

## NOTES ON FOREIGN INVENTIONS AND DISCOVERIES.

*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 Fearn, 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 coppered. After the enamel has been fused in the sunken parts, 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 rebore the cannon so as to rectify any inaccuracies arising from wear. In this 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

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 manufacturers 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 lose 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 combustion 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 elliptic 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 rollers 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 so arranged as to effect the desired purpose.



ISSUED FROM THE UNITED STATES PATENT OFFICE

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\* \* Pamphlets giving full particulars of the mode of applying for patents, under the new law which went into force March 2, 1861, specifying size of model required, and much other information useful to inventors, may be had gratis by addressing MUNN & CO., Publishers of the SCIENTIFIC AMERICAN, New York.

34,342.—Nathaniel Adams, of Cornwall, N. Y., for Improvement in Running Gear Carriages:

I claim the arrangement of the arm, c, perch, f, and pivot, e, with the independently-pivoted axles, A B, as shown and described, for the purpose set forth.

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

I claim the arrangement of the looped wires, 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.

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

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, intended to be blown in a moist state, consisting of a horizontal cylinder with inclined revolving wings, constructed substantially as and for the purposes set forth.

Second, We claim the performance within a sectional mold, such as we have shown, of the pressing and blowing processes, successively in the production of one and the same hollow article of glassware, substantially as and for the purposes set forth.

34,346.—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 moistening the grain, and in combination with the conveyer, the regulated water discharge, as and for the purposes set forth.

Second, I claim the employment of an unbranched, for removing the husk, intended to be blown 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 unbranched, the drying apparatus, through which the grain is passed to be 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, either alone or in company with the detached bran or husk, as specified.

Fifth, I claim polishing the grain after it has been dried, by passing it through an unbranched 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 a blast apparatus, applied substantially as and for the purpose set forth.

Seventh, I claim regulating and controlling the current of air through the dryer, by means of the exhaust, as and for the purposes described.

Eighth, I also claim the apparatus for cooling the grain, constructed 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 corking said bottles, as presented by the said revolving holder, k, as set forth.

Second, I claim the arrangement of the sliding bar, l, talon, 7, spring, 8, and lever, 6, 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 Improvement in Apparatus for the Manufacture of Salt:

First, I claim, in combination with the salt block, a heating reservoir, in and through which there is a constant flow of water, substantially 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.

I also claim projecting the sides or ends of the pans over the sides or main face 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 so arranging the flow-ways 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 staining of the water or discoloring of the salt, as set forth and explained.

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 oscillates 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 apron, 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