### NOTES ON FOREIGN INVENTIONS AND DIS-COVERTES

Enameling Articles of brass and German silver :- Fancy enameled metallic work has only been produced on articles of gold and copper. Silver, brass and German silver are not adapted in their nature for withstanding the heat to which the fused enamel is subjected, hence enamel will not adhere to such metals. Mr. Samuel Fearne, of Birmingham, England, has obtained a patent for enameling articles of brass and German silver, which is described in substance as follows in Newton's London Journal of Arts and Sciences: The invention consists in coating with copper the surface of the article of brass or German silver to be enameled, or that portion of the surface of the article to which the enamel is to be applied, whereby the fused enamel will be enabled to attach itself firmly. In producing designs in enamel on metallic surfaces that portion of the surface which is to be enameled is generally sunk or depressed, and the enamel fused in the portions of the surface. By afterward grinding or polishing, the surfaces of the enamel and the unenameled or metallic parts are made flat or flush with one another. The sunken designs may be produced either by engraving or etching with acid, or by transferring a design, printed from a copper plate, stone, glass, steel, zinc, or other printing surface; the design being printed in some material not affected by acid, and afterward biting by acid, to the necessary depth, those parts of the design which are required to be enameled. Or the designs may be produced by embossing or impressing the surface of the articles, by means of dies, or rollers, or other tools. After the sunken or depressed design has been produced a film or layer of copper is deposited upon the whole surface of the article, or upon those parts only which are to be enameled; by the ordinary process of electrical deposition. The enameling of the coated parts is then effected in the ordinary way. The enameled surface is next ground or polished, and the enameled article is afterward finished, by silvering, bronzing, or lacquering the surface of the unenameled or metallic parts of the article, in the usual way. When the form of the article is such that all parts of it can be readily reached by any of the ordinary polishing processes, it is unnecessary to stop out any portion of the surface, by means of varnish, prior to the deposition of the copper on the said article, that is to say, the whole surface of the article may be connered. After the enamel has been fused in the sunken parts, the whole surface of the article is ground or polished, by which grinding or polishing the copper on the unenameled parts of the article is removed, and the enameled and metallic parts made flush with one another. The unenameled or metallic surface of the article is afterward finished by silvering, bronzing, or lacquering.

Revolving Steam Boilers .- D. F. Grimaldi, of Teramo. Italy, has constructed a steam boiler formed of a series of tubes set in a cylinder, which is made to rotate in the furnace. The trunnions of the boiler are hollow, and the water is fed through them, so that they are kept comparatively cool.

Renovating Old Cannon. - J. Snider, Jr., has obtained a patent for rendering worn-out cast-iron serviceable again as follows:—He first rebores the cannon so as bore is then fitted and fastened a steel cylinder which may be either rifled or smooth and it forms the bore of gun.

# RECENT AMERICAN INVENTIONS.

Veneer Cutting .- This invention consists, firstly, in giving the bolt from which the veneers are cut a peculiar motion so that the bolt will be presented to the knife, which is stationary, with a rolling and drawing cut, and the veneers cut therefrom in a suitable and even manner with a moderate application of power; secondly, in a peculiar feeding device for adjusting the knife to its work at the commencement of each cut, whereby the thickness of the veneers may be graduated as desired with the greatest nicety, and the knife also withdrawn from the bolt during the return movement of the latter so that the edge of the knife will be preserved and much friction avoided: and, thirdly, in a novel and improved arrangement of dogs for securing the bolt to its bed, whereby the dogging of the bolt may be expeditiously performed and all irregularities of the bolt compensated for by a so arranged as to effect the desired purpose,

self-adjusting feature of the dogs. Invented by Loring P. Hawes, of New York city.

Rotary Engines .- Two patents, the claims of which will be found in this week's list of claims, have been granted for improvements in rotary engines by John B. Root, and a third for other improvements in such engines by J. Clayton and A. Campbell, all of which have been assigned to Root's Rotary Steam Engine Company of New York city, which is manufacturing engines under these and other patents of Mr. Root. The improvements relate more particularly to that description of rotary engine whose inner rotating drum to which the pistons are attached is arranged eccentrically within the stationary cylinder. The improvements consist in contrivances for directing the pistons in their movements; in means of packing the pistons, drum and abutments; in means of warming the cylinder uniformly to prevent unequal expansion: and in means of reversing the engine; and all of the improvements tend to make a very simple and, we believe, a very durable and effective rotary engine.

Enamel for Leather .- The manufacture of enameled leather, commonly known as "patent leather," has, up to this day, been kept a profound secret by the French and German manufacturers, and notwithstanding the fact that a large number of manufacturcrs in this country have tried to imitate the French enamel, they have not succeeded in producing an article of the same beauty and durability in hot and cold weather, and the French patent leather has still the preference in the market. Mr. C. W. Held, of Brooklyn, N. Y., has now discovered an enamel which, when properly spread on the leather, will not crack in the cold nor loose its luster in the heat, and which in every respect equals the best French or German patent leather.

Lamp.—This invention relates to an improved lamp for burning coal oils without a glass chimney, and consists in having the wick of the lamp fitted in a tube of glass, porcelain, or other material which is a good non-conductor of heat, by which the oil is prevented from volatilizing too rapidly, or in greater proportion than the supply of oxygen requires, thereby ensuring perfect conbustion and consequently a good illuminating flame. The inventor is Thomas J. Barron, of Brooklyn, N. Y.

Carriages. —This invention is particularly designated for light carriages, though it is equally applicable to all kinds of four-wheeled vehicles which are hung upon eliptic springs. The object of the invention is to allow the carriage or other vehicle to which it is applied to turn in a small compass, and it consists in an arrangement for turning the hind axle of the carriage by and simultaneously with the front axle and in opposite direction. Patented to Nathaniel Adams, of Cornwall, New York.

Tuck and Plait Creasers .- This apparatus is designed for creasing cloth in the proper lines of the folding of tucks and plates, either to be sewed by hand or by a sewing machine, and in either case may be entirely separate from the sewing machine, though it may be attached thereto when desirable. The invention consists in the employment, in combination with a guide, of two roliers or other surfaces, one of which presents an edge and the other a groove, and between which, and in contact with the guide, the cloth or other material to be tucked or plaited is drawn for the purpose of being creased in the proper lines to fold the material to form the tucks or plates. It also consists in a certain mode of applying and supporting one of the said surfaces, in combination with the other parts of the apparatus, whereby the tucked or plaited or merely creased portion of the material is separated from that which has not been creased; and it further consists in a guard applied so as to prevent the material from getting in an improper direction between the creasing surfaces. Invented and patented by W. L. Fish, of Newark, N. J.

Implement for Cutting the Snouts of Swine. - The object of this invention, by Reuben Hurd, of Spring Hill, Ill., is to obtain a simple and efficient improvement for cutting the noses or snouts of swine, so as to prevent them from rooting, and thereby supersede the ordinary practice of "ringing," for effecting the same result. The invention consists in the employment or use of a cutter and block attached to the end of levers which cross each other and are connected by a fulcrum pin similar to the levers of a pair of scissors, all being



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FOR THE WEEK ENDING FEBRUARY 11, 1862, Reported Officially for the Scientific Americ

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34.342 .- Nathanial Adams, of Cornwall, N. Y., for Im-

provement in Running Gear Carriages:
I claim the arrangement of the arm, c, perch, f, and pivot, e, with the independently-pivoted axies, A B, as shown and described, for the purpose set forth.

pur puse set form.

34,343.—C. M. Alexander, of Washington, D. C., for Improvement in Bridle-Bit Attachments:

Iclaim the arrangement of the looped wires, L. L. passing through the springs, when used in combination with the shank, A, strap, F, and bridle rein, H, as and for the purpose specified.

and bridle rein, H, as and for the purpose specified.

34,344.—J. L. Baldwin, of Newark, N. J., for Improvement in Molds for Making Daguerreotype Cases:
First, I claim the combination with the upper portion of the die, C, frame or block, A, and lower parts of the die or mold, of the plunger, D, substantially as described.

Second, The combination with the parts, C and D, of the key, g, so as to accomplish the purpose set forth.

Third, Construction the part, C, with two thread portions or screws of equal pitch, one of which hits into the block, A, and the other of which forms the screw upon the work, substantially as and for the purpose set forth.

.-J. S. and T. B. Atterbury and James Reddick, of

34,345.—J. S. and T. B. Atterbury and James Reddick, of Pittsburgh, Pa., for Improvement in the Manufacture of Hollow Glassware:

We claim, first, The manufacture of lamp pegs or bowls, and other descriptions of hollow glassware, with the ornamental designs or figures, intermediate the inner and outer plan surfaces of the glass, of which the articles are composed, substantially in the manufacture described. Second, We claim the performance within a sectional mold, such as we have shown, of the pressing and blowing pr.cesses, successively in the production of one and the same hollow article of glassware, substantially as and for the purposes set forth.

substantially as and for the purposes set forth.

34,345.—Samuel Bentz, of Carroll Co., Md., for Improved Hulling Machine:

First, I claim the employment of a conveyer trough, substantially as described, with flights, as specified, for motistening the grain, and in combination with the conveyer, the regulated water discharge, as and for the purposes set forth.

Second, I claim the imployment of an unbranner, for removing the husk or bran from edible grain in a moist state, consisting of a horizontal cylinder with inclined revolving wings, constructed substantially as and for the purposes set forth.

Third, I claim, in combination with a moistening apparatus and unbranner, the drying apparatus, through which the grain is passed to be dried.

dried.
Fourth, I claim the construction of the drying apparatus, with its partitions, &c., by which the air is compelled to commingle with the grain\_eitheralone or incompany with the detached bran or husk, as specified.

Fifth, I claim polishing the grain after it has been dried, by passing

it through an unbranning apparatus, as described.

Sixth, I claim removing the bran, either in a moist or dry state, from one or all the points, while passing through the apparatus, by means of exhaust apparatus, applied substantially as and for the purses of the first. 

described.

Eighth, I also claim the apparatus for cooling the grain, constructed and arranged as set forth.

and arranged as set forth.

34,347.—John Buser, of New York City, for Improvement in Bottling Apparatus:

First, I claim the revolving holder, k, with the receptacles, 9, for the bottles, in combination with the crosshead, m, and parts attached, for filling and cerking said bottles, as presented by the said revolving holder, k, as set forth.

Second, I claim the arrangement of the sliding bar, i, talon, 7, spring, 6, and lever, h, when combined with the revolving holder, k, for giving motion to the said holder, and presenting the bottles to be filled in unison with the other movements of the machine, as specified. Third, I claim the lever, p, in combination with the cross heads, m, and c, and acting in the manner specified, to turn the yoke, 10, over the cork, as the cross head, m, is raised, as specified.

Fourth, I claim the vessel, r, spout, s, and tipping dipper, t, in combination with the revolving holder, k, and corking apparatus, for supplying sirup or other liquid to the bottles in said holder, k, immediately prior to the corking, as set forth.

34,348.—N. W. Clark, of Clarkston, Mich., for Improve-

34,348.-N. W. Clark, of Clarkston, Mich., for Improve-

34,348.—N. W. Clark, of Clarkston, Mich., for Improve-ment in Apparatus for the Manufacture of Salt: First, I claim, in combination with the sait block, a heating reser-voir, in and through which there is a constant flow of water, sub-stantially as described.

I also claim, in combination with a steam boiler, placed over the furnace of the salt block, a heating reservoir, F, placed over and projecting beyond said boiler, for the purpose of utilizing the other wise wasted heat from and around the boiler, substantially as described.

the other wise wasted heat from and around the boiler, substantially as described.

I also claim projecting the sides or ends of the pans over the sides or main fine of the salt block, for the purpose of affording a table on which the salt drawn or scraped from the pans may drain, and allow the drainings to run back into the pans, substantially as described.

I also claim making the salt pans of metal and of wood, so arranged and combined as that while the saline water shall lie upon both, the metal only shall be exposed to the fire or heated products of combustion, substantially as and for the purpose described.

I also claim soarranging the flow-offs from one pan to the next adjacent one throughout the series, as that the metal portions of the pans shall be always covered by the saline water in them, and thus prevent corrosion of the pans, and consequent destruction, as well as avoiding the skalning of the water or discoloring of the salt, as set forth and explained. 34.349.—S. A. Clemens, of Rockford, Ill., for Improve-

34,349.—S. A. Clemens, of Rockford, Ill., for Improvement in Hemp Breakers:
I claim, first, The method of breaking flax or other fibrous substances by a beater, constructed substantially as described, which cocillates upon an axis on one side of its center, and has its breaking edges on the other side, extending at unequal distances from the axis, when combined with two bars, the breaking edges of which are in correspondence with those of the beater, substantially as described and for the purposes specified.

Second, I also claim a whipper, vibrating either upon an independent axis on one side or upon an axis common to it and the beater, when combined with a beater or pair of feed rollers, substantially as described and for the purpose specified.

Third, I also claim an air pipe, j', with its discharging spout so arranged as to direct an artificial current of air across the machine, above the whipper, in connection with the latter, substantially as described and for the purpose specified.

Fourth, I also claim an annular grooved receiving roller, d, resting over or upon an endless apren, and in connection with a pair of plain pressure feed rollers, substantially as described and for the purpose specified.

34,350.—Isaac Crandal, of Middlefield, N. Y., for Improvement in Pleasure Wagons:
I claim forming the body, A, of the vehicle, of two elastic parts a a

attached, one part to the back axle, c, and the other by a king bolt, b, to a spring, B, which is fitted or suspended between 'the back parts of the thills. F, the latter being attached permanently to the front axle, G, and all arranged as and for the purpose set forth.

[The object of this invention is to construct pleasure wagons of light-wheel vehicles in such a manner that they will be strong and durable, extremely light, of easy draft, and the expense of construction materially reduced below that of ordinary vehicles.)

34,351.--R. A. Daniels, of Wayne. Ohio, for Improvement in Fasteners for Hames:

I claim the employment of the hook. A, and catch, C, in combina ion with the notched bar, F, and hook, D, as shown, for the purposet for thand described.

34,352.—Rudolph Dirks, of Philadelphia, Pa., for Improve-

ment in Sash Springs:
I claim the spring, G, composed of one piece of wire, bent, attached to the sash, and arranged in respect to the grooves of the frame, as and for the purpose set forth.

and for the purpose set forth.

34,353.—W. H. Doane, of Chicago, Ill., for Improvement in Beaplate of Stave Machines:

I claim a stave machine bedplate, A, with a gutter, B, and incline scart notches, a a, in combinatism with a loosely-fitted wood or yielding strip, D, and an adjusting bar, C, with inclined scarf notches, c, on its under side, substantially in the manner and for the purpose described

34,354.—O. D. Eckerson and C. Watson, of Middleburgh, N. Y., for Improvement in Water Elevators:
I claim the combination of the pin, s, with the flanged drum, F, groove, u, and cavines, V, when arranged to operate in the manner and for the purpose described.

This invention consists in the manner of fastening the cord or strap which the bucket is suspended, to be drawn on the windlass crank shaft.]

34,355.—Thaddeus Fairbanks, of St. Johnsbury, Vt., for Improvement in Weighing Apparatus:

I claim the combination and arrangement of the rotary check, and its latching mechanism, with the scale beam and its loop, in manner and so as b operate, substantially as specified.

-J. Fasig, of West Salem, Ohio, for Improvement 34.356

54,506.—J. Fasig, of west Satein, Onio, for improvement in Hay Knives:
I claim the friction roller, E, in combination with the blade, A, constructed and operating as and for the purpose set forth.
Second, I claim the auxiliary handle, c, in combination with the rods, B, blade, A, and roller, E, constructed, arranged and operating as described.

34,357.—W. L. Fish, of Newark, N. J., for Improvement in Guides for Creasing Tucks and Plaits Preparatory

In Guines 10.

To Sewing:

laim the combination of the rollers, B D, with the adjustable E, and roller, c, as and for the purpose shown and described.

34,358.—Thaddeus Fowler, of Richmond Valley, N. Y., for Improved Deck-Ballast Boxes for Vessels:

1 claim the shaft, f, phion, g, and handle, i, in combination with the caster wheel, c, as and for the purposes specified.

34,359.—R. C. Glyde, of Pittsburgh, Pa., for Improvement in Vessels for Transportation of Carbon and other

in Vessels for Transportation ...
Oils:
claim the use, for the transportation of oil in bulk, of boats divided
partitions into sevarate compartments, substantially in the manner

I claim the use, for the compartments, substantially...

y partitions into sevarate compartments, substantially...

Also the use, for the transportation of oil in bulk, of boats divided to compartments covered over with the deck heads, in the manner obstantially as described.

Osciently of Brooklyn, N. Y., for Improve-

34,360.-J. W. Griffiths, of Brooklyn, N. Y., for Improve-

34,360.—J. W. Grimtus, of Brooklyn, N. Y., for Improvement in Ship Building:

I claim the projecting bilge strakes or keelsons on the outside of ships and other navigable vessels, forming rectangular channel ways, aquistantially as and for the purposes described.

34,361.—R. H. Hall, of Owego, N. Y., for Improvement in Axles for Wheel Vehicles:

Axies for wheel venicles:
I claim the combination with axle, A a, of the upper casings, b b, ower casing, c, strip, d, central threaded bolts, f f, keys, g g, and bands, C D, all constructed arranged and applied in the manner and for the purposes shown and explained.

[This invention consists in a novel and improved mode of applying a metal covering to the arms of wooden axles, so that the same may be rendered durable and an economical axle obtained.

34,362.-N. S. Harryman, of Frankfort, Ind., for Improve-

ment in Cultivators:

I claim the combination of the several parts, constructed and operating as described, to wit: The bar, G, pivoted to the top of the rear standards, the frame, F, and standards, E E, with the draft frame, all substantially as shown.

substantially as shown.

34,363.—Isaac Hayden, of Lawrence, Mass., for Improvement in Machinery for Cleaning Cotton:

Iciaim connecting two or more of a series of machines for working cotton and other fibrous substances by means of trunks provided with woven screens and cells, substantially as described, so as to make each machine supply or feed the next machine to it through said trunk, substantially in the manner set forth.

I claim in machinery or apparatus for cleaning cotton or other fibrous substances, a trough or trunk, which is so bent or curved as to carry one part of said trunk over or under or by the side of the other part of the trunk, so as to obtain a greater length of trunk and a greater area of screening surface than could otherwise be effected in a room of a given size.

given size.

34,364—W. L. Hawkens, of Lock Haven, Pa., for Improvement in Stump Extractors:

First, I claim a snspended or yielding frame, C, having upon its opposite sides rack bars, D, the steps, I 2 3, &c., of which not only recede from each other, but also increase in length or hight as they rise, substantially as and for the purpose set forth.

I also claim, in combination with a lever that is work in said rack bars, the spring-adjusting fulcra so connected together as to mutually tend to hold each other to the steps, substantially as described.

I also claim, in combination with the rack bars and lever, and their operative appliances, the slors or grooves, c, in said bars, and the guide pins in said lever, for controlling the lever as it rises or descends, substantially as described.

stantially as described.

34,365.—L. P. Hawes, of New York City, for Improvement in Machines for Cutting Veneers:

First, I claim the combination of the adjustable-slotted plates, k, slides, i, and eccentric, I, with the bar, C, bed, L, and knife, V, as shown and described.

