill., assignor to himself and Hugh Gray. I claim, 1st, A guard box, F, adapted for inclosing the pawl and ratchet of a brake standard, substantially as described.

2d, The combination of a treadle, E, pawl, H, and ratchet wheel, D, substantially as described.

3d, Fitting the treadle, E, to the guard box, F, substantially as herein described.

4th, A spring latch, g, a pawl, H, ratchet wheel, D, a treadle, E, and means, substantially as described, for releasing the latch, g, by the act of turning said ratchet wheel.

82,330.—SKIMMER FOR SORGHUM EVAPORATOR.—J. B. Lewis, Lincoln, Ohio. I claim, 1st, The automatic skimmer lid, B, formed by attaching the perforated metallic plate, b, constructed as described, and having pipes, b₂, inserted in it to the wooden frame of said lid, substantially as and for the purpose set forth.

2d, The combination of the automatic skimmer lid, B, constructed as described, with an ordinary evaporating pan, A, substantially as and for the purpose set forth.

82,331.—PISTON ROD PACKING.—Samuel Lockard, Lagrange, Indiana. I claim the arrangement, within the chamber, K, of the conical split packing rings, e, f, flanged follower, g, and spring, d, as herein shown and described.

82,332.—GOVERNOR FOR STEAM ENGINE.—J. A. Lynch and R. K. Huntoon, Boston, Mass. We claim the combination of the hydraulic governor and a mechanism, substantially as explained, for effecting the closing of the main valve of the engine, in case of breakage of the driving belt of the governor, such mechanism consisting principally, or in substance, not merely of the auxiliary arm, L, the catch, m, and chain, N, but also of the slide or disengager, P, the lever, r, and the spring, z, provided with the bolt, c₂, or such bolt and the spring, b₂, the whole being applied to the said arm, K, the governor case, and the weight, W, substantially in manner and so as to operate as specified.

Also, the combination of the hydraulic governor and the relay or reinforcing engine applied to the main valve, S, of the induction pipe of a steam engine, as set forth, with the described mechanism for effecting the closing of the said main valve in case of breakage of the driving belt of the governor.

82,333.—COFFIN.—M. R. Margerum, Trenton, N. J. Antedated Sept. 9, 1868. I claim the forming and constructing the side and rounded head of wooden coffins with two entire pieces of wood, and bending the same so as to form the coffin, substantially as above described and herein set forth.

82,334.—LAMP BURNER.—J. P. McGee, Trenton, Tenn. I claim the burner, B, having its lower end slitted to form a series of springs g, provided with a head, h, which is adapted to press in the springs when the burner is inserted in the cylinder, i, the expansion of said springs forcing the head under the lower edge of the cylinder, when it has cleared the same, thereby holding the burner in place, as herein shown and described.

82,335.—PINKING TOOL.—John L. McIntosh, Boston, Mass., assignor to himself, James Blenkinsop, and Wm. H. Vaughn. Antedated Sept. 7, 1868. I claim a machine or device for pinking leather, cloth, etc., consisting of a lever, armed at one end with a tool and a foot-bearing socket, the latter so arranged as that the pinking tool may be changed at pleasure, in combination with the revolving block, when the same is supported and made adjustable by spring beneath, all substantially as and for the purpose described.

82,336.—GATE.—A. W. Meek, Waterloo City, Ind. I claim the rack, K, pulleys d and e, and weight, i, in combination with the gate, G, substantially as and for the purpose described.

82,337.—SIDE SADDLE TREE.—John C. Miller, Danville, Ky. I claim, 1st, As a new article of manufacture, of a side saddle tree, in which the front or pommel, c, is formed at the same time and of a similar material to the body of the tree, substantially as and for the purpose specified.

2d, The combined off horn and pommel, C, formed from wood with the grain lengthwise, by cutting, steaming, and bending, and attached, substantially in the manner described.

82,338.—ROW LOCK.—P. H. Mills, Green's Landing, Me. I claim the row lock, D, and roller, C, constructed and operating in combination with each other, substantially as herein shown and described, and for the purpose set forth.

82,339.—GRAIN STORER.—R. M. Mitchell, Fort Atkinson, Wis. I claim, 1st, The arrangement of the bins, A, in a vertical column, said bins being connected by means of a tube, B, provided with receiving and discharging orifices, E, F, respectively, substantially as described for the purpose specified.

2d, The tube, B, passing through the series of bins, A, and provided with receiving and discharging orifices, communicating with each bin, said orifices being provided with valves which are adapted to be operated by means of cords, D, or their equivalents, in the manner and for the purpose substantially as herein set forth.

82,340.—SPRING FOR WAGON SEAT.—John H. Nale and John W. Rogan, Decatur, Ill. We claim a spring seat, for wagons, composed of reversible cross spring braces, supported by and in turn supporting the seat by a bridge piece at or near their points of crossing, substantially as herein described and represented.

82,341.—CLOTHES PRESS.—J. S. Nicholson, Anamosa, Iowa. I claim, in a clothes press, the combination and arrangement of the frames, A and B, uprights, 1 and 2, cross piece, 3, shelf, 4, the coverings, 5 and 6, the arms, a, b and c, the bars, e, f and g, the rest, h, as and for the purpose specified.

82,342.—VALVE GEAR FOR OSCILLATING ENGINE.—Charles H. Overton and D. B. Overton, Dover, N. J. We claim the arrangement of the hoop, G, reciprocating plate, E, and guide plate, d, with reference to the trunnion, a, of an oscillating cylinder, substantially as shown and described.

82,343.—WAGON.—Alvah Pate and Edgar Wilber Pate, Nanticoke, Mich. We claim the construction of a wagon or carriage, combining the springs, D, body, E, semi-circular frame, H, roller, I, hanger, J, circle, K, "I" (in wheel), L, and king bolt, M, or their equivalents, with any suitable axles, B, and wheels, A, when arranged, connected, and operating substantially as and for the purposes herein set forth and shown.

82,344.—WAGON BRAKE.—David Philips, Cordova, Ill. I claim a brake, consisting of the shaft, D, having run blocks, attached, held in by the rods, F, and operated by the lever, C and H, connected by the rod, G, substantially as described.

82,345.—HORSE RAKE.—C. H. Poage, Perry, Mo. I claim the combination of the staples, e', and rings, e, with the rake, a, b, c, d, and the flexible draft chains or cores or straps, g, g, substantially in the manner and for the purpose described.

82,346.—MACHINE FOR CUTTING SCREW THREADS.—Denis Foulot, Paris, France. I claim, 1st, The arrangement herein described, of the perforated rotating and sliding bars, D, plate, C, and hollow shaft, B, with mechanism for rotating the same.

2d, In combination with the above specified mechanism, the guide rods, 1, and sliding die carriage, H, constructed and operating substantially as described.

3d, The arrangement, in the die carriage, of the cutting dies, k, and sliding block, l, in combination with the screw, gearing shaft, and hand wheel, for operating the same, so that said dies can be moved simultaneously, either toward or away from each other, as set forth.

4th, The inclined and projecting trough or receptacle, located beneath the cutting mechanism, and arranged to receive the shavings or chips and lubricating oil, and to conduct the latter to a separate receptacle, as herein shown and described.

82,347.—MACHINE FOR MOLDING CANDY.—E. K. Powers, Grand Rapids, Mich. I claim, 1st, The movable molds, B, constructed each of a bottom piece, a, and an upper part, c, the latter being hinged to the upper part, b, with the roller, G, and the mold's receptacle, A, all of which may be constructed of wood or any other material, and arranged substantially in the manner as and for the purpose set forth.

2d, The press, composed of the bars, K, K', arranged and operated substantially as shown, in combination with the plunger or follower, L, box, M, the slide, N, and spring stop, O, all arranged for joint operation, substantially in the manner as and for the purpose specified.

82,348.—KNITTING MACHINE.—J. W. Rist (assignor to himself and Ida A. Hebbard), Rochester, N. Y. Antedated September 9, 1868. I claim, 1st, The needle bed, composed of the division plates, d, and spacing plates, t, when connected together, substantially in the manner and for the purposes herein shown and described.

2d, The gib, G, in combination with the bed, A', and removable needle bed, as and for the purpose set forth.

3d, The arrangement of the locking spring, N, constructed as described, attached rigidly to the lock plate, P, and opening upon the V-shaped cam, M, on the reversing plate, H, substantially as and for the purpose set forth.

4th, The arrangement of the cam, Q, with the pivoted lever, R, and stud, g, of the wing cam, D, on that end of the lock, substantially in the manner and for the purposes herein shown and described.

5th, The arrangement of the cam, O, upon the reversing slide, in connection with the stud, g, of the wing cam, the parts all operating substantially in the manner and for the purposes shown and described.

6th, The reactionary spring, l, in combination with the stud, z, and wing cam, D, substantially as shown and described and for the purposes set forth.

7th, The combination with lock plate, P, of the needle adjuster, T, constructed, arranged, and operating substantially in the manner and for the purposes set forth.

8th, The combination with the lock plate, P, of the cam and needle guides or adjusters, E, substantially in the manner and for the purposes set forth.

9th, In combination with the wing cams, D, and their studs, g, the cams, O and Q, and latch, R, or their equivalents, whereby said cams, D, are moved upward simultaneously with the closing of the V-cam, C, for the purposes described.

10th, The combination of the plates, p, and studs, g, with the set nut, B, index band, y, and scale, s', for the purposes set forth.

11th, In combination with the scale, s', for gauging the tension or length of the loop, the pivoted lever index, y, arranged and operating substantially as and for the purposes shown and described.

12th, The pivoted yarn carrier, Y, in combination with the friction traveler q, and the rod, W, all constructed, arranged, and operating as shown and described.

13th, The yarn carrier or guide, Y, slotted as shown and described and for the purposes set forth.

82,349.—FEMALE SPRING BED PAN.—Alvah Rittenhouse, M. D., Philadelphia, Pa. I claim, 1st, The bed pan or vessel, J, capsular vulva, H, right angle suction tube, K, substantially as set forth.

2d, The vaginal extension tube, N, metallic valve tube, P, right angle suction tube, K, rubber bulb, R, vessel, J, capsular vulva, H, strainer, L, all combined and arranged substantially in the manner and for the purpose as herein set forth and described.

82,350.—TRACK LAYING MACHINE FOR RAILROADS.—Wm. D. Robertson, San Francisco, Cal. I claim, 1st, As a new application to construction trains, for supplying power to carry forward from the rear car to the place of deposit, the rails and ties, the engines, a, mounted on the central car, substantially as described.

