

No. 1936. HORACE H. BIGELOW, Worcester, Mass., U. S., 30th December, 1872, for 15 years: "A Burred Wire for Rivetting the Soles of Boots and Shoes." (Un rivet pour les semelles de chaussures.)

*Claim.*—The burred wire as an improved article of manufacture, the burrs extending around or partially around the wire in the form of distinct and independent parallel ridges in contradistinction to a continuous spiral ridge.

No. 1937. SIMON VREELAND, Pottstown, Pa. U. S., 30th December, 1872, for 5 years: "Wheels for Vehicles." (Roues de voitures.)

*Claim.*—1st. A carriage wheel in which a hollow wrought iron or steel felly is connected by steel spokes to a hollow wrought iron or steel cylinder forming part of the hub; 2nd. The felly composed of a bent-plate or plates of wrought iron or steel and a tire having internal grooves adapted to the edges of the said bent plate or plates; 3rd. The nuts  $\alpha$  adapted to the interior of the felly and to the threaded ends of the spokes; 4th. The enlargement of the spokes at their opposite ends; 5th. The combination of the hollow cylinder C, box B, washers G, and G<sup>1</sup>, and nut H; and 6th. The combination of the severed ring K, adapted to the axle, with the box B, and screw-ring M.

No. 1938. JOHN C. RIDER, New Market, N. H., U. S., 30th December, 1872, for 5 years: "A Spool or Spooling Machine." (Machine à bobines.)

*Claim.*—The combination with mechanism for supporting and advancing the stick (viz: the stationary roots C, M, and the moveable puppet B, and its operative mechanism) the circular-saw M, the series of rotary receivers D, E, F, G, the boring mechanism (viz: the stop-shaft N, and the boring-tool O, and its operative mechanism) the mechanism for dressing the ends of the blank (viz: the rotary cutter-heads P, Q, and their operative mechanism) and the mechanism for reducing such blank circumferentially (viz: the arbors R, S, and the carrier T, provided with a cutter and mechanism as described for operating them as explained, the said saw and rotary receivers being provided with mechanism for operating them. In combination with the mechanism first claimed in one or more retainers V, W, X, Y, arranged and applied for the purpose and provided with mechanism for operating it. In combination with the mechanism first claimed the mechanism, or its equivalent, for stamping the ends of the blanks such consisting of the stamping-heads XI, YI, arranged and provided with operative mechanism. In combination with the mechanism first claimed, the series of inclined guides Z, arranged relatively to the rotary retainers D, E, F, G. In combination with the mechanism or spooling machine first claimed and as arranged therewith the machine for rounding the stick preparatory to its introduction into the said spooling machine.

No. 1939. WILLIAM J. KEEP, Troy, N. Y., U. S., 30th December, 1872, for 5 years: "A Furnace for remelting iron and other metals." (Fourneau à refondre le fer et autres métaux.)

*Claim.*—1st. The method of melting iron; 2nd. A remelting furnace two or more cylinders for containing separately, the metals to be operated upon and the fuel for combustion, when the same are so arranged that the metal and fuel shall descend by the force of gravity as rapidly as the former melts and the latter consumes, so as to keep up a constant supply of said articles at the melting point; 3rd. A remelting furnace in which separate cylinders are employed for containing the metal and fuel, a fuel magazine having its lower end formed of or from grate bars; 4th. The peculiar construction of the bed-plate of the cupola A, by means of which a receptacle is formed for the reception of molten metal, and ashes are prevented from falling into the same; 5th. The peculiar construction of the bed-plate of the cupola by means of which the heat from the fuel is concentrated and caused to reach all of the fuel; 6th. A remelting furnace in which the fuel is contained within a magazine separate from the compartment for containing the metal; 7th. A cupola having the whole or a part of its interior contracted immediately above the blast openings; 8th. The hot blast oven P, in which the compartment R and R<sup>1</sup>, and the valves Y and Z, are arranged; 9th. In the inlet and outlet passages of the hot blast oven O and U, respectively and controlled by means of the valves Y and Z; 10th. The air duct A<sup>1</sup>, provided with the openings a, arranged within or upon the hot-blast oven and combined with the slide B<sup>1</sup>, provided with the series of openings b<sup>1</sup>, and b<sup>2</sup>; 11th. In combination with the hot-blast oven and cupola, the valve N, pivoted to or within the upper end of said cupola and the valve C<sup>1</sup>, pivoted within the exit-flue U; and 12th. In a remelting furnace, a cupola provided with a removable portion of its wall.

No. 1940. WILLIAM J. KEEP, Troy, N. Y., U. S., 30th December, 1872, for 5 years: "Cooking Stove and Stove-pipe Damper." (Poêle de cuisine et clef de poêle.)