Second, The arrangement of the screw, X, connected with the carriage, T, and provided with the circular plate, Y, having the arms, a'd', attached, the former being provided with the segment rack, b', and the latter fitted between the stops, e'e', in connection with the ratchet, A', also fitted on screw, X, and the arm, g', having the pawl, h', attached, and fitted on a collar of plate, Y, all being arranged in relation with each other and operated from the shaft, Z, substantially as and for the purpose set forth.

purpose set forth.
Third, The arrangement, as shown and described, of the screws,
N, Q, with the nuts, O, R, and dogs, P, S, for the purpose of dogging the
bolt to the bed, L.

34,366.—C. W. Held, of Brooklyn, N. Y., for Improved Enamel for Leather:

I claim a lacquer for enameding leather, &c., composed of the named agredients, mixed together in about the proportion set forth.

34,367.—Julius Hotchkiss, of Middletown, Conn., for Improvement in Skin Cartridge:

I claim, in making a cartridge, so disposing the filter orgut of which it is composed that the fibers of one portion of the gut shall transverselyor spirally cross the fibers of another portion of the gut, substantially as described.

34,368—Reuben Hurd, of Spring Hill, Ill., for Improved Device for Cutting the Noses of Swine to Prevent them from Rooting:

I claim an Implement or device formed of the levers, AB, provided

respectively with the cutter, C, and block, D, arranged to operate as and for the nursus set forth

34,369.—F. G. Johnson, of Brooklyn, N. Y., for Improvement in Velociped lee Boats:

First, I claim the combination of the runners, LL M, and the spurred wheel, E, attached to and combined with a suitable body, to be used as an ice velocipede, to be propelled by the feet or hands, substantially in the manner set forth.

the manner set forth.

Second, The springs, g g, or their equivalents, in combination with the shaft, F F, and spurred wheel, E, substantially in the manner and for the purposes described.

Third, The disks, a a a a, combined with the periphery of the wheel, E, and the spurs, e e, substantially in the manner and for the purposes set forth.

wheel, E, for the purposes described.

34,370.—Moses Marshall, of Lowell, Mass., for Improvement in Machines for Pegging Boots and Shoes:
I claim the intermittent automatic peg feed, operating as the plunger descends, in combination with the splitting knife operating as the plunger ascends, substantially in the manner and for the purposes described.

d, I claim a spliting knife so constructed and arranged as to the pegand force it under the peg driver while the latter is up.
Third, I claim the bar, q, operating as described in combination with
the nawls. b.

34,371.—J. R. Mason, of Elgin, Ill., for Improvement in Plows:

I claim constructing the main brace, f, with a landside termination, d, and the cup, v, and ream socket, v2, in combination with the landside, B, cutter blade, C, and its base-enlarged axle, g, the whole arranged and operating in the manner and for the purpose set forth.

34,372.—Gordon McNeil, of Chestnut Hill, Pa., for Improved Clothes Dryer:
First, I claim the combination of the bars, A A', extension bars, D D', strips, B C, and thumb screws, d, when arranged to operate in the manner and for the purpose set forth.
Second, The manner of arranging the drying bars, E, in the bars, A A', so as to spread apart at their outer ends, in combination with the set screws, c, for securing the same, substantially as described.

34,373.—Jaceb Reese, of Pittsburgh, Pa., for an Improvement in Oil Tanks:

I claim constructing tanks, or ether vessels for holding coal and carbon oil or other light oils, with an outer casing around the sides of the oil vessel, so as to leave a space between the casing and the oil receptacle for the purpose of surrounding it with water, substantially in the manner and for the purposes set forth.

Also so constructing the outer casing of oil tanks having double sides, forming a water space around the tank, as that the upper edge of the outer casing shall be higher than the level of the top of the main ank, for the purpose of allowing the oil leaking through the walls of the tank to return itself thereto in the manner described.

the tank to return itself thereto in the manner described.

34,374.—Orrin Newton, of Pittsburgh, Pa., for Improvement in Dies for Manufacturing Brass Kettles:

I claim the use, in the manufacture of brass kettles and other articles of hollow ware from sheet metal, of plungers, around which the metal is worked, so constructed as to contrad when the plunger is withdrawn in combination with annular dies, for the purpose of drawing out the metallic sheets into the required shape, substantially in the manner and for the purposes set forth.

Also the combination of a conical center piece, q, and corresponding side pieces, e e e' e', and bottom piece, g, to form a plunger for drawing or pressing sheet metal in or through dies, so that the diameter of the plunger will contract to allow of its being easily withdrawn from the metal on which it is operating or from the dies into or through which it was forced, substantially as described.

which it was forced, substantially as described.

34,375.—J. B. Root, of Battle Creek, Mich., for Improved Rotary Engine:

I claim, first, The packing ring, Gh Gh, constructed with offsets and applied and arranged within the cylinder heads and in combination with the drum. c, piston packing, e e, and cylinder abutment, g, substantially as and for the purpose specified.

Second, The combination with a packing ring, G, abut ment piece, g, or other packing piece of V-form, or having beveled edges, as described, of triangulor or wedge-shaped packing pieces, n, or t t, a follower, p or k, and springs, r or l, the whole arranged and operating substantially as specified.

Third, The packing pieces, s, 2, applied in combination with the segment pieces, d, d, and with proper provision for the admission of steam behind them, substantially as and for the purpose specified.

34.376 .- J. B. Root, of Battle Creek, Mich., for an Im-

34,376.—J. B. Root, of Battle Creek, Mich., for an improved Rotary Engine:

I claim the combination of the rings, a a, attached to the pistons, and the hubs, c c, projecting inward from the cylinder heads in positions eccentric to the shaft and piston drum, but concentric with the cylinder, substantially as specified.

Second, the cylinder heads, B B, constructed with rebates and fitted to the cylinder and to rebates in rings, G G, or flanges secured to or formed on or in the cylinder, substantially as and for the purpose described.

Third, The steam jacket, H H', with its two compartments communicating with the cylinder ports, 11', its partition, k, passages, m m, and valve, I, all constructed and arranged and operating substantially as set forth.

Fourth, The two ports, n n', and valves, p p', combined with the cylinder and steam jacket, H H', substantially as and for the puspose described.

escribed.
Fifth, The linings, b b, applied in combination with the rings, a a, of the pistons and the hubs, c c, of the cylinder heads, substantially as and for the purpose specified.

34,377.—A. F. Smith, of Norwich, Conn., for Improvement in Trucks for Locomotives :

In Trucks for Locomotives:
I calin the employment, in a locomotive engine, of a truck or pilot wheels fitted with the pendant links, oo, to allow of lateral motion to the engine as specified, whereby the drivers of said engine are allowed to remain correctly on the track, in consequence of the lateral motion of the truck, allowed for by said pendant links, when running on a curve, as set forth.

34,378.—Edward Spencer, of St. Louis, Mo., for Improvement in Railroad Ticket Stamp:
I claim combining the rollers, e e, the die, d. and the ribbon, f, with the jaws of the pincers, substantially in the manner described for the purpose specified.

purpose specified.

34,379.—W. O. Strong, of Detroit, Mich., for Improved Device for Distributing Grain in Elevator Bins:
I claim the even distribution of grain in bins by means of the pipe, F.F. made either telescopic or fixed, and the truncated cones, G.G.G., or their equivalents, arranged substantially in the manner and for the purpose set form.

purpose set forth.

34,380.—Lr. U. Stuart, of Brooklyn, N. Y., for Improvement in Bellows:

I claim the arrangement of a reservoir, C, or its equivalent, with a movable part, c, in combination with an ordinary bellows, A, and connecting with the same by an air trunk, D, or its equivalent, as described, and so arranged that the force or power of the said movable part, c, is transmitted to the bellows and made to act upon the same as an additional pressure.

as an auditional pressure.

34,381.—S. T. Thomas, of Laconia, N. H., for Improvement in Fancy Looms:

I claim, first, The mode of partially overcoming the momentum of the iay by means of the inclined plane bent lever, 22, brake and fiange, or their equivalents, previous to the final arrest of the dagger by a fixed stop.

or their equivalents, previous to the minute of the state of the side wedges that the mode of elevating the shuttle-box levers by means of the silds wedges thaversing in single or double guides and operated by the draw wires and series of connected levers, combined with the series of state cams and ratchet, acting on one or both sides of the loom

series of star cams and ratchet, acting on one or both sides of the loom as set forth.

Third, I claim the combined action of two or more wedges or inclined planes, one above the other, for elevating the shuttle box, by means of which the extreme distance traversed by the box is about equal to the sum of the hight of the large ends of the wedges. Fourth, I claim the arresting or governing of the feed or take-up motion that operates the cloth beam, by means of the action of the reed and flighter, the cloth beam and flighter being connected by the lever, 315, slide 313, pawl, 314, and ratchet, 431, or their equivalents, as described.

34,382.—W. H. Thompson, of Cleveland, Ohio, for Improvement in Railroad Switch:

I claim the stand, A, signal post, I, slotted arm, M, placed beneath the base, A, and stud, N, upon the switch bar, B, when these several parts are arranged, constructed and operated as and for the purpose set forth.

34,383.—James Vincent and Samuel Leslie, of Quasqueton,

Jowa, for Improvement in Churns:

I claim the double comb breaker, F.H., and cap, E., with the vessel, I, and revolving platform, B. combined and operating in the manner ubstantially as described.

[This invention consists in a simple arrangement of revolving table and a chucking mechanism in a frame of peculiar construction, whereby the process of churning is performed in a common waterpail or other similar vessel by the centrifugal action of the cream.]

34,384.—Milan Waterbury, of Polo, Illinois, for Improvement in Car Coupling:
I claim so combining the hocks or catches. E E, with the spring buffers, C C, as that whilst they move longitudinally with the buffers, they may have a lateral motion independent of them, substantially as and for the purpose described.

34,385.—I. S. Williams, of Philadelphia, Pa., for Improve-

34,385.—1. S. Williams, of Philadeliphia, Pa., for Improvement in Camp Stoves:

I claim the outer easing, A. the inner casing, D. the latter being composed of two pieces hinged to each other, as set forth, in combination with the cover, E. its upper flange, i, and lower flange, e, the whole being constructed and arranged as set forth for the purpose specified, Second, The shelf, G, and the plates, N and H', with their hooked rods, and projections, m, the whole being constructed and arranged or suspension to the flange, i, of the cover, as and for the purpose set forth.

34,386.-R. P. Wilson, of Cleveland, Ohio, for Improved

Washing Machine:

I claim the semi-spherical protuberances, D, and corrugated con-rex rubber, C, with the air-tight cylinder or barrel, A, arranged to re-rolve in the direction of its length, when combined, arranged and oper-tting in the manner described.

[This improvement relates to that class of washing machines in which the washing is effected by the clothes or articles to be washed being alternately precipitated from one end of a barrel mounted upon trunnions to the opposite end, as it revolves, and the invention consists in an arrangement by which the clothes or articles are alternately subjected to a rubbing and pounding action as the barrel is revolved, thus effecting the desired result without injury to the clothes in an easy and expeditious manner.

34,387.—B. W. Wooster, of Albany, N. Y., for Improvement in Handles for Coffins:

I claim the combination of the handle, H, and its loop, E, constructed as described, with the ornamental plate, P, for the purpose set

in.

388.—D.T. Yeakel, of Lafayette, Ind., for Improvement in Breech-Loading Ordnance: claim the combination and arrangement of the hinged screw cap, shaft, D, hoop, e, ratchet, h, stop, L, and breech, A, constructed toperated substantially as described.

34,389.—S. R. Andres, of Troy, N. Y., and Samuel Andres and McDonough Bucklin, of New York City, for Im-provement in Articles of Food made of Sweet Pota-

We claim desiccated cooked sweet potatoes, as a new article of manufacture, made as described or in any equivalent way.

We claim desiccated cooked sweet potatoes, as a new article of manufacture, made as described or in any equivalent way.

34,390.—T. J. Barron, of Brooklyn, N. Y., assignor to Jas. Horner, of New York City, for Improvement in Lamps:
I claim the employment or use in a lamp for burning coal oils or other similar hydrocarbons, of a wick tube, D, constructed of glass or burnt clay as and for the purpose specified.
I further claim having the tube, D, constructed with a contracted orifice, a, as and for the purpose set forth.

34,391.—W. H. Buckland, of Glamorgan Co., Great Britain, assignor to Emory Rider, of New York City, for Improved Mode of Preparing Peat. Ante-dated September 30, 1859:
I claim separating the decomposed from the fibrous or undecomposed portions of the peat by straining or keeping back the latter while the decomposed portions of the peat are forced through the perforated sides of the straining vessel or receptacle, substantially in the manner and for the purpose specified.

[By this invention peat can be prepared in such a manner that the

[By this invention peat can be prepared in such a manner that the ame forms a desirable fuel, and the cost of preparing it is trifling.)

34,392.—D. H. Chamberlain, of West Roxbury, Mass., assignor to himself and John Hartshorn, of Boston, Mass., for Improved Apparatus for Generating Vanor.

por:
I claim, in combination with a reservoir for containing the fluid and generator for evaporating it, the endless belt, D, and tubes, L, for onveying the fluid to the generator, substantially as described. Second, I claim the generator, B, with its partitions, b, in combination with the cylinder, C, and its covered plates, g, substantially as set forth.

Third, I claim the reservoir, G, in combination with the cylinder, K, substantially as specified.

substantially as specified.

34,393 — James Clayton and Abraham Campbell, of Brooklyn, N. Y., assignors to Root's Rotary Steam Engine Co.. of New York City, for Improved Rotary Engine: We claim, first, The hollow expanding metallic packing composed of rings or segments, G G' G' G' G' ro strips, P' P', constructed substantially as described and applied between the cylinder heads and their packing rings behind the abutiments or in any other part of a rotary engine to operate substantially as set forth.

Second, The arrangement of the orifices in the segments, G G' G\* G'\*, with respect to the steam spaces of the cylinder, substantially as described and for the purpose set forth.

Third, The arrangement of the two hollow expanding pieces, p p', for packing the abutiment, one having communication with the cylinder on one, and the other on the other side of the abutiment bearing, substantially as specified.

Fourth, The employment, in combination with three or more pis-

substantially as \$\$\ext{sectified}\$.

Fourth, The employment, in combination with three or more pistons, and a steam jacket sarrounding the cylinder, of two eduction ports, n n', fitted with separate valves, N N', and a third eduction port, l, under the reversing valve, the latter port to continue the eduction after the port, n, or n', is closed, substantially as herein specified.

ad, 394.—John Critcherson (assignor to himself and G. P. Towle), of Boston, Mass., for Improved Roller for Clothes Wringer:

I claim as a new article of manufacture, a roller for clothes wringers consisting of disks of felt, C, with interposed disks of thin metal, d, arranged on a polygonal shait, A, and secured thereon in a compressed form by collars. B b, the whole operating in the manner and for the purpose substantially as described.

[This improvement relates to that class of clothes wringers which consist of the flexible or yielding rollers between which, under press ure and in motion, the clothesor other articles to be wrung are passed and thereby deprived of the moisture.]

34,395.—C. A. Cummings and F. M. Swallow, of Wcrees-

ter, Mass., for Improved Clothes Wringer: we claim making the rolers self-adjustable by means of the straps and spring, when constructed and operating in the manner and for the urposes as set forth and described.

pun poses as set form and described.

34,396.—L. S. Fairchild, of Cleveland, Ohio, assignor to himself, Alonzo Hazen, A. M. Hazen, of Cleveland, Ohio, and A. J. Whiting, of Perry, Ohio, for Improvement in Shingle Machines:

I claim the intermittent serews, O and P, gears, M and N, cam, R, dog. S, aad cam, E, when arranged and operating substantially in the manner and for the purpose set forth.

I also claim the lever, V, spring, J', segment gear, U, in combination with the dog, S, and cam, E', and spring, F, in the manner and for he burnose described.

34,397.—J. Lofoendall (assignor to himself and N. P. Lindergreen), of Boston, Mass., for Improvement in Spool-holding Devices:

I claim the construction of the braceletor wristband, A, and hooks, B J, either or both, to form a new and useful implement or device for the purpose set forth.

[This invention consists in attaching one or more hooks to a bracele or wristband for the purpose of holding the balls or spools of yarn the bracelet or wristband being placed on the arm of the person knit-ting, and the ball or spool suspended to the bracelet or wristband by the hook or hooks, so that the yarn may freely unwind from the ball o spool during the process of knitting.]

34,398. J. W. Wheeler (assignor to H. H. Wheeler), of Cleveland, Ohio, for Improvement in Water Eleva-

tors: tolaim a wheel or pulley having a V-shaped channel upon its iphery to receive the chain or rope, the inclined sides, A, of said of nel being corrugated laterally and the bottom, C, open, as and for purpose described.

RE-ISSUES.

3.—Moses Marshall, of Lowell, Mass., for Improvement in Pegging Machines. Patented November 5, 1861 1861:

claim a feeting point so arranged and operated as to enter the hole viously made by the avel and move the machine along, for the pureset forth.

pose set forth.

1,274.—D. B. Rogers, of Allegheny, Pa., for Improvement in Cultivator Teeth. Patented November 1, 1845.
Re-issued September 20, 1859, and Extended:
First, I claim making cultivator teeth entire of thin plate steel, the shank or upper part being bent or curved round in front, substantially as described and for the purposes set forth, irrespective of the mode of attaching the tooth to the beam.
Second, Attaching cultivator teeth to the cultivator frame by inserting the upper end of the shank (curved round in front for that purpose), into a suitable hole in the beam, and driving a key or wedge into the cavity of the tooth, thereby pressing the shank against the sides and front of the hole in the beam and the security is in its place.

1,275.—C. T. James. of Providence. R. I., for Improvement

and front of the hole in the beam and thus securing it in its place.

1,275.—C. T. James, of Providence, R.I., for Improvement in Projectiles. Patented February 26, 1856. Re-issued December 11, 1860:

I claim combining with the body of the projectile an expansible packing, substantially as described, and capable of being expanded outwardly against the bore of the cannon, and into the grooves thereof if rifled, by the force of the exploded charge acting inside of such packings, substantially as described.

I also claim connecting the expansible packing with the body of the projectile by clips, which will not prevent the required expansion, and which will insure the rotation of the body of the projectile with such packing as described.

I also claim making the outer surface of the packing of projectiles, intended to be forced into contact with the bore of the cannon and into the groovesthereof, of abrous, textile, or equivalent non-metallic substance, substantially as described.

### DESIGNS.

DESIGNS.

1,524.—John Eiberweiser and Edward Kettle, of Cincinnati, Ohio, for Design for Stove.

1,525.—H. G. Thompson, of New York City, assignor to the Hartford Carpet Co., for thirteen Designs for a Carpet Pattern.

# PATENTS FOR SEVENTEEN YEARS.



The new Patent Laws enacted by Congress on the 2d of March, 1861, are now in full force, and prove to be of great benefit oall parties who are concerned in new inventions.

The duration of patents granted under the new act is prolonged to SEVENTEEN years, and the government fee required on filing an application for a patent is reduced from \$30 down to \$15. Other changes in the fees are also made as follows :-

On filing each Caveat	5
on issuing each original Patent\$2	0
on appeal to Commissioner of Patents\$2	0
On application for Re-issue\$3	0
On application for Extension of Patent	
On granting the Extension\$5	Õ
On filing Disclaimer\$1	
On filing application for Design, three and a half years \$1	
On filingapplication for Design, seven years\$1	
On filing application for Design, fourteen years\$3	Õ

The law abolishes discrimination in fees required of foreign cepting reference to such countries as discriminate against citizens of Russian, Spanish, and all other foreigners except the Canadians, te enjoy all the privileges of our patent system (except in cases of designs,

During the last sixteen years, the business of procuring Patents for new inventions in the United States and all foreign countries has been conducted by Messrs. MUNN & CO., in connection with the publication of the SCIENTIFIC AMERICAN; and as an evidence of the confidence reposed in our Agency by the Inventors throughout the country, we would state that we have acted as agents for more than FIFTEEN THOUSAND Inventors! In fact, the publishers of this paper have become identified with the whole brotherhood of Inventors and Patentees at home and abroad. Thousands of Inventors for whom we have taken out Patents have addressed to us most flattering testimonials for the services we have rendered them, and the wealth which has inured to the Inventors whose Patents were secure this Office, and afterward illustrated in the SCIENTIFIC AMERICAN, would amount to many millions of dollars! We would state that we never had a more efficient corps of Draughtsmen and Specification Writers than are employed at present in our extensive Offices, and we are prepared to attend to Patent business of all kinds in the quickest time and on the most liberal terms.

# The Examination of Inventions.

Persons baving conceived an idea which they think may be patent able, are advised to make a sketch or model of their invention, and submitti to us, with a full description, for advice. The points of novelty are carefully examined, and a reply written corresponding with the

facts, free of charge. Address MUNN & CO., No. 37 Park-row, New

Preliminary Examinations at the Patent Office, The advice we render gratuitously upon examining an invention does not extend to a search at the Patent Office, to see if a like invention has been presented there, but is an opinion based upon whatknowledge we may acquire of a similar invention from the records in our Home Office. But for a fee of \$5, accompanied with a model or drawing and description, we have a special search made at the United States Patent Office, and a report setting forth the prospects of obtaining a Patent Sec., made up and mailed to the Inventor, with a pamphlet, giving instructions for further proceedings. These preliminary examinations are made through our Branch Office, corner of F and Seventh-streets. Washington, by experienced and competent persons. More than 5,000 such examinations have been made through this office during the past three years. Address MUNN & CO., No. 37 Park-row, N. Y.

How to Make an Application for a Patent.

Every applicant for a Patent must furnish a model of his invention.

If susceptible of one; or if the invention is a chemical production, he must furnish samples of the ingredients of which his composition consists, for the Patent Office. These should be securely packed, the inventor's name marked on them, and sent, with the government fees nall models from by express. The express charge should be prepaid. Sr a distance can often be sent cheaper by mail. The safest way to remit money is by draft on New York, payable to the order of Munn & Co. Persons who live in remote parts of the country can usually purchase drafts from their merchants on their New York correspondents; but, 11 not convenient to do so, there is but little risk in sending bank bills by mail, having the letter registered by the postmaster. Address MUNN & Co No. 37 Park-row, New York.

## Caveats.

Persons desiring to file a Caveat can have the papers prepared in the shortest time by sending a sketch and description of the invention. The government rectors a Caveat, under the new law, is \$10. A pamphlet of advice regarding applications for Patents and Caveats, in English and German, furnished gratis on application by mail. Address MUNN & CO., No. 37 Park-row, New York.

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We are very extensively engaged in the preparation and securing of Patents in the various European countries. For the transaction of this business, we have offices at Nos. 66 Chancery-lane, London; 29 Boulevard St. Martin, Paris; and 26 Rue des Eperonniers, Brussels. think we can safely say that THREE-FOURTHS of all the European Patents secured to American citizens are procured through our Agency.

Inventors will do well to bear in mind that the English law does not imit the issue of Patents to Inventors. Any one can take out a Patent

Circulars of information concerning the proper course to be pursued in obtaining Patents in foreign countries through our Agency, the re-quirements of different Patent Offices, &c., may be had gratis upon application at our principal office, No. 37 Park-row, New York, or either

## Assignments of Patents.

The assignment of Patents, and agreements between Patentees and nanufacturers, carefully prepared and placed upon the records at the Patent Office. Address MUNN & CO., at the Scientific American PatentAgency, No. 37 Park-row, New York

It would require many columns to detail all the ways in which the Inventor or Patentee may be served at our offices. We cordially invite all who have anything to do with Patent property or inventions to call at our extensive offices, No. 37 Park-row, New York, where any questions regarding the rights of Patentees, will be cheerfully answered,

Communications and remittances by mail, and models by express (prepaid), should be addressed to MUNN & CO., No. 37 Park-row, New York

## Money Received

At the Scientific American Office on account of Patent Office business, during one week preceding Wednesday, Feb. 19.

J. B. Van D., of N. Y., \$20; J. G. L., of Del., \$40; B. and B., of Pa. \$20; D. F. M., of Conn., \$40; G. W. P., of N. Y., \$45; W. L. G., of N. Y., \$45; L. C. P., of Conn., \$45; P. J., of N. J., \$25; J. A. L., of N. Y., \$15; O. W. S., of Me., \$15; J. E. S., of N. Y., \$15; J. H. C., of Pa., \$25; H. and B., of Mich., \$10; R. H., of N. Y., \$15; C. and F., of Iowa, \$15; P. H., of France, \$24; A. J. A., of Wis., \$49; R. G., of N. Y., \$15; L. F. L., of Ill., \$15; J. W. K., of Mich., \$15; W. T. G., of Mass., \$20; J. P., of N. Y., \$20; F. H. C., of N. J., \$20; E. M. and J. E. M., of N. Y., \$45; G. O. T., of Mass., \$60; J. S., of Pa., \$43; W. N., Conn., \$22; W. O. H., of Pa., \$40; A. McF., of Wis., \$25; I. S., of N. Y., \$22; C. N., of N. H., \$25; J. H. V., of Mass., \$15; W. H. H. 70 Conn., \$30; C. R., of Pa., \$15; C. J. A., of N. H. . \$12; W. McK. Pa.. \$15; S. B. O., of Cal., \$15; O. S., of O., \$20; G. N. C., of Conn. \$15; H. T. P., of Conn., \$15; A. K. R., of Vt., \$15; E. M. J., of N. Y., \$20; J. A. B., of Mass., \$20; J. A. W., of O., \$20; G. M. Z., of O., \$20; G. W. R., of Ind., \$20; F. VV. S., of Pa., \$20; J. H., of N. Y., \$25; J. H. G., of Mass., \$15; R. J., of O., \$25; S. A., of --, ---; A. J., of Y., \$15; C. C., of Pa., \$20; J. B., of N. Y., \$15; A. J., of Iowa, \$15; J. H. I., of III., \$55; E. J. W., of N. Y., \$25; J. S. F., of III., \$25; F. and S., of Wis., \$15; K. H. E., of Vt., \$25; S. A. B., of R. I., \$25; J. ands., of Wis., \$15; J. J. A., of Mich., \$15; J. Z., of Ill., \$15; J. M. of Cal., \$18; M. L. and V., of N. Y., \$15; J. M. GC., of N. Y., \$15; E. C., of Ky., \$100; V. L., of N. Y., \$10; B. and Van D., of N. Y., \$30; C. C. C., of Mich., \$15; J. L. L., of Pa., \$25; C. E., of Germany; \$160; G. P. and W., of Ill., \$20; H. S. and R., of Vt., \$43; G. W., of N. Y., \$45; A. McN., of N. J., \$25; L. J. and E. D. G., of N. Y., \$25; M. and T., of N. J., \$25; W. H. D., of N. Y., \$30; S. A., of Me., \$15.