2d, The shaft, f, with the screw, g, actuating the trucks, b, by the beveled gear, k, i, or their equivalents, substantially as described.

3d, The arrangement of the roller, c, and the drive, for driving the friction rollers which carry the ties to the incline trough beneath the boiler of the engine, substantially as described.

4th, The friction rollers, t, and u, in combination with the channel or trough v, substantially as and for the purpose specified.

5th, The pulleys, g, and the belts, w and w', or equivalent devices, for actuating the cutters, substantially as described.

6th, Carrying the rails forward as each side of the boiler, and lowering them to the road bed, by the davits, A, substantially as described.

7th, The rollers, q, q', r, r', s', s', the endless chains, p, p', or equivalent device, for pressing down and holding the ties while the cutters trim them, substantially as described.

8th, The cutters, v', v'', for leveling and trimming the ties to receive the rails, constructed and operating substantially as described.

82,351.—MITER BOX.—Clark Robinson, Fox Lake, Wis. I claim the plates, B C D, in combination with the frames, J, J, guides, H H, and the pulleys, I, I, in combination with the pulleys, G, being constructed and arranged substantially as and for the purpose herein specified.

82,352.—CARPET BAG.—Anthony J. Robrecht, Newark, N. J. I claim, 1st, The combination of one or more partitions with a traveling bag, valve, or trunk, produced by means of hooks and eyes, constructed to be employed in the manner and for the purpose specified.

2d, The combination of the metallic band, f, with the partition, e, and also the combination of said band with hooks or eyes, employed in the manner and for the purpose specified.

82,353.—MOLD FOR CASTING SLEIGH SHOES.—N. W. Russell, Cedar Falls, Iowa. I claim, 1st, The sand flask or cope, A, and metallic mold section, B, constructed substantially as described, when used in combination with each other for the production of sleigh shoes, as set forth.

2d, The covering plates, J, in combination with the channeled metal section, B, and sand cope, A, substantially in the manner and for the purpose described.

82,354.—DEVICE FOR HOLDING CUT NAILS WHILE BEING HEADED.—Dennis Savery, Wheeling, W. Va. I claim the arrangement of the lever, C, tappet, a, spring, D, plate, b, pad, e, cam, B, and shaft, A, in the manner and for the purpose specified.

82,355.—CORK PULLER.—Geo. W. Schermerhorn, East Longington, Me. I claim the instrument for removing corks from bottles, consisting of the handle, A, having the stem, B, and spring loop, D, at right angles to each other, provided respectively with the sliding disks, C and E, all constructed and arranged to operate as described, whereby the cork is first pushed into the bottle by the stem, B, and afterward withdrawn by the loop, D, the disks, C, E, in both operations serving to prevent the contents of the bottle from spluttering out, as herein shown and described.

82,356.—CHURN.—Jacob Shaw and W. A. Shaw, Hinkley, Ohio. We claim, 1st, So hanging a rectangular or nearly rectangular churn box or case that its axis of rotation shall be diagonal to its sides, in the manner and for the purpose substantially as set forth.

2d, The curved inclined rods and cross bar, in combination with the cap and churn, substantially as herein set forth.

3d, The hollow journal and valve in combination with the churn, arranged as and for the purpose substantially as herein specified.

82,357.—AUTOMATIC BOILER FEEDER.—Edwin Sheppard, Philadelphia, Pa. I claim an automatic boiler feeder consisting of a cylinder, B, with its float, D, cylinder, F, with its pistons, i, i', operated by the float, D, and cylinder, G, with its piston, m', the cylinder, F, communicating with the cylinder G, and the cylinder, B, with the cylinder, F, and the whole being arranged and applied to a steam boiler to regulate the flow of water to the same, substantially as described.

82,358.—FIRE ESCAPE LADDER.—George Skinner, Brooklyn, N. Y. I claim, 1st, The peculiar arrangement and combination of the pivoted frame, K, castor wheel, M, rope or chain, O, and shaft, P, with each other and with the ladder, C, axle, B, and wheels, A, substantially as herein shown and described and for the purpose set forth.

2d, The combination of the frame, D, and leg, d₂, with the ladder, C, axle, B, and wheels, A, substantially as herein shown and described and for the purpose set forth.

3d, The combination of the extension crossbar, E, and e', with the ladder C, axle, B, and wheels, A, substantially as herein shown and described, and for the purpose set forth.

82,359.—CARBURETER.—Henry Slatter, Covington, Ky. I claim, 1st, The arrangement of the water tanks, A and B, principal and auxiliary receivers, C and D, pipes, F, H, and R, and tank, E, for the purpose set forth.

2d, The tank, E, adapted to contain both water and gasoline, and provided with the pipes, R, H, K, and M, and cocks, L, L', as and for the purpose designated.

3d, In combination with the subject matter of claims, 1 and 2, the auxiliary carbureting chamber, O, or its equivalent.

82,360.—FOLDING TABLE.—William Smith, Cincinnati, Ohio. I claim the combination, substantially as described, of the table, A, hinged frames, a, B, C, D, E, legs, F, hinged braces, G, g, d, d', e', e', slides, W, under cut grooves, I, I, stops, J, and spring bolts or catches, K, or their mechanical equivalents, for the purpose specified.

82,361.—HORSE COLLAR.—J. A. Sutherland, Elmwood, Ill. I claim a horse collar, made of wood, when constructed substantially as and for the purpose set forth.

82,362.—QUARTZ MILL.—Samuel Swesey, Malta, Ohio. I claim, 1st, Suspending the stone, C, above the bed stone, by means of the swived connections, F, and screws, b, in combination with the shaft, D, and stone, C, for the purpose of adjusting the grinding face of the stone, C, parallel to the grinding face of the bed stone, B, as herein shown and described for the purpose specified.

2d, The arrangement of the hopper, K, upon the yoke, E, whereby said hopper is revolved with the stone, C, as herein shown and described, for the purpose specified.

82,363.—BEEHIVE.—James Tallman, Clayton, Ill. I claim, 1st, The arrangement and combination of a series of hives, provided with inclined bottoms, and resting on inclined stands, a, with the frame, b, such a manner that the several hives may be made to communicate with or cut off from each, as may be desired, substantially as shown and described.

2d, The house, composed of the frame, A, and box, C, the latter being provided with doors, f, and with a lid or detachable top, F, when said house, thus constructed, is used in connection with a plurality of hives, B, adapted to the house or frame, in the manner substantially as and for the purpose set forth.

82,364.—SWEATS FOR HATS.—George W. Thompson, Brooklyn, N. Y. I claim, as a new article of manufacture, a sweat band for hats formed of paper coated with japan or other water proof compound, and finished by embossing, substantially as described.

82,365.—REFRIGERATOR AND SIDEBOARD.—John A. Thompson, Auburn, N. Y. I claim the construction of refrigerators and household preservatives: of anglewood, skeleton frames, with their entire walls of trunk board, or its equivalent, filled with a concrete of plaster of Paris and granulated carbon, or other suitable material securing the same effects, all as specified and set forth.

82,366.—SEWING-MACHINE.—Jeptha A. Wagner, New York city. I claim, 1st, The feeding device, J, furnished with points on each side of an open slot, and a point, a, and a point, b, and a point, c, and a feeding point, d, in combination, arranged, and operating substantially as described.

2d, The combination of the bridge, u, plate, i, and feeding device, J, t, i, the said bridge being slotted, and the feeding device being forked and furnished with central and side points, substantially as and for the purpose described.

3d, The bridge, u, when slotted and provided with a forked or V-shape at one end, and a bevel and shoulder at the other end, in combination with the recessed removable plate, i, substantially as shown, and so that by one screw the bridge is confined in position.

4th, The bridge, u, constructed as shown in figs. 13 and 14, for the purpose described.

5th, The combination of the looper, H, the feed lever, J, with its central and lateral feeding points, g, triple slotted, a, with its foot, and upper needle, the said parts being constructed and arranged as described, and operated by a cam pulley, constructed as described.

6th, The cam pulleys, E, F, constructed and arranged as described, in combination with the levers, E, F, rod, K, looper, H, looper guide, lever, p, C, C₆, needle, c, feed arm, J, bridge, u, and presser foot, V, all constructed and arranged and operating as described.

7th, The arrangement of a lead elastic support, a², for the cloth plate, B, forward of and centrally between the two rear hinged elastic supports, a³, a², substantially in the manner and for the purpose specified.

8th, The rear elastic sleeve bear ings, a², fitted in the hinged studs, a¹, in combination with the hollow bearing boxes, a⁷, formed in the cloth plate, B, in the manner described.

9th, The gimbal joint, g, with the levers, E, F, applied to it, as shown in fig. 15, in combination with the feeding arm, J, looper guide, p, and the looper or lower needle, H, all constructed, arranged, and operating as described.

10th, The cloth plate, B, cast with a horizontal portion forward of the axis of the needle arm, C, and with a semicircular portion, B₁, in rear of the horizontal portion, and also with a bracket, B₂, and hollow bearing boxes, a⁷, all substantially in the manner shown and described, and for the purpose set forth.

11th, The slotted cloth presser, V, in combination with the elevated bridge, u, and feeding points working on both sides of said bridge, substantially as described.

82,367.—HAMER AND STRAP FASTENER.—John B. Waterman, Summit, Mich. I claim the arrangement, in a hamer fastener, constructed as herein described, of the latch, D, having a forked end, E, and operating in combination with the spring, C, and ratchet bar, F, all constructed and operating as herein described and shown.

82,368.—LUBRICATOR.—G. Waters, Cincinnati, Ohio. I claim a lubricator, constructed with a graduating screw or plug, in which is formed a gradually tapering slot or groove for regulating and controlling the discharge of oil, as described.

82,369.—CORN HUSKER.—Samuel Wesson, Worcester, Mass. I claim, 1st, The hinged guard or separating plate, Z, in combination with the separating roll, X, and bars, Y, substantially as and for the purpose set forth.

2d, The combination, with the guard or hinged separating plate, Z, of the adjusting screws, 12, 12, and stands, 14, 14, as and for the purposes set forth.

3d, The combination of the shield, 15, with separating roll, X, and bars, Y, substantially as and for the purposes set forth.

4th, The combination, with two or more sets of husking rolls, of a hinged ear covering plate, arranged as described, so as to retain the ears in proper contact with the rolls, and provided with one or more dividing pieces or partitions, extending between each two contiguous or adjoining sets of rolls, in the manner and for the purposes shown and set forth.

