

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. Includes rows for 'On filing each caveat', 'On filing each application for a patent', 'On filing application for Design', etc.

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 filing application for Design (seven years), \$10. 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.

82,274.—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 shaft, 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 its 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'.

82,287.—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 G, and the clear gullet, D, formed of each section, and the space, E, between the sections, and all arranged as specified.

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 described.

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. Myles), Illinois, Ill. I claim the shaft, K, knife, M, belt, N, with its buckets gears, o m p, and their shafts, and frame to which they are attached, wheel, a, with ribs, 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-roof, E, 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 the side, E, combined with the 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 headed 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.—CAR SPRING.—James W. Evans, New York City. I claim the spiral spring, A, the elastic tube, B, and the closed air chamber confining the column of air, C, constructed and combined substantially as and for the purpose specified.

82,301.—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.

82,302.—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. Pory, 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.—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, c, 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.

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

82,306.—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.

82,307.—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.—MATT.—John M. Groh, Benedict, Md. I claim the mat constructed as described, consisting of the wooden block, A, having an interior groove, B, extending to receive the matted bar, through a notch, in the flange of said block, as herein described, for the purpose 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 disperse with the insertion into the liquor of metallic oxides.

82,310.—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.

82,311.—RANGOR.—John P. Hayes, Philadelphia, Pa. Antedated Sept. 8, 1868. I claim, 1st, The construction and arrangement of the tunnel, B, in its relation to the cylinder, A, and the air heating chamber, C, whereby the air for the combustion of the fuel in the cylinder can at any time be drawn from the air heating chamber, C, substantially as and for the purpose specified.

82,312.—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.

82,313.—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.

82,314.—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.

82,315.—PROCESS OF EXTRACTING PRECIOUS METALS FROM ORES, &c.—Geo. E. B. Hill, Virginia City, Nevada. I claim the index lenses above arranged, and compounded and added to the cres. pup. talnns, and slimes, in about the proportions herein specified for the purpose set forth.



**82,317. — ARRANGEMENT OF MECHANISM FOR OPERATING PUNCHES.**—Luther W. Holmes, Grand Ledge, 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 mash 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 mash receiving chamber or vessel, A, with the mesh vessels, D, G, and H, and pipes, C, F, and J, provided with suitable valves 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 mesh 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, essentially 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. — VELOCIPÈDE.**—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 purposes set forth.

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

4th, The 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 purposes set forth.

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

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 described.

**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 described.

**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-constructed wall, c, with inclined illuminating window, d, and with downwardly-constructed 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, b, 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, r, the lever, r, and the spring, z, provided with the bolt, e, or such bolt and the spring, b, 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. Rogers, 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 and c, the bars, e and 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, or an oscillating cylinder, substantially as shown and described.

**82,343. — WAGON.**—Alvah Pate and Edgar Wilber Pate, Nanaimo, 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, "U" (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, 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 ways, 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 a top piece, c, and a side piece, d, and its upper edge, in combination 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 Ira 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 glb, G, in combination with the bed, A', and removable needle bed, as and for the purposes 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 purposes 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, g, 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 cam, 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 rollers, c, for the engine, for driving the friction rollers which carry the ties to the inclined 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 pinion, G, the whole 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, valise, 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 purposes 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 Livingston, 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, and 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 and E, in both operations serving to prevent the contents of the bottle from spattering 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 described, for the purpose 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 piston, i, f, 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, caster 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 object explained.

**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 specified.

**82,362. — QUARTZ MILL.**—Samuel Swesey, Malta, Ohio.  
I claim, 1st, Supporting the stone, C, above the bed stone, by means of the swiveled 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. — BEHIVE.**—James Tallman, Clayton, Ill.  
I claim, 1st, The arrangement and combination of a series of hives, provided with inclined bottoms, and resting on inclined feet, a, with a shaft, b, in 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 SIDBOARD.**—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.**—Jephtha A. Wagner, N. Y. city.  
I claim, 1st, The feeding device, J, furnished with points on each side of an open slot, and a point, in combination with the upper foot, and feeding points being applied, 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, triple slotted, and upper 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, C', needle, c, feed arm, J, bridge, u, and presser foot, V, all constructed and arranged and operating as described.

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

8th, The rear elastic sleeve bearings, 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 combination of the looper, H, 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. — HAMES AND STRAP FASTENER.**—John B. Waterman, Summit, Mich.  
I claim the arrangement, in a hames 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 purposes stated.

2d, The combination, with the guard or binged 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, madetapering at its upper end, substantially as and for the purposes 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 shifter or wiper, L, for delivering the ears to the auxiliary rolls, 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 specified.

**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 flue, with the screen, F, as herein, all being constructed and arranged substantially in the manner set forth.

**82,374. — BUNG 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, a, a1, a2, a3, and the annular rim, B, when composed of the pieces, b, 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, d, d1, d2, d3, d4, d5, d6, herein shown and described.

**82,376. — DREDGING MACHINE.**—Albert Boschke, 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.**—Williard 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 brackets, E, elevated therein 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 inclined be placed on the washer, E, and the end of the connecting rod, A, or on the two washers, D and D', 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.





**82,451.—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 chains, with a sliding back and an inclination as to cast off 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, after being severed from its parent bar, and while firmly gripped by pressing dies, in combination with a header, G, constructed and operating substantially as and for the purpose hereinbefore set forth.

2d, The part of swinging and pointing tools, A, in combination with a pair of guiding and dressing rollers, H, arranged and operated substantially in the manner and for the purpose hereinbefore 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 purposes above set forth.

4th, In the manufacture of rail and spikes, the header, G, with a fluted shank, hung and operated, substantially as above described, so that it shall except at the completion of the stroke of the machine, have its face inclined to the direction of the faces of the pressing dies, for the purposes hereinbefore specified.

5th, In a machine for making 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.

6th, The combination, in a spike machine, of swinging pointing tools, a', pointing rolls, H, pressing dies, b, b', and header, G, substantially as and for the purposes above set forth.

**82,453.—SAUSAGE STUFFER AND LARD PRESS.—Nathaniel S. Underkuffler, Norritonville, Pa.**  
I claim the combination of the vases, 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 described 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.—Elbertson 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, e, with circular ribs, d, entering segmental grooves, c, in the bars, 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.

4th, The conical adjusters, C, C, substantially as shown and described.

**82,461.—ROTARY 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, F, and G, the whole being constructed and arranged in the manner shown and described, as and for the purpose set forth.

2d, The lever, E, and the adjustable pawl, F, 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, G, mounted on the carriages, D, D, the gudgeons, 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 fluted 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. Willson, 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 cylindrical body, 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 superior quality 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 manufacture of a car wheel produced of two qualities of molten iron, by the method herein set forth.

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

**82,468.—COMPOSITION FOR DESTROYING INSECTS ON POTATO PLANTS.—James P. Wilson (assignor to himself and V. R. Daroff), 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, I, and the latter 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, the hinged dash boards, 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, receptacles, L, dash boards, 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. H. Fisher, Allegheny City, Pa.**  
We claim the lock nut and tightener above described, consisting essentially of the conical spring, J, and the nut and the part, C, of the nut, all as shown and operating in connection with a screw, d, substantially as described.

REISSUES.

**46,699.—PICTURE CARD FRAME.—Dated March 7, 1865; reissue 3,135.—Garret P. Bergen, Brooklyn, assignee of R. W. Potter, New York City.**  
I claim, 1st, A card frame for a picture, formed with an opening embossed around its edges, substantially as set forth.

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 3,136.—B. J. Camp, Marion, Ohio.**  
I claim, 1st, S cutting or clamping the lower end of the saw blade, B, to the scroll pin, F, by means of the screw, a, and an end screw, b, the tenon thereof 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., Oswego 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 continuously-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 W. Brealey, 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 revolve on its own axis of motion between said shoe and the frame of the machine, with the shoe, M, on one end, 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 axis 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 axis of the cutter's driving wheel, substantially as, and to obtain the advantages described.

The combinations of the inward projections, I, I, 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 combinations 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 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 flakes, 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 surfaces, 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 base 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 arrangement of the rollers, B, with operating means, 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 Millican), New York City.**  
We claim the rotary steam engine, having 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 or engraved 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 trussing rests, O, O, in combination with the screws, T, and pins, 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 it, substantially as set forth.

2d, The combination of the staff, R, worm, I, pinion, J, and rack, I', arranged to operate the trussing rest, O, substantially as set forth.

3d, An apparatus cutter head, bearing the cutting lips of which project in the direction below the auger, 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, e, 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 spiral 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.—FALCET.—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 shield, for the purposes set forth.

2d, An elastic plug valve enclosed in a metallic shield, as described, when the shield 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 them 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.

**78,852.—ANCHOR.—Dated June 9, 1868; reissue 3,137.—Frederick Whitram, 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 GORED 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. Hathbone & 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."]  
**PROVISIONAL PROTECTION FOR SIX MONTHS.**

2,083.—CARTRIDGE FOR BREACH-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 Alphas 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.—Henry B. Sears, New York City. Aug. 31, 1868.

2,621.—UNITING THE ENDS OF RAILWAY RAILS.—Daniel R. Pratt, Worcester, Mass. Aug. 22, 1868.

2,628.—CARTRIDGE FOR BREACH-LOADING FIRE-ARMS.—Samuel Norris, Springfield, Mass. Aug. 24, 1868.



**PATENTS.**  
The First Inquiry that presents itself to one who has made any improvement or discovery is: "Can I obtain a Patent?" A positive answer can only be had by presenting a complete application for a Patent to the Commissioner of Patents. An application consists of a Model, Drawing, Petition, Oath, and full Specification. Various official rules and formalities must be observed. The efforts of the inventor to do all this business himself are generally without success. After a season of great perplexity and delay, he usually

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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, 1858, 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. Any person may oppose this extension. Objections, depositions, and other papers should be filed in this office twenty days before the day of hearing. 15 3 ELISHA FOOTE, Commissioner of Patents.

U. S. PATENT OFFICE. Washington, D. C., Sept. 8, 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. Any person may oppose this extension. Objections, depositions, and other papers should be filed in this office twenty days before the day of hearing. 15 3 ELISHA FOOTE, Commissioner of Patents.

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. Any person may oppose this extension. Objections, depositions, and other papers should be filed in this office twenty days before the day of hearing. 13 3 S. H. HODGES, Acting Commissioner of Patents.

U. S. PATENT OFFICE. Washington, D. C., Sept. 23, 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. Any person may oppose this extension. Objections, depositions, and other papers should be filed in this office twenty days before the day of hearing. 15 3 S. H. HODGES, Acting Commissioner of Patents.

U. S. PATENT OFFICE. Washington, D. C., Sept. 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. Any person may oppose this extension. Objections, depositions, and other papers should be filed in this office twenty days before the day of hearing. 14 3 ELISHA FOOTE, Commissioner of Patents.

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. Any person may oppose this extension. Objections, depositions, and other papers should be filed in this office twenty days before the day of hearing. 14 3 ELISHA FOOTE, Commissioner of Patents.

U. S. PATENT OFFICE. Washington, D. C., Sept. 7, 1868. R. F. Brown, of Worcester, 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 23d day of November next. Any person may oppose this extension. Objections, depositions, and other papers should be filed in this office twenty days before the day of hearing. 18 3 ELISHA FOOTE, Commissioner of Patents.

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. Any person may oppose this extension. Objections, depositions, and other papers should be filed in this office twenty days before the day of hearing. 18 3 ELISHA FOOTE, Commissioner of Patents.

U. S. PATENT OFFICE. Washington, D. C., Sept. 6th, 1868. James E. Simpson, of Brooklyn, N. Y., having petitioned for an extension of a patent granted him on the 5th day of December, 1854, for an improvement in "Dry Dock," it is ordered that said petition be heard at this office on the 23d day of November next. Any person may oppose this extension. Objections, depositions, and other papers should be filed in this office twenty days before the day of hearing. 18 3 ELISHA FOOTE, Commissioner of Patents.

U. S. PATENT OFFICE. Washington, D. C., Sept. 9, 1868. Charles Deworth, 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 "Throistles for Spinning Cotton," it is ordered that said petition be heard at this office on the 23d day of November next. Any person may oppose this extension. Objections, depositions, and other papers should be filed in this office twenty days before the day of hearing. ELISHA FOOTE, Commissioner of Patents.