Specifications and drawings and models belonging to parties with the following initials have been forwarded to the Patent Office from Feb. 12, to Wednesday Feb. 19, 1862 ---

H. S. and R., of Vt.; D. F. M., of Conn.; J. G. L., of Del.; H. J. of Conn.; P. J., of N. J.; A. McN., of N. J.; A. McP., of Wis.; L. J. and E. D. G., of N. Y.; R. J., of O.; J. H., of N. Y.; J. H. C., of Pa.; C. N., of N. H.; W. H. H., of Conn.; J. S., of N. J.; C. J. A., of N. H.; J. S., of N. Y.; K. H. E., of Vt.; O. S., of O.; S. A. B., of R. I.; R. W. G., of Me.; J. S. F., of Ill.; J. H. I., of Ill.; M. and T., of N. J. J. P., of N. Y.: A. J. A., of Wis.: E. J. W., of N. J., C. C., of Pa.: W Van D., of N. Y.; G. F. J. C., of N. J.; L. and D., of London; B. and Van D., of N. Y.; W. N., of Conn.; C. E. S., of Wis.; L. F., of Ger-



E. L., of N. Y .- H. L. Lloyd & Co., map publishers, No. 25 Howardstreet, have issued by far the best map of the United States

L. R. R. of Pa.—We are not advised of any efforts on the part of the Canadian Parliament to modify the patent laws of the provinces.

E. A. D., of Mass.—Gumshellac dissolved in alcohol makes a water-proof glue sufficiently a the sive we should think for paper.

J. F. A., of New Brunswick.—Hydraulic cement is the

proper substance for plastering your water vat. It must be wet in small quantities and put on immediately. If suffered to stand half an hour after it is wet before being applied, it is spoiled.

J. B., of N. J.—You can bleach leaves by hanging them in a barrel and burning a little sulphur in the barrel. The product of the combustion of sulphur is sulphurous acid which is a powerful bleaching agent, and a gas.

F. E., of Mass.—It was asserted that saltpeter confined in one of the stores in New York was the cause of several explosions during a large fire, but experiments have failed to confirm such as-

R. H. J., of Ill.—Operators on telegraph lines frequently communicate with one another by touch without a sounding mag-No visitors are now permitted to stand in the vicinity of the sounding magnetin the telegraph offices.

L. C. C., of Mass.—The gun powder engine to which you refer is not patented. We do not think such an engine is suitable for propelling your air ship.

A. J. K., of Ill.-We do not know where you can obtain a

hollow iron wire tube about 14th of an inch in diameter.

H. B., of C. W.—A niline colors are not suitable for coloring glass by being melted in a crucible for blowing.

L. E. H., of Conn .- About the time the article to which you out perpetual motion, appeared in the Journal of Co we published the article in full in the SCIENTIFIC AMERICAN. We refer you to the back volumes of the paper.
G. H. W., of N. Y.—On page 198, Vol. IV. of the Scien-

TIFIC AMERICAN, you will find the regulation about the admission of engineers into our navy.

R. J., of Ill.—You will find tables of the weight of round and square rolled iron on page 184 of "Nystrom's Mechanic's Pocket Book," published by J. B. Lippincott & Co., Philadelphia. Muntz metal is composed of 6 parts copp

S. C., of N. Y .- Porcelain is gilded by painting finely comminuted gold on to the surface mixed with a fusible frit. It is the nallowed to dry and is put into a potters kiln and fused. Messrs. Haughtwout, Broadway, this city, ornament their own porcelain

A. E. J. of Conn. The silicate of potash renders wood hard and impervious to moisture, if it is washed with dilute muriate acid after the silicate has become dry.

S. O. C., of N. Y.—The composition for rockets consists of one pound of gunpowder to two ounces of soft charcoal in powder and one and a half ounces of saltpeter. For the largest rockets add some sulphur and iron filings. Mix these ingredients dry. The composition maybe varied and you can use just such a quantity of will answer for the size of the rocket you require.

V. P. F., of Vt.—It has been proposed to us several times to propel a vesselby a steam jet acting upon the water through a tube at the stern, but the mode is not good, on account of the condensation of so much steam without producing mechanical propelling action in the vessel. A jet of water has been applied in this manner without success. This was Rumsey's mode of propelling vessels and was used upon the first steamboat in Ameri

E. & R., of ---. -Zinc is manufactured by the Lehigh Zinc Co., Bethlehem, Pa., to whom we refer you for particular

C.S., of Ohio,-You will find a full account of the Bessemer proces in the back volumes of the Scientific American to which we refer you. Unless you can show good reason for your delay, in applying for a patent on your improvement in the manufacture of iron, the office might refuse to allow your claim on the ground of abandonment. It will not do for an inventor to look en and see another develop and put into public use an improvement and then come forward after the delay of two or three years and make claim to it. This practice will not do.

C. T., of Phila.-Horn is softened by boiling it in water. It becomes so pliable that it may be molded under pressure into almost any form. In order to render horn smooth it should be scraped when it is soft after being boiled. It may be scraped so thin as to become almost transparent. The nitrate of silver is employed to stain it black and nitric acid colors it yellow.

W., of N. Y .- The lens having the highest magnifying power is the double convex, and its power is in proportion to its

J. G. W., of N. Y.—The application of several charges in the barrel of a musket, to be discharged in succession, one after another is not new, as a patent was granted in 1825 to J. Mould, London, for thus constructing fire-arms.

SPECIAL NOTICE-FOREIGN PATENT .- The population . Treat Britain, is 30,000,000; of France, 35,000,000; Belgium, 5,000,000;
 Austria, 40,000,000;
 Prussia, 20,000,000;
 and Russia, 60,000,000. Patents may be secured by American citizens in all of these counries. Now is the time, while business is dull at home, to take advantage of these immense foreign fields. Mechanical improvements of all kinds are always in demand in Europe. There will never be a better time than the present to take patents abroad. We have reliable business connections with the principal capitals of Europe. Nearly all of the patents secured in foreign countries by Americans are obtained through our agency. Address Munn & Co., 37 Park row, New York. Circulars about foreign patents furnis hedfree.