5th, The combination with each set of husking rolls, E, F, of an auxiliary adjustable roll, H, arranged in relation to the exterior or lever roll, E, of each set, in the manner and for the purposes shown and specified.

6th, The combination, with each set of husking rolls, of an adjustable auxiliary roll, H, made tapering at its upper end, substantially as and for the purpose set forth.

7th, The combination, with two or more sets of husking rolls and adjustable auxiliary rolls, of the removable ear covering plate and guide, I, M, the ear guide, K, and thimble, or wiper, L, for delivering the ears to the auxiliary roll, H, the whole being arranged to operate substantially in the manner and for the purposes shown and set forth.

8th, The combination, with two or more sets of husking rolls, of a continuous ear cover or shield, L, with its division piece or pieces, M, substantially as and for the purposes set forth.

82,370.—GAME.—William H. Wilson, Providence, R. I. I claim a game, consisting of a combination of the pointer, D, and plate or disk, C, of which one is movable and the other stationary, the movable part being set by means of a ball propelled by the player, as set forth.

82,371.—PUMP.—Samuel Woodruff and H. B. Beach, Hartford, Conn. We claim the arrangement of the series of valves, D, and E, in relation to cylinder, B, annular chamber, a, and chamber, F, substantially as described for the purpose specified.

82,372.—BEE HIVE.—Valentine Zimmerman, Morris, Ill. I claim, 1st, The slatted partition, E, arranged to support the frames, F, and the front ends of the lower frames, G, as herein shown and described.

2d, The securing of the lower comb frames, G, in position by means of the pins, l, and hooks, k, substantially as shown and described.

3d, The slides, C, C, applied to the box or case, in connection with the springs, D, in the manner substantially as and for the purpose set forth.

82,373.—CAR STOVE.—William A. Allen, Medina, N. Y. I claim the combination of the above described double door, having plates H and B, and screen, E, and provided with a lock, D, with the body of the stove and the fire, with the screen, F, as herein, all being constructed and arranged substantially in the manner set forth.

82,374.—BURR BORER.—John G. Baker and Henry Asbury, Philadelphia, Pa. We claim the combination of the tapering tubular stock, A, its boring edge, x, reaming edge, x', and tapering screw, b, the whole being constructed and arranged substantially as and for the purpose herein set forth.

82,375.—DINING TABLE.—E. H. Bloebaum, and C. H. Nagel, St. Charles, Mo. We claim, 1st, The central board, A, when composed of the pieces, a₁ a₂ a₃, and the annular rim, B, when composed of the pieces, b₁ b₂ b₃, when the said parts are united and arranged, substantially as herein shown and described, and for the purpose set forth.

2d, The arrangement of the frame, D, and legs, d₁ d₂ d₃ d₄ d₅ d₆, herein shown and described.

82,376.—DREDGING MACHINE.—Albert Bosche, Boston, Mass. I claim a dredging or excavating machine, in which are combined a floating hull, a diow or scoop, a, and elevating buckets, all constructed and arranged to operate substantially as set forth.

82,377.—ANGLER'S REEL.—Willard H. Bradley, New York city. I claim a fishline reel, composed of the two annular concave disks, A, A, as arranged on the shaft, f, with the space, g, at their peripheries, in combination with the frame, C, C, constructed and operating substantially as and for the purposes set forth.

Also, in combination with the disks, A, A, and conical journals of the shaft, f, the frame, C, C, fixed to the foot plate, B, and provided with the variable connecting piece, d, for adjusting the bearings to the shaft, substantially as set forth.

82,378.—CLOTHES RACK.—B. K. Breneman, Newport, Pa. I claim the arms, C, C, grooved on their lower side, and provided with braces, E, E, whereby they are so that they may lie in the same, and connect to the upright, A, substantially as and for the purposes herein set forth.

82,379.—CONNECTING ROD.—Edward Brown, New York city. Antedated September 16, 1868. I claim the combination, with the double screw rod, C, of the two inclined, b and c, whether the said inclineds be placed on the washer, E, and the end of the connecting rod, A, or on the two washers, D and F, substantially as herein described.

82,380.—SLED KNEE.—Benjamin F. Cady, Chittenango, N. Y. I claim a sled knee having rod, A, and shield, H, constructed, combined and arranged, substantially as described, as a new article of manufacture.

82,381.—LIFTING JACK.—John Camp (assignor to himself and Henry Marshall), Olney, Ill. I claim the combination of the reversible lever, B, b', the stand, A, and fulcrum pin, C, relatively arranged to operate in the manner described for the purpose specified.

82,382.—**HAY SPREADER**.—Nathan Chapman, Milford, Mass.
I claim, 1st, Giving the rake teeth, when raking, a forward and an upward movement, and a backward and downward movement, in regular succession by means of the toothed wiper wheel, G, traversing bar, N, wiper seat, S, and springs, L, L, constructed and arranged to operate substantially as described.
2d, Giving the teeth, when tending, a forward and upward movement, and a downward and backward movement, in succession, by means of the toothed wiper wheel, G, traversing bar, N, and inclined plane and groove on the block, X, substantially as described.
3d, Hinging the inclined block, X, so that the rear end will rise and let the pin or roller pass under it as it moves backward, and catch on the top as it moves forward, substantially as described.
82,383.—**MOP HEAD**.—C. B. Clark, and E. L. Ferguson, Buffalo, N. Y.
We claim the nut, C, provided with flanges, c, c', or equivalent, in combination with the collar portions, D, D, formed with elongated openings, h, and ledges, l, substantially in the manner and for the purpose set forth.
82,384.—**WAGON JACK**.—W. Clifford, Mina, assignor to A. F. Jennings & Co., Dunkirk, and T. F. Coveney, Mina, N. Y.
I claim the swinging bar, D, pivoted to standard, B, with its free end resting on the disconnected lever, E, and guided by the straps, d, rigidly secured to the lever, so as to operate in the manner and for the purpose as described.
82,385.—**EQUALIZER FOR VEHICLES**.—J. J. Connelly, Chicago, Ill.
I claim a draft equalizer consisting of an evener or draft bar, A, A, pulley, H, G, J, and chains, O, O, the chain, O, passing over the pulleys, H, G, and providing a draft attachment for the outside trace of the high horse, and the inside trace of the low horse, and the chain, N, passing over the pulleys, J, and providing a draft attachment for the outside trace of the high horse and the inside trace of the low horse, substantially as and for the purpose specified and shown.
82,386.—**WASHING MACHINE**.—Michael Culler, Fredericksburg, Ohio.
I claim, in a washing machine, suspended between the oblique standards, A, A, and upon the rods, a, a, the adjustable corrugated cylinder, G, hung upon the frame, D, and secured to operate in the tub, or inserted above it, by the clamps 1, all as herein shown and described.
82,387.—**SEED SOWER AND HARROW COMBINED**.—C. Curtis, Galesburg, Ill.
I claim the hopper, B, drum, E, box, F, and bar, H, constructed and arranged as described, L, and revolving harrows, K, K, substantially as set forth and for the purpose described.
82,388.—**ARCHED BRIDGE**.—Joseph Davenport, Massillon, Ohio.
I claim, 1st, The rods, N, N, when used in combination with the arch, B, and posts, K, K, substantially as and for the purpose specified.
2d, Supports, O, when used in combination with the arch, B, and rods, N, N, substantially as and for the purpose specified.
3d, The lever posts, K, K, when constructed of the side plates, K, K, bolts or rivets, k, k, blocks, M, M, and cross pieces, L, and used in combination with the chord bolt washer, iron, F, the shoe, G, the tension bolt, a, with straps, l, l, attached thereto, and to the chords, A, the rods, N, N, and the arch, B, substantially as and for the purpose herein specified.
82,389.—**GLASS LIGHT**.—W. A. Demuth, New York city.
I claim a glass light, constructed of solid glass rods, arranged in the manner described.
82,390.—**COAL-MINING MACHINE**.—G. E. Donisthorpe, Leeds, Eng. Patented in England Dec. 5, 1865.
I claim, 1st, The combination of the mining machine with a screw and nut to move it forward, and with a removable pillar to sustain the thrust of the screw, substantially as before set forth.
2d, The combination of the mining machine with a steady bar, sustained by movable pillars, constructed and arranged as described, to steady the machine when at work, and prevent it from getting off the rails, substantially as before set forth.
82,391.—**COAL-CUTTING MACHINE**.—G. E. Donisthorpe, Leeds, Eng. Patented in England April 21, 1866.
I claim, 1st, The combination, substantially as set forth, of the rack on the rail, the geared pinion, the worm, and the hand wheel, with the lifting screw, l, whereby the feeding device on the carriage may be released from the rail.
2d, The combination, substantially as set forth, of the carriage, the feeding mechanism, the guiding mechanism, and the cutting mechanism, for the purpose set forth.
3d, The combination, substantially as set forth, of the carriage, the cylinder, the cutter connected directly with the cylinder, and the mechanism for controlling the induction valve of the cylinder, whereby the valve is not wholly opened unless the cutter makes a full stroke, and, consequently, the depth of one cut regulates the force applied on the next stroke of the cutters.
4th, The combined arrangement of apparatus herein described, for cutting grooves or holes into the floor or roof of a mine.
82,392.—**SASH FASTENER**.—J. E. Downs, Lowell, Mass.
I claim the combination and arrangement of the hinge, e, f, and fastener, k, when arranged for the purposes as described and fully set forth.
82,393.—**COFFEE ROASTER**.—J. E. Edmundson, Bartlett, Ohio.
I claim the arrangement of the plate, A, walls, B, B, fixed cylindrical case, C, having the door, B', rotating interior cylinder, D, having the opening, d, in its side, and crank shaft, E, substantially as described and shown and for the purpose specified.
82,394.—**APPARATUS FOR PRESERVING BEER, ALE, ETC.**—R. Hickmeyer, N. Y.
I claim, 1st, The process, substantially as herein described, of preserving beer or other perishable liquids or substances, by the connection or combination of the vessel containing the same with a carbonic acid gas generating apparatus or reservoir, in such a manner as that the contents of said vessel, or vacant space of the latter, is or are kept constantly charged with said gas, in a regular and automatic manner, as rapidly as said contents absorb the gas or contents are drawn off, substantially as specified.
2d, The arrangement, in connection with the vessel containing the liquid or article requiring to be preserved, of an upper acid reservoir, B, and lower gas generator, C, for supply, in a regular and automatic manner, of the gas to said vessel, and whereby the gas is forcibly expelled into the latter by the superincumbent weight or pressure of the column of liquid acid, essentially as herein set forth.
3d, The arrangement of the said reservoir, B, gas generator, C, and washer, D, in an apparatus for supplying, in an automatic manner, carbonic acid gas to the vessel, or its contents requiring to be preserved, substantially as shown and described.
82,395.—**PADDLE WHEEL**.—P. Emerson, Carondelet, Mo.
I claim the paddles, E, when hinged to the outer rim of the wheel by means of journals, c, placed at their bottom edges, substantially as described and set forth.
82,396.—**BRICK MACHINE**.—J. A. Falconer and R. Graham, Jersey City, N. J., assignors to E. C. Bradford, J. H. Renick, and O. A. Clough, New York city, assignors to J. H. Renick.
I claim, 1st, The hinged hook, L, in combination with the spring, s, connecting rod, M, and crank pin, k, of the crank, K, connected with the driving pinion, in the manner substantially as and for the purpose as described.
2d, In combination with the hinged hook, L, spring, s, connecting rod, M, and crank pin, k, of the crank, K, the adjustable clamp, m, all constructed and arranged substantially as and for the purpose set forth.
82,397.—**TAKE-UP FOR THREAD IN SEWING MACHINES**.—J. Fanning, Brooklyn, N. Y., assignor to J. S. Andrews, New York city.
I claim the eye, h, upon the arm, b, in combination with the eye, l, near the end of the lever, e, that moves the needle-bar, so arranged as to draw upon and tighten the thread between the eye, h, and the guide, k, on the needle bar, as the needle descends, for the purpose set forth.
82,398.—**FARM GATE**.—Gilbert Gibbs, Fairview, Ind.
I claim, 1st, The oblique link, a, in connection with the central lever, E, when so arranged as to draw the bolt, n, from the catch or socket, c, before opening the gate, substantially as shown and specified.
2d, In combination with bolt, n, lever, E, link, a, and central lever, E, the bars, S, S, and hand levers, D, D, all arranged to operate substantially in the manner and for the purposes as set forth.
3d, Attaching a panel composed of the post, G, diagonal, J, and bars, m m m, and a sill, O, with a gate, when the panel is so arranged, that, by means of the notches in the post, G, the forward part of the gate may be raised, as described and shown.
82,399.—**ROSSING MACHINE**.—Charles Gilpin and Laurence T. Dickinson, Cumberland, Md.
We claim, 1st, The combination and arrangement, with a cutting device, of the rollers, B1 B2 B3, provided with the teeth, e, e, and operated by belt- ing and gearing in such a manner that they all have an equal and uniform motion, the two upper ones rotating in one and the same direction, and the two lower ones in the opposite direction, substantially in the manner and for the purpose specified.
2d, The arrangement of the knife, K, with reference to the rollers, B1 B3, substantially as and for the purpose set forth.
3d, The arrangement of the idle roller, a, in combination with the rollers, substantially as described.
82,400.—**ROSSING MACHINE**.—Charles Gilpin and Laurence T. Dickinson, Cumberland, Md.
We claim, 1st, The arrangement of the reciprocating saw, M, with relation to the rollers, substantially as described.
2d, The combination of the saw, M, pitman, H, spring, P, lever, R, and cam u, on shaft, W, substantially as described, and for the purpose specified.
82,401.—**MANUFACTURE OF SMALL BEER**.—O. F. Green and James E. Clark, St. Louis, Mo.
We claim, 1st, The ingredients hereinbefore mentioned, or their substantial equivalents, when subjected to the processes substantially as described.
2d, The beverage formed from such ingredients, as a new article of manufacture, substantially as set forth.
82,402.—**GEAR CUTTING TOOL**.—Jackson Harrington (assignor to himself and A. C. Lippitt), New London, Conn.
I claim the series of cutters, A, A, in combination with the circular socket plate or holder, E, and confining plates, G, G, arranged substantially as and for the purposes described and set forth.
Also, the circular, J, circular recesses, J, and brace nut, M, when used in combination with the cutters, A, A, and holder, E, substantially as and for the purposes set forth.
82,403.—**KNIFE FOR CUTTING GREEN CORN FROM THE COB**.—Jackson Harrington (assignor to himself and A. C. Lippitt), New London, Conn.
I claim the concave plate, C, with V-shaped cutters, D, D, and guide rib, E, in combination with the rectangular shaped shank, E, arranged substantially as and for the purposes described and set forth.
82,404.—**MACHINE FOR SHEARING SHEEP**.—Geo. Harsin and C. T. Sanders, Kirkville, Iowa.
I claim, 1st, In combination with the cutter, C, the belt, B, and cord, B', running over pulleys, and kept taught by weights, arranged to operate substantially as and for the purpose set forth.
2d, The combination, in a sheep shearing machine, of a stationary blade, k,

and oscillating blade, l, constructed and arranged, in relation to one another, substantially as set forth.
31, The arrangement of the pulley, G, having a wrist pin, G1, slotted arm, H, oscillating cutter, l, and stationary knife, K, within the hollow case, C1, substantially as and for the purpose set forth.
82,405.—**THILL COUPLING**.—Jas. Haverly and Chas. A. Tibbitts, La Porte, Ind.
We claim, 1st, The construction of the clasp, A, with its box, B, attached thereto, substantially as shown and described.
2d, The construction of the arm, E, and the arrangement thereof with reference to the box, B, substantially as set forth.
82,406.—**CULTIVATOR**.—Archibald T. Heflin, Monmouth, Ill.
I claim, 1st, A two wheeled elevated draft frame, with a draft pole, C, secured upon the cross beam, B', of said frame, A, swiveling double tree, C', applied to the draft pole, and connected to links, b, b, in combination with levers, c, and scraper carrying beams, D, D, all combined, arranged, and operating substantially as described.
2d, The attachment of the links, b, b, which are connected to the double trees, C, and rollers, c, c, said parts being employed in a machine constructed and operating substantially as described.
82,407.—**STOVE PIPE ELBOW**.—C. Hoeller, Cincinnati, Ohio.
I claim the elbow for stove pipes, constructed as herein shown and described.
82,408.—**CLOTHES DRYER**.—A. S. Hopson, Plainview, Minn.
I claim the danged plate, G, and slotted sliding plate, D, in combination with the rod, a, nut, e, arms, B, B, and plate, A, all constructed as described, and operating substantially as and for the purposes herein set forth.
82,409.—**MACHINE FOR MAKING HORSE SHOES**.—Ozias A. Howe, Jersey City, N. J.
I claim, 1st, The combination of the rotating pressure disk, G, the rotating die, F, and the oscillating frame, B, substantially as and for the purpose specified.
2d, The cutting lip or corner, l, so arranged upon the pressure disk, G, and in relation with the shoulder, m, of the die, F, as to sever the shoe from the bar, substantially as and for the purpose specified.
3d, The arrangement of the rotating presser cone, F', upon the oblique shaft, l, when combined with the presser disk, G, and the rotating die, F, carried upon the oscillating frame, B, substantially as and for the purpose specified.
4th, The arrangement of the guide notch, b1, and wheel, c, upon the frame, B, and in relation with the rotating die, F, carried thereby, and the presser disk, G, substantially as and for the purpose specified.
5th, The arrangement of the spring, J, with reference to the rotating die, F, presser disk, G, and presser cone, F', substantially as and for the purpose specified.
6th, The combination of the pusher rod, u, spring, v, and inclined plane, w', with the shaft, c, and die, F, substantially as and for the purpose specified.
82,410.—**GEARING FOR HARVESTERS**.—Moses G. Hubbard, Syracuse, N. Y.
I claim, 1st, The combination of the two gear wheels, C and E, of unequal size, with the spur pinion, F, and main gear wheel, G, substantially as described.
2d, The employment of two or more concentric gear wheels, all of which may be made to revolve in driving the cutters, or one or more of which may be held stationary, for varying the speed of the cutters, as described.
3d, Two or more gear wheels, of unequal size, arranged upon line shafts, or other shafts, in combination with a shifting clutch, whereby the speed of the cutters may be varied, as described.
82,411.—**GEARING FOR HARVESTER**.—Moses G. Hubbard, Syracuse, N. Y.
I claim, 1st, The combination of the driving gear wheels, E and F, of unequal size, attached permanently to the main cross shaft, and gearing into the two corresponding loose gear wheels, A and B, with sliding clutch, d, and the firmly attached gear wheel, H, on the cross auxiliary shaft, C, and the straight pinion and level wheel, l, revolving loosely on shaft, G, arranged and operating substantially as described, in combination with the means for changing the speed of the cutters, arranged and located relative to the main and counter shafts, substantially as and for the purpose specified.
82,412.—**HARVESTER**.—Moses G. Hubbard, Syracuse, N. Y., assignor to Hubbard Mower Company.
I claim, 1st, Attaching the seat by the two pivoted springs arranged one in advance of the other, and in the same plane, for the purpose and substantially as described.
2d, The seat plate, D, provided with the two sockets or recesses, arranged in line as described, and adapted to receive and permit the adjustment of the seat springs, substantially as and for the purpose described.
3d, Mounting the driver's seat for a reaping machine upon springs so arranged as to preserve the horizontality of the seat, and at the same time to give it both a forward and downward motion, for the purpose and substantially as set forth.
82,413.—**HARVESTER**.—Moses G. Hubbard, Syracuse, N. Y., assignor to Hubbard Mower Company.
I claim, 1st, Connecting the cutting apparatus to the main frame, by the yielding elastic connection, l, vertically sliding adjusting rod, arranged and operating substantially as and for the purpose described.
2d, The set screw, V, in combination with the wear plate and hinged shoe, arranged substantially as and for the purpose described.
3d, The lifting arrangement, consisting of the raising handle, U, cam, B, and chain, C, combined and operating as described, whereby, when the cutting apparatus is raised, said lifting apparatus is automatically locked for holding the cutting apparatus in its elevated position, as set forth.
82,414.—**HARVESTER**.—Moses G. Hubbard, Syracuse, N. Y., assignor to Hubbard Mower Company.
I claim, 1st, Attaching the pole to the main frame specifically in the manner as described.
2d, The combination of the main frame with the pole extension piece attached and arranged as shown for the purpose described.
82,415.—**HARVESTER**.—Moses G. Hubbard, Syracuse, N. Y., assignor to Hubbard Mower Company.
I claim, 1st, The curved wear plate, H, provided with the expanded perforated ears, whereby the height of the cutting apparatus can be adjusted without interfering with the action of the straight pitman, substantially as set forth.
2d, The independent or detachable sustaining rod, by means of which the driver in his seat on the machine is enabled to raise and sustain the cutting apparatus, substantially as described.
82,416.—**MANUFACTURE OF PAINT**.—Wm. C. Hurd, New York city.
I claim, 1st, The combination of feldspar with oil and lead, zinc, or any other suitable material for paints and colors, substantially as set forth.
2d, In addition of dissolved linseed gum or saponaceous oil, mixed with linseed oil in the grinding, or mixing feldspar with any other suitable materials for paints or colors, substantially as set forth.
82,417.—**BOOTS**.—John P. Jamison, New York city.
I claim the arrangement of the longitudinal seam or seams, a, in the boot leg, so as to rise from the sole to the front of the ankle bone, the same also being curved, as at b, to admit of a forward extension of the counter, substantially as and for the purpose or purposes herein set forth.
82,418.—**COMBINED LATCH AND LOCK**.—Frederick L. Johnson, Wallingford, Conn.
I claim, 1st, The tumbler, D, held by spring, E, having a lateral motion to enable one bolt to act upon both as a lock and latch, constructed substantially in the manner herein set forth.
2d, The bolt, B, provided with projections, a, a and b, b, in combination with the tumbler, D, and cam, c, arms, C, C, and acted on by the said tumbler, substantially as herein set forth.
3d, The catch, F, held by the escutcheon, and arranged to act upon and keep the tumbler from sliding laterally, constructed in the manner substantially as herein set forth.
82,419.—**ROOFING CEMENT**.—John L. Kidwell, Washington, D. C.
I claim, 1st, A water and fire-proof composition, for roofing, flooring, etc., prepared of hydraulic cement, tar, sulphur, and naphthalene, or its equivalents, substantially as described and set forth.
2d, The above ingredients, incorporated with powdered minerals or metallic ingredients, substantially as described and set forth.
82,420.—**CARRIAGE SHACKLE**.—George G. Larkin, West Amesbury, Mass.
I claim the disk, a, provided with radial sockets, and carrying the pad, C, when formed with a screw threaded shank, e, adjustable in the front side of the clip, A, as herein described for the purpose specified.
82,421.—**FIRE EXTINGUISHER**.—W. H. Laubach, Philadelphia, Pa.
I claim, 1st, The tube, C, in combination with the diaphragm, E, and valve, D, and vent tube, a, operated and constructed substantially in described.
2d, The diaphragm, E, and spiral spring, f, constructed and operated as described.
3d, The cap, g, operating on the diaphragm, E, constructed and operated as described.
82,422.—**CORN PLANTER**.—John L. Leas (assignor to himself and Andrew B. Lerew), York Sulphur Springs, Pa.
I claim, 1st, The slide, C, in combination with the sheaves, E, F, and straps, H, J, and K, as and for the purpose described.
2d, The pivoted levers, M and L, in combination with the elastic connections, I, as and for the purpose described.
82,423.—**CULTIVATOR**.—M. F. Lowth and T. J. Howe, Owatonna, Minn.
We claim in combination with the mortised beam, A, and the tooth, B, having the snanks, b', and pivoted on the bolt, c, a strap-shaped clamp, E, having an oblong or semi-circular opening, O, the side, o, of which, that bears against the snank, b', being straight, and said clamp being confined to the beam, A, and tightened or loosened by means of a screw snank, r, passing through a slot in the side of the beam, and a screw nut, a, fitting upon it outside of the beam, and screwing against the side of the beam, or against a washer, substantially as described.
82,424.—**PLANE FOR CUTTING BLIND SLATS**.—R. E. Lowe, Upper Alton, Ill.
I claim, 1st, The arrangement of the shoe, C, stock, A, screws, c, c', cutter iron, D, and clamp blocks of nuts, F, G, and H, as described, when the parts are constructed to operate in the manner set forth.
2d, The arrangement of the guards, I, I, with the knife, D, the track, C, and the hinge, H, constructed and operating substantially as described.
82,425.—**DRIVING HOOP**.—Timothy Lucey, Salem, Mass.
I claim a driving hoop, having a construction substantially as described.
82,426.—**CUPBOARD AND TABLE**.—J. C. Mack, Bristol, Conn.
I claim the combination of the cupboard, A, shelves, F, and doors, D, with table, B, and legs, C, arranged substantially as and for the purpose specified.
82,427.—**HAY ELEVATOR**.—Harvey McCown and Luther M. McCown, Eaton Valley, Pa.
We claim the jaws, l, l, in combination with the disk, K, and wedge, L, or

its equivalent, when constructed and operated substantially as and for the purpose herein shown and described.
82,428.—**LIANO**.—Frazee B. McGregor (assignor to himself and George A. Hoyt), Pontiac, Mich. Antedated September 14, 1868.
I claim the arrangement of the couplers, D, horizontal bars, C, C, placed one above the other, with the elbows, e, e, and levers, d, d, so that when the pedal raises the levers, the upper bar is raised against the couplers, parallel, and raises the coupler against the levers, coupling them together, the entire length of the key board, right or left, or both, as herein set forth.
82,429.—**PRESERVING FRUIT**.—David M. Mefford, Norwalk, Conn., assignor to himself and Stephen Boalt.
I claim, 1st, Preserving fruit by treating or charging the same with sulphurous acid gas, and then subjecting it to heat, in the manner set forth.
2d, Charging raw fruit with sulphurous acid gas preparatory to its being heated, by means of air pumps or bellows, substantially as set forth.
82,430.—**CARVING MACHINE**.—George Merrill, Newburyport, Mass., assignor to Samuel Billah, Piscataway, N. J.
I claim, 1st, The combination of the tables, D and F, connected by links or rods, n, m, to the lever, h, substantially as described.
2d, The shaft, l, mounted in the main frame, and provided with the rigid arms, a and b, carrying the adjustable guide, c, and the cutter, d, and arranged in relation to the tables, D and F, substantially as described.
3d, The table, D, provided with the side pieces or frame, H, l, for supporting the upper table, F, and permitting the latter to be moved thereon, as herein described.
82,431.—**GRAIN SEPARATOR**.—Clark W. Mills and Lewis S. Chichester (assignors to themselves and George H. Nichols), Brooklyn, N. Y. Antedated Sept. 14, 1868.
We claim the adjustable curb, l, that can be moved towards or away from the point of delivery of the straw, in combination with the adjustable blarf rod, k, applied substantially as and for the purposes set forth.
82,432.—**GRAIN DRYER**.—Clark W. Mills and Lewis S. Chichester (assignors to themselves and George H. Nichols), Brooklyn, N. Y. Antedated Sept. 10, 1868.
We claim the series of air tubes, b, b, open at their under side, in combination with a hopper delivering the grain upon such series of tubes, in the manner set forth, so that a current of air shall pass through the grain as it falls from said hopper, and through the series of air tubes, and in contact with such grain, substantially as and for the purpose set forth.
82,433.—**ROLLING MILL**.—Foster Nevegood and David Brose, Pittsburg, Pa.
We claim, 1st, The shaft, J, crank, L, and pitman, M, in combination with the crank, N, movable collar, P, and shaft, O, all constructed and arranged as described, substantially as and for the purpose herein set forth.
2d, The combination of the table, V, arm, b, side pieces, X, X, arms, T, T shaft, O, legs, U, U, hinged leaf, Y, slotted arm, Z, and the lever, d, all constructed and arranged as described, and operating substantially as herein set forth.
3d, The stay lever, r, swiveled pin, s, s, and perforated lever rest, in combination with crab lever, p, all constructed and arranged in the manner and for the purpose substantially as herein set forth.
4th, The upright shaft, m, and pinion, B', in combination with pinion, C', shaft, A', pinions, F', F', cog wheels, E', E', and regulator, G', all constructed, arranged, and operating substantially as herein set forth.
82,434.—**BOOR BELL**.—W. H. Nichols, East Hampton, Conn.
I claim the lever, H, pivoted to the plate, A, at one end, and provided with a slot at its other, through which one end of the hammer wire passes, said lever being provided with lugs, d, e, by means of which it is connected to the spring, E, and to the rod, N, the lug, d, to which the rod, N, is attached, being centrally located upon the lever, to facilitate its operation, as and for the purpose specified.
82,435.—**REFINING CAST IRON**.—H. S. Osborn, Easton, Pa.
I claim the self-generating steam rable, or the rable in which the steam is generated by the heat surrounding the rable, in the manner and for the purposes substantially as above described.
82,436.—**MECHANICAL MOVEMENT**.—Isaac E. Palmer, Hackensack, N. J. Antedated Sept. 14, 1868.
I claim the combination of the toothed wheel, A, with the ring, C, having a female thread, a, in or around it, arranged relatively to each other for operation together substantially as shown and described.
82,437.—**RECIPROCATING STEAM ENGINE**.—Francis S. Pease, Buffalo, N. Y.
I claim, 1st, The construction and arrangement of the frame, or covers, or cylinder heads of the two cylinders, E, the lower section or surface forming a cover to the cylinder, B, and the upper surface the cover of the cylinder, A, 2d, The combination of the lower cylinder head, H', with the section, B, whereby to gain access to the cylinder, B, as herein set forth.
3d, The arrangement of the stuffing box inside the cylinder and with the cylinder head, so that the bolts passing through the cylinder head can be reached from the outside between the two heads.
4th, The combination of the two cylinder heads, A, H', formed or connected together in the manner herein described, with sufficient space between them to give access to the bolts of the stuffing box, S.
82,438.—**FRUIT BOX**.—John M. Perkins (assignor to R. R. Perkins), Plainfield, N. J.
I claim a box constructed of two strips, of veneer, r, in which the top or bottom may be used as bottom or top indiscriminately, and constructed of two pieces of veneer, in the manner and for the purpose set forth.
82,439.—**WAGON BRAKE**.—J. S. Pfirmmer, Lanesville, Ind.
I claim the arrangement upon the front section of a vehicle of the forked rod, a, oblique rods, c, c, levers, D, D, keepers, d, d, and spring, e, all constructed and operating as set forth.
82,440.—**FASTENING FOR BUTTONS**.—Alfred Rix, San Francisco, Cal.
I claim the beaded shank and open washer for securing the button to the cloth or garment, constructed substantially in the manner and for the purpose set forth.
82,441.—**WASHSTAND AND SICK CHAIR**.—Valentin Schreck, Philadelphia, Pa.
I claim the described combination of a sick chair and portable washstand when the parts composing the former are permanently or otherwise attached to a swinging door, C, and otherwise arranged as and for the purpose specified.
82,442.—**WINDOW SHADE FIXTURE**.—Frederick A. Seborn, David R. Dunlap, and Joachim F. C. Geist, Zanesville, Ohio.
We claim the arrangement of the cord, C, pulleys, B, B, roll, A, a fixed cord, E, and cord, F, substantially as shown and described.
82,443.—**DRAFT EQUALIZER**.—Seth Shaddock, Elk River township, Iowa.
I claim the draft bar, F, provided with adjusting holes, c, c, c, etc., ring, K, substantially as for the purpose described.
82,444.—**SAFETY GUARD FOR LOCKS**.—W. C. Sinclair, New York city. Antedated Sept. 18, 1868.
I claim the oscillating plate, g, having a projecting pin, i, in combination with the cam slot, l, on the latch, k, substantially as and for the purpose described.
82,445.—**MODE OF HARDENING GAS-BURNER TIPS MADE FROM SOAPSTONE**, etc.—Henry J. Smith, Boston, assignor to Joseph C. Wightman, New York, Mass.
I claim the hardening and rendering impervious to the action of acids and heat, of gas burners and gas-burner tips, or any part thereof, made from soap stone, talc, talcose rocks, or minerals, by heating them in a vessel containing carbon, substantially as above described.
82,446.—**CHURN**.—W. C. Smith, Yantic, Conn.
I claim the groove, c, and recess, m, on the gear shaft, C, and the lip, E, and arm, E2, on the locking pin, E, constructed and adapted for joint operation, relatively to each other and to the beater shaft, A, and to the gear wheel, D, as and for the purposes herein set forth.
82,447.—**TUMBLING SHAFT FOR CONNECTING POWER WITH MACHINERY**.—Daniel Snell (assignor to himself and J. H. Gano), Springfield, Ohio.
I claim the combination of the collar, C, with its interior bearing, c, and the block end, b, of the rod shaft, B, sliding in the groove, D, of the part, A, for retaining the shaft in position at any point in the line of its extension or contraction, as applied in a tumbling shaft for transmission of power by a rotary or revolving motion, the whole constructed substantially as described, as and for the purpose specified.
82,448.—**PEGGING MACHINE**.—J. W. Soule, Boston, Mass.
I claim the arrangement of the peg cutting mechanism, so that but one peg is cut at the end of the peg wood, which peg, after being cut, is fed forward under the driver, substantially as described.
2d, The combination of the ratchet driving pawl, m, with a reciprocating slide, n, to which the pawl is jointed, and by means of which it is actuated, substantially as described.
3d, In combination with the peg feed wheel, d, feed ratchet, l, and ratchet driving pawl, m, the ratchet-retaining pawl, s', substantially as shown and described.
4th, In combination with the peg feed wheel, d, the spring, h, pressure of which is adjusted by the screw, k, substantially as set forth.
5th, In combination with the slide, h2, spring, d2, and lever, e2, the adjusting plate, h2, substantially as and for the purpose set forth.
6th, In combination with the ratchet driving pawl, m, and the reciprocating slide, n, to which the pawl is jointed, the cam, p, for driving the slide, n, through the lever, r, and connecting rod, s, substantially as shown and described.
82,449.—**COAL STOVE**.—S. B. Stewart, Brush Valley, Pa.
I claim the lower section, A, constructed d, as described, in combination with the metal plates or strips, d, and upper section, C, all arranged substantially as and for the purpose set forth.
82,450.—**CARPENTERS' PLANE**.—J. B. Tarr, Chicago, Ill. Antedated Sept. 16, 1868.
I claim, 1st, The combination of the central clamping and tightening device with the adjustable supports, C, D, the said device and the supports being applied to a plane stock, and in relation to the plane iron thereof, substantially as and for the purpose herein described.
2d, Making the two supports or abutments, C, D, adjustable, substantially as and for the purpose herein described.
3d, Applying pressure to a plane iron between two supports, C, D, through a device, E, F, substantially in the manner and for the purpose herein described.
4th, Changing the pitch and tightening the plane iron by the same means, and at the same time, the means employed being constructed and operated substantially as herein described.
5th, The adjusting of the plane iron by means of the clamping device, composed of the screws, C, D, and E, nut, F, and plate, b, and applied in such manner that the bit is tightened, and the pitch changed at the same time and by the same means, when constructed to operate substantially in the manner described.
6th, Arranging the plane iron beneath the heads or shoulders of two adjustable bearings, C, D, and under a shoulder of a nut, F, so that it may be adjusted, by means of either or both of the bearings, C, D, and may be tightened and have its pitch changed by the screw, E, all substantially in the manner and for the purpose described.

82,451.—HARROW.—J. J. Thomas, Union Springs, N. Y.
I claim a hand brush or spiked harrow, constructed of pieces of plank, hinged together as described, provided with numerous pins or teeth, extending backward at an inclination as respect of or slip over any stalks of weeds, straw, or other refuse matter, substantially as described.

82,452.—SPIKE MACHINE.—L. Thomas, Allegheny City, as assignor to A. Kroman, Lawrenceville, Pa.
I claim, 1st, in a machine for making spikes and bolts, a sliding carriage, B, which carries the spike or bolt blank, a after being severed from its parent bar, and which is freely gripped by pressing dies, in combination with a header, G, constructed and operating substantially as and for the purpose hereinafter set forth.
2d, The part of swinging and pointing tools, A, in combination with a pair of guiding and dressing files, H, arranged and operated substantially in the manner and for the purpose hereinafter described.
3d, The cam, F, cam lever, C, and double parallel bars, I, or their mechanical equivalents, all arranged with reference to one of a pair of pressing dies in a spike machine, to secure first a partial and then a complete closing of the dies on the spike blank, substantially in the manner and for the purpose above set forth.
4th, In the manufacture of rail and spikes, the arrangement of the cams, D, and E, operating in cam yokes, substantially as described, so that one cam, D, which actuates the cutting and pointing tools, A, shall act a little in advance of the other cam, E, which operates the sliding carriage, B, in order that such tools, A, may be partially opened and closed in advance of the beginning of the motion of the carriage, substantially as above described.
5th, The combination, in a spike machine, of swinging pointing tools, A, pointing rolls, H, pressing dies, C, D, and header, G, substantially as and for the purpose above set forth.

82,453.—SAUSAGE STUFFER AND LARD PRESS.—Nathaniel S. Underkuffler, Norritonville, Pa.
I claim the combination of the v-cams, H and J, constructed as specified, and connected, within the dovetailed recess in the table, with the standard, C, lever, E, and follower, F, all as herein shown and specified.

82,454.—CEMENT.—George William Upham, Amherst, N. H.
I claim the within describe cement, composed of the ingredients herein named, and compounded in or about the proportions set forth.

82,455.—SHAFT COUPLING.—James S. Upton, Battle Creek, Mich.
I claim the sockets, B, B, provided with gudgeons, C, C, and connected to the shafts, A, A, by means of the pins, a, secured in the slots, x, x, by the leather keys, all as herein shown and described.

82,456.—JOINT FOR CARRIAGE TOP PROP.—Eilbertson W. Waite, New Haven, Conn.
I claim, 1st, A joint, formed by combining segmental grooves, near the ends of the parts to be united, with a circular rib upon the joint piece, substantially as specified.
2d, The joint pieces, c, with circular ribs, d, entering segmental grooves, c, in the parts, a, b, in combination with the cylinder, i, and bolt or rivet, f, substantially as specified.

82,457.—BEDSTEAD.—William M. Ward, and Peter Bennage, Eureka, Ill.
We claim a bedstead, having rods, C, hoops, D, swivels, E, screws, G, pinholes, a, slats, d, strips, e, and blocks, b, all arranged and operating substantially as described.

82,458.—LAMP.—Charles Webber, and Henry Reimann, West Meriden, Conn.
We claim the construction and arrangement of the cup, B, recessed thumb screw, C, supporting screw, C, open platform, E, air sieve, F, and cone, G, as and for the purpose described.

82,459.—SOAP AND DETERGENT COMPOUND.—Henry W. Weedon, High Point, N. C.
I claim the peculiarly specified combination of ingredients, and the definite quantities of the same, as set forth.

82,460.—STEAM GENERATOR.—S. Lloyd Wiegand (assignor to Walter J. Budd), Philadelphia, Pa. Antedated September 4, 1865.
I claim, 1st, The oblique or spiral deflectors or guides in double boiler tubes, substantially as shown and described.
2d, The tangential or spiral mouths, as shown, for conducting a supply of fluid to the descending columns in double tube boilers, as shown and described.
3d, The deflecting caps or domes, or the equivalents thereof, substantially as shown and described.

82,461.—KOTAY EMBOSSEING PRESS.—I. M. Willbur, Cleveland, Ohio.
I claim, 1st, The combination of the rollers, B, C, impression plates, D, and counter plates, D, operated by means of the lever, E, through the medium of the gears, G, and C, the whole being constructed and arranged in the manner shown and described, as and for the purpose set forth.
2d, The lever, E, in combination with the rollers, B, C, arranged to operate as and for the purpose described.

82,462.—INK PAD FOR HAND STAMP.—I. M. Willbur, Cleveland, Ohio.
I claim the improved ink pad herein described, consisting of the blocks, A, A, provided with the composition ink surface, C, in combination with the ink reservoir, H, distributing rollers, G, mounted on the carriages, D, D, the guide rods, B, B, and handles, K, K, all constructed and arranged to operate substantially as and for the purpose set forth.

82,463.—MACHINE FOR FORMING STEREOTYPE PLATES.—I. M. Willbur, Cleveland, Ohio. Antedated September 16, 1868.
I claim, 1st, The roller, C, having a milled or file cut circumferential surface, for the purpose described in combination with the apron, D, arranged and operating as and for the purpose set forth.
2d, The sliding bed, E, having a head or upright, g, with its curved surface, and the adjuster screw, H, in combination with the roller, C, and a rod D, all constructed and operating as described, and for the purpose set forth.

82,464.—STEREOTYPERS' PUTTY.—I. M. Willbur, Cleveland, Ohio. Antedated Sept. 17, 1868.
I claim the composition hereinabove described, for the purposes specified.

82,465.—HAND BRUSHING AND POLISHING APPARATUS.—William H. Wilbur, New York city.
I claim, 1st, So arranging the coiled spring and the system of gearing within the cylindrical body furnished with axial handles, a, to secure the rotary movement of each body, substantially as herein set forth.
2d, The arrangement of the friction disks with the cylindrical body furnished with axial handles, whereby the rotary movement of the same may be stopped, substantially as herein set forth.
3d, The arrangement of the coiled spring, the system of gearing, the stem of the handle, A, and the frame, A, with reference to each other and to the parts, B, B, dividing the cylindrical body, B, substantially as and for the purpose specified.

82,466.—CAR WHEEL.—William Wilmington Toledo, Ohio.
I claim the within described method of casting cast wheels of two qualities of iron, that is to say, one of said qualities being poured into the portion of the mold designed to form the hub of the wheel, and the other being poured into that portion of the mold designed to form the rim of the wheel, the two currents of iron meeting within the mold, and there acting upon and mingling with each other, substantially as set forth.
Also, an improved method of manufacturing a car wheel produced of two qualities of molten iron, by the method herein set forth.

82,467.—OIL GLOBE FOR STEAM CRIST.—Charles A. Wilson, Cincinnati, Ohio.
I claim the arrangement as described, of the globe, A, hub, C, cock, E, aperture, F, G, recess, H, channel, I, I, passages, J, K, L, and channel, P, as herein described.

82,468.—COMPOSITION FOR DESTROYING INSECTS ON POTATO PLANTS.—James P. Wilson (assignor to himself and V. R. Darco), Elmwood, Ill.
I claim a powder, prepared of the materials and in the manner specified, to be used for the destruction of potato bugs.

82,469.—WHIFFLE TREE HOOK.—James Wood, Utica, N. Y.
I claim the cap, B, with the hook, B, cast or attached to it both shaned and constructed as herein shown, and secured to the whiffletree in the manner and for the purposes herein shown and described.

82,470.—MAKING NUTS.—Oliver W. Yale, Hartford, Conn.
I claim the arrangement of the cams, c, cam grooves, f, f, and crank shaft, G, with the cross head, D, levers, U, P, S, and loggles, R, R, in the manner described.
Also, the arrangement on the anvil, L, of the stationary die, K, slides, M, O, edge saws, Z, and stripper, U, in the manner described and for the purpose set forth.
Also, the combination of the punches and face swages with the edge swages, the transfer and the anvil block, all constructed, arranged and operated substantially as described.

82,471.—APPARATUS FOR EXTINGUISHING FIRE.—George Clark, Jr. Boston, Mass.
I claim the combination and arrangement of the water tank, C, the compartments, G and H, and the pumps, J and K, (the latter being disposed within the intermediate compartments, A and B, and being connected with the air chamber), the pipes, a, a and c, d, in addition to the ordinary feed and discharge pipes of the pump.
82,472.—ARMY WAGON.—Alfred Sully, United States Army.
I claim, 1st, The body, C, constructed as described, and provided with seats, F, F, and E, receptacles, L, and railing, M, all substantially as and for the purposes herein set forth.
2d, In combination with the seats, F, F, F, the hinged dash boards, G, G, G, and foot boards, H, H, H, substantially as and for the purposes herein set forth.
3d, In a wagon provided with suitable seats and foot boards, the employment of sectional tent pieces, J, J, substantially as and for the purposes herein set forth.
4th, The combination of the body, C, seats, F, F and E, railing, M, receptacle, L, dash boards, G, G, G, foot boards, H, H, H, and folding tent pieces, J, J, all as herein shown and described.

82,473.—LOCK NUT AND TIGHTENER.—H. W. Olney, R. R. Logan and J. B. Fisher, Allegheny City, Pa.
We claim the lock nut and tightener above described, consisting essentially of the conical spring, A, in combination with the nut and the part, C, D, of the same, shown and operating in connection with a screw, d, substantially as described.

2d, Cutting a hole and simultaneously embossing the border in a picture frame, substantially as described.
74,497.—SCROLL SAW.—Dated February 18, 1868; reissue 3,131.—B. J. Camp, Marion, Ohio.
I claim, 1st, S cutting or clamping the lower end of the saw blade, B, to the pivot pin, F, by means of the screw, a, and a nut and screw, b, the tenon of the blade being inserted into a hole in the saw, so that the saw is clamped between the shoulder of said set screw and side of the pin, F, substantially as herein set forth.
2d, The forged adjustable springs, H and I, arranged as described, one above and one below the saw table, for the purpose of observing the danger of breaking the saw at the same time as they act as guides for it, substantially as herein set forth.
3d, The up-and-down adjustable guide bar, G, carrying the bent spring, H, constructed and arranged to operate substantially as herein set forth.

58,317.—HARVESTER RAKE.—Dated October 9, 1866; reissue 3,127.—Joseph Dick, Jr., Osawaha county, Ontario, and Eugene Glen, Rochester, N. Y., assignees, by meane assignments, of Joseph Dick, Jr.
We claim, 1st, The joint ball, g, working within the pulley or case, B, both constructed and operating, with reference to each other, substantially as shown and described, for the purpose of communicating power to and in combination with an automatic rake for harvester.
2d, The hanger, A, the pulley or case, B, and the joint ball, g, all constructed and operating with reference to each other, substantially as shown and described, for the purpose of communicating power to and in combination with an automatic rake for harvester.
3d, The combination of the vertically-rotating extensible or sliding tumbling shaft, in combination with a vibrating sweep rake, for operating the same, substantially as described.
4th, The arrangement of the sections, G and G', upon the vertical sleeve, f, and the segmental pinions, C and C' upon the horizontal driving shaft, E, of the rake, as shown, so as to constitute, collectively, an entire circle of gearing, as shown and described.
5th, The combination of the detachable pulley, T, with the sleeve or ferrule S, having one or more locking pins, c, substantially as and for the purpose set forth.
6th, The arrangement of the elevating lever, L, ratchet, O', head Q, chain, U, and pulley, V, in combination with each other and brace of the shoe, as and for the purpose set forth.

15,735.—HARVESTER.—Dated September 16, 1856, reissue 3,128.—Division F.—William Gage, Buffalo, N. Y., and Andrew Whitely, Springfield, Ohio, assignees of William Gage.
We claim the harvester's cutting apparatus, having the shoe, M, the finger bar, N, and the narrow divider, O, or their equivalents, constructed and combined, substantially as herein described, so that this cutting apparatus will veer on its motion between said shoe and the frame of the machine, to which it is attached, upon which the outer end of said cutting apparatus may rise or fall within the limit allowed it, with the undulations of the ground over which it is drawn, without affecting or being affected by the height of said shoe or the vertical position of the cutter's driving wheel.
The combination of the herein-described shoe, M, finger bar, N, and narrow divider, O, or their equivalents, in the harvester's cutting apparatus, when one of these portions of said divider, which supports the shoe while being cut, is of less width than the other, substantially as and for the purpose set forth.
The combination of the shoe, M, finger bar, N, and narrow divider, O, or their equivalents, in the harvester's cutting apparatus, with the coupling frame, F, or an equivalent thereof, to enable the axis at the inner end of this cutting apparatus to be raised or lowered in respect to the main frame, substantially as and for the purpose described.
The combination of the coupling frame, F, and the pivots, I, I, or their equivalents, with the main frame of the harvester, so as to have one portion or end of the hinge between these frames in front, and one in the rear of the axle of the cutter's driving wheel, substantially as, and to obtain the advantages described.
The combination of the inward projections, l, l, and the plate, G, or their equivalents, with the shoe, M, finger bar, N, and the narrow divider, O, in the harvester's cutting apparatus, to limit the downward vibrations of the outer end of this cutting apparatus, substantially as described.
The combination of the slots, m, m, the bolt, n, the washers, o, o, and the screw nuts, p, p, or an equivalent arrangement of parts, with the shoe, M, finger bar, N, and narrow divider, O, in the harvester's cutting apparatus, to hold up the inner end of this cutting apparatus, substantially as and for the purpose set forth.
The combination of the track clearer, T, or its equivalent, with the shoe, M, finger bar, N, and narrow divider, O, in the harvester's cutting apparatus, so as to separate the grass cut by this apparatus from that which is to remain uncut, substantially as described.
The combination of the driving wheel, P, or its equivalent, with the shoe, M, finger bar, N, and narrow divider, O, in the harvester's cutting apparatus, so as to carry the divider in one of the ways named, substantially as and for the purpose specified.

65,377.—MODE OF DRYING GLUE.—Dated June 4, 1867; reissue 2,971, dated June 9, 1868; reissues 3,129.—A.—George Guenther, Chicago, Ill.
I claim, 1st, Drying glue by wetting solid surfaces with the glue in a liquid state and allowing it to dry thereon in thin films, as herein specified.
2d, Facilitating the drying of glue in thin scales or flakes on solid surfaces by circulating air therewith, as herein specified.
3d, In the production of scale glue on solid surfaces, the employment of artificial heat within the said surface, or in the air, or both, as herein specified.
4th, The mode of drying glue in thin scales, by revolving or rotating surfaces, having their temperatures raised either by steam or hot air, substantially as described.
5th, Drying glue on thin revolving disks, as and for the purpose herein set forth.

65,377.—MACHINERY OR APPARATUS FOR DRYING GLUE.—Dated June 4, 1867; reissue 2,971, dated June 9, 1868; reissues 3,130.—B.—George Guenther, Chicago, Ill.
I claim, 1st, The perforated case or air distributor, E, arranged as represented relatively to the drying surfaces, A, and to the current of air artificially thrown thereon, for the purposes herein set forth.
2d, The rollers, B, B, with openings, b, with openings, C, or their equivalents, whereby the surfaces, A, are immersed in the liquid glue and removed therefrom at will, substantially as and for the purposes herein set forth.

40,571.—ROTARY STEAM ENGINE.—Dated November 10, 1863; reissue 3,131.—Metropolitan Engine Company (assignees, by meane assignments, of Adolph Millocan), New York city.
We claim the rotary steam engine, consisting of the valves, k, k, m, and m', in combination with the ring, c, and pistons acting in the steam spaces, y and z substantially as specified.

54,434.—MANUFACTURE OF PAPER COLLARS, ETC.—Dated May 1, 1866; reissue 3,132.—George W. Ray, Springfield, Mass.
I claim paper, embossed and enamelled upon either one or both sides, whether before or after its conversion into articles of wearing apparel, all substantially as herein described.

18,873.—BOWING MACHINE.—Dated December 15, 1857; reissue 3,133.—Aralous Wyckoff, assignee, by meane assignments, of Lafayette Stevens, Elmira, N. Y.
I claim, 1st, The oblique r-riving rests, O, O, in combination with the screws, t, and pins, s, which are arranged in relation to one another, and used in connection with the dog, Q, and chain, P, for the purpose of adjusting the timber to the auger, and in adjusting the same, substantially as set forth.
2d, The combination of the shaft, F, worm, I, pinion, J, and rack, I', arranged to operate the traveling bed, E, substantially as set forth.
3d, An apparatus for cutting hair, the cutting lips of which project in the direction of the hair, and are formed on a curved and oblique line, substantially as set forth.
4th, The loose independent collar, f, provided with knife edges, g, g, to keep it from turning, for the purpose of furnishing a bearing for the head of the auger while in operation.
5th, The sharp annular spur, c, for the purpose of centering and guiding the auger, and at the same time leaving a core of the material bored in the center of the auger, in the manner specified.

80,456.—NUTMEG GRATER.—Dated July 28, 1868; reissue 3,134.—J. L. Coles, and D. H. Coles, New York city.
We claim a box, A, containing a revolving carrier, D, having a series of chambers with spring followers, which press the articles to be grated against the stationary grating surface, E, which is combined with a receiver, F, all as shown and described.
Also, the combination with the cylindrical box, A, of a series of carriers at angles to each other, so as to leave supplementary chambers, b, substantially as and for the purpose set forth.
Also, the slots or openings, g, in front of the teeth, t, of the grating surface, said slots being formed by actually cutting or leaving out a portion of the metal, substantially as and for the purpose described.

25,253.—FAUCET.—Dated August 30, 1859; reissue 3,135.—Division B.—Albert Fuller, New York city.
I claim, 1st, An elastic plug valve enclosed in the above described metallic shell, for the purposes set forth.
2d, An elastic plug valve enclosed in a metallic shell, as described, when the shell is constructed to present a valve face which is transversely or laterally exterior to the plug, in combination with a valve seat or seats to both the elastic and metallic faces of the valve, substantially as shown and described.

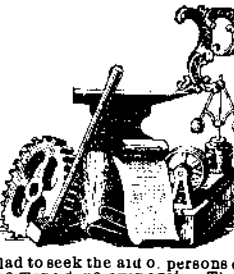
63,729.—HORSE RAKE.—Dated April 9, 1867; reissue 3,136.—James La F. King and Wm. W. Watson (assignees of Watson King), Springfield, Ill.
I claim, 1st, The extension of the crank arms, a, on each side of the rake head below the axle, in the crank form, as applied to horse rakes, for the purposes herein shown and in the manner described.
2d, Attaching the trace to the end of the crank or draft arms, a, which are extended below the center of the wheels from each end of the rake head, to make the point of draft, in the manner herein described and for the purposes set forth.
3d, The forming spring or brace on the butt end of the tooth, said brace being formed with or without a loop, for the purpose set forth and in the manner described.
4th, At attaching the tooth, H, to the rake head, a, by means of a straight or beveled mortise and key, for the purpose set forth and in the manner described.
5th, Attaching the tooth, H, to the rake head, a, by passing the loop over and around the head, for the purposes herein set forth and in the manner described.
6th, The thimble or metal band, g, as a means of securing and completing the brace or spring, formed by the connection of the end of the tooth bent over with the main body of tooth, for the purposes herein set forth.

78,862.—ANCHOR.—Dated June 9, 1868; reissue 3,137.—Frederick Wiltram, San Francisco, Cal.
I claim, 1st, Operating means, lengthwise in the shank of an anchor, through which arms or flukes move freely to either side, substantially as herein described.
2d, The planing of two or more jointed arms or flukes at different portions of the shank's length, at or about right angles to each other.

DESIGNS.

3,194.—SPOON HANDLE.—B. D. Deiderhase, New York city.
3,195.—SPIRIT LEVEL.—L. L. Davis, Springfield, Mass.
3,196.—LOWER PORTION OF A GOKED SKIRT.—Thomas Dolan, Philadelphia, Pa.
3,197 to 3,199.—STOCKING FABRIC PATTERN.—Thomas Dolan, Philadelphia, Pa. Three patents.
3,200 and 3,201.—CARPET PATTERN.—Israel Foster, Philadelphia, Pa. Two patents.
3,202.—TABLE FORK.—J. W. Gardner, Shelburne Falls, Mass.
3,203 to 3,206.—STOVE.—William Hailes (assignor to John F. Rathbone & Co.), Albany, N. Y. Four patents.
3,207.—TRADE MARK.—F. A. Hasenclever, New York city.
3,208.—TRADE MARK.—Joseph H. Jessop, Cambridge, Mass.
3,209 and 3,210.—FLOOR CLOTH PATTERN.—Victor Meyer, Kearney, N. J., assignor to Edward C. Sampson, New York city. Two patents.
3,211.—CLOCK CASE.—Solomon C. Spring (assignor to Welch, Spring & Co.), Bristol, Conn.

Inventions Patented in England by Americans.
[Compiled from the "Journal of the Commissioners of Patents."]
PROVINCIAL PROTECTION FOR SIX MONTHS.
2,083.—CARTRIDGE FOR BREECH-LOADING FIRE-ARMS.—Wm. H. Crocker, Boston, Mass. June 24, 1868.
2,421.—CLOSING CANS, BARRELS, ETC.—Edward Jenkins, Ravenswood, N. Y. Aug. 1, 1868.
2,565.—ELLIPTIC SPRINGS FOR VEHICLES.—Joseph Palmer, Concord, N. H. Aug. 17, 1868.
2,567.—APPARATUS FOR CLEANING GRAIN.—Simon Howes and Alphon Babcock, Silver Creek, N. Y. Aug. 17, 1868.
2,601.—ROTARY ENGINE.—Frederick Orthlieb, Greenpoint, N. Y., and Edward White, New York city. Aug. 20, 1868.
2,605.—APPARATUS FOR MANUFACTURING FLOUR.—Henri B. Sears, New York city. Aug. 31, 1868.
2,621.—UNITING THE ENDS OF RAILWAY RAILS.—Daniel R. Pratt, Worcester, Mass. Aug. 22, 1868.
2,623.—CARTRIDGE FOR BREECH-LOADING FIRE-ARMS.—Samuel Norris, Springfield, Mass. Aug. 24, 1868.



PATENTS.
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U. S. PATENT OFFICE. Washington, D. C., Sept. 18, 1868. Thomas Stal ght, of Newark, N. J., having petitioned for an extension of the patent granted him on the 2d day of January, 1868, for an improvement in "Wood-working Machinery," it is ordered that the said petition be heard at this office on the 14th day of December next.

U. S. PATENT OFFICE. Washington, D. C., Sept. 9, 1868. Sylvanus Sawyer, of Fitchburg, Mass., having petitioned for an extension of the patent granted to him on the 24th day of June, 1851, for an improvement in "Machinery for Cutting Rattan," etc., (the application having been authorized by act of Congress, March 2, 1857), it is ordered that the said petition be heard at this office on the 24th day of December next.

U. S. PATENT OFFICE. Washington, D. C., Sept. 21, 1868. Joseph S. Winsor, of Providence, R. I., having petitioned for the extension of the patent granted him on the 2d day of January, 1855, for an improvement in "Machines for making Weavers' Harness," it is ordered that said petition be heard at this office on the 14th day of December next.

U. S. PATENT OFFICE. Washington, D. C., Sept. 21, 1868. Sylvanus Sawyer, of Fitchburg, Mass., having petitioned for the extension of a patent granted him the 4 day of January, 1855, for an improvement in "Machines for Splitting Rattans into Strips," it is ordered that said petition be heard at this office on the 14th day of December next.

U. S. PATENT OFFICE. Washington, D. C., Sept. 23, 1868. Jarvis Case, of Lafayette, Ind., having petitioned for an extension of the patent granted him on the 16th day of January, 1855, re-issued on the 16th day of November, 1855, and again re-issued on the 17th day of April, 1866, for an improvement in "Saw Planers," it is ordered that said petition be heard at this office on the 21st day of December next.

U. S. PATENT OFFICE. Washington, D. C., Sept. 23, 1868. George W. Hubbard and William E. Conant, of New York City, having petitioned for an extension of the patent granted them on the 9th day of January, 1855, and re-issued on the 18th day of September, 1866, for an improvement in "Operating Shoe Valves in Direct Action Engines," it is ordered that said petition be heard at this office on the 21st day of December next.

U. S. PATENT OFFICE. Washington, D. C., Sept. 23, 1868. R. F. Brown, of Dorchester, Mass., having petitioned for an extension of the patent granted him on the 12th day of December, 1854, for an improvement in "Hanging Carriage Bodies," it is ordered that said petition be heard at this office on the 21st day of December next.

U. S. PATENT OFFICE. Washington, D. C., Sept. 11, 1868. George W. Hubbard and William E. Conant, of New York City, having petitioned for an extension of the patent granted them on the 9th day of January, 1855, and re-issued on the 18th day of September, 1866, for an improvement in "Operating Shoe Valves in Direct Action Engines," it is ordered that said petition be heard at this office on the 21st day of December next.

U. S. PATENT OFFICE. Washington, D. C., Sept. 7, 1868. R. F. Brown, of Dorchester, Mass., having petitioned for an extension of the patent granted him on the 12th day of December, 1854, for an improvement in "Hanging Carriage Bodies," it is ordered that said petition be heard at this office on the 21st day of December next.

U. S. PATENT OFFICE. Washington, D. C., Sept. 9, 1868. Sylvanus Sawyer, of Fitchburg, Mass., having petitioned for an extension of the patent granted him on the 12th day of December, 1854, for an improvement in "Rattan Machine," it is ordered that said petition be heard at this office on the 23d day of November next.

U. S. PATENT OFFICE. Washington, D. C., Sept. 9, 1868. James E. Simpson, of Brooklyn, N. Y., having petitioned for an extension of a patent granted him on the 25th day of December, 1854, for an improvement in "Dry Docks," it is ordered that said petition be heard at this office on the 23d day of November next.

U. S. PATENT OFFICE. Washington, D. C., Sept. 9, 1868. Charles De fourth, of Paterson, N. J., having petitioned for the extension of a patent granted him on the 12th day of December, 1854, for an improvement in "Throbbles for Spinning Cotton," it is ordered that said petition be heard at this office on the 23d day of November next.

U. S. PATENT OFFICE. Washington, D. C., Sept. 9, 1868. Sylvanus Sawyer, of Fitchburg, Mass., having petitioned for an extension of the patent granted him on the 12th day of December, 1854, for an improvement in "Rattan Machine," it is ordered that said petition be heard at this office on the 23d day of November next.

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