*Claim.*—1st. A stove-grate provided upon its upper side with a series of transverse ribs, which is raised above the surface of its longitudinal bars; 2nd. The means employed for preventing the grate from dumping while being shaken, consisting of the shaker N, provided with the lug N<sup>1</sup>, and connected to or with the outer end of the spindle or pivoted-bearing M, in combination with the lug C, secured to and projecting horizontally outward from the plate G, or their equivalents; 3rd. A metal lining for a fuel-chamber so constructed that the expansion caused by a high degree of temperature shall increase its vertical dimensions without changing

its length; 4th. A metal lining for a fuel-chamber consisting of an impervious rear-wall O, and a perforated front-wall Q, meeting at their upper edges and from thence extending downward and apart so as to form an air-space O<sup>1</sup>, having its lower side within the fuel-chamber; 5th. A water-back constructed with a lower-front channel for receiving and containing the water to be heated, and a rear-upper channel for the reception and passage of said water when heated; 6th. The water-back P, having its front edge serrated so as to form the projections p; 7th. The rearward extended portion r, of the rear end-plate or casing D, of the centre vertical flue, in combination with the contiguous portion of the reservoir Q, and with the heating-chamber R, surrounding the lower part of said reservoir and extending below the top oven-flue; 8th. The driving flue R<sup>1</sup>, situated in front of the lower portion of the reservoir Q, and between the same and the rear casing D, of the vertical flues when its upper end and the lower side of its only opening into such flues are upon such a line as to cause the heated escaping products of combustion to enter said flue at the same point and angle, whether the direct or reversed draught is employed; 9th. A heating chamber for enclosing the lower portion of a water-reservoir situated in rear of the vertical flues and with its bottom below the oven-top, when the passage thereto for the entrance of the heated escaping products of combustion is on a line with said oven-top; 10th. The chamber R, provided with the rabbit r, formed within its exterior vertical side-walls for containing the upper edge of the warming closet U, in combination with said closet; 11th. A register-collar B<sup>1</sup>, fitted from within into an opening in a pipe; 12th. A register-collar B<sup>2</sup>, fitted from within into an opening in a pipe and held in position by means of outward pressure; 13th. In combination with a register-collar provided with a central opening C, a register E<sup>1</sup>, having a central-boss F<sup>1</sup>, which corresponds to and fits into said opening; 14th. A register E<sup>2</sup>, placed upon or against the inner side of the collar B<sup>2</sup>, and held in position by the outward pressure of the damper; 15th. The register E<sup>2</sup>, provided with the central opening f, in combination with the damper G<sup>1</sup>, provided with the axial-bearing H<sup>1</sup>; 16th. In combination with the register E<sup>2</sup>, and damper G<sup>2</sup>, the lugs e; 17th. In combination with the register E<sup>2</sup>, and damper G<sup>2</sup>, the crank L<sup>2</sup>, connected with and operating both of said parts; 18th. In the device as a whole consisting of the collar B<sup>2</sup>, provided with the face or seat C<sup>2</sup>, openings D<sup>2</sup>, and c, and flange b, the register E<sup>2</sup>, provided with the boss F<sup>2</sup>, central opening f, and lugs e; the damper G<sup>2</sup>, provided with the bearings g, and H<sup>2</sup>, and the crank L<sup>2</sup>, when the several parts are constructed as shown, and combined with each other and with the pipe.

No. 1941. ANDREW HUNTER & EGBERT H. OSBORNE, Quincy, Ill., U. S., 3rd January, 1873, for 5 years: "Machine for Cleaning Grain." (Machine à nettoyer les grains.)

Relates to a frame of perforated plates to which is imparted a quick vibratory horizontal movement susceptible of being suddenly checked at necessary intervals—also to a screened chute with vertical movement and to a hopper provided with a feed slide.

*Claim.*—1st. The relation and construction of the frame E, and chute F; 2nd. The combination of the cam-wheels I, and levers H; 3rd. The combination of the cam-wheels I, levers H, and springs O; 4th. The combination of the frame E, levers H, friction rollers P, springs O, and cam-wheels I; 5th. The bumper screws q; 6th. The combination of the levers H, springs O, and bumper-screws q; 7th. The combination of the levers H, springs O, bumper-screws q, and cam-wheels I; 8th. The combination of the frame E, levers H, friction rollers P, springs O, cam-wheels I, and bumper-screws q; 9th. The cam-wheel I, provided with equidistant and opposite teeth; 10th. The cam-wheels I, in combination with the lever L; 11th. The levers L; 12th. The combination of the cam-wheels I, levers H and L; 13th. The combination of the chute F, cam-wheels I, and levers L; 14th. The feed-slide C, so arranged that in moving its edges shall be parallel with the edge of the feed-slat a; 15th. The hopper B, in combination with the feed-slide C; 16th. The agitator consisting of the bar E, and flexible standards g, secured to the chute F; 17th. The agitator in combination with the chute F; 18th. The combination of the agitator and the frame E; 19th. The hopper B, provided with the agitator described and feed-slide C; 20th. The set screws S; 21st. The combination of the frame E, levers H, springs O, cam-wheels I, chute F, and set-screws S; 22nd. The combination of the frame E, levers H, springs O, cam-wheels I, chute F, levers L, and set-screws S; and 23rd. The combination of the frame E, levers H, springs O, cam-wheels I, and chute F.

No. 1942. WENDELL R. KING, Chicago, Ill., U. S., 3rd January, 1873, for 5 years: "A Baling Press." (Une presse d'emballage.)

*Claim.*—The horizontal levers A, A<sup>1</sup>, pivoted at one end with the other ends suspended by a chain and hoisting tackle, in combination with the frame B, and support H.

No. 1943. JOHN K. COLLETT, Pilton, Wales, U. K., 3rd January, 1873, for 15 years: "Process of Packing and Preserving Meat." (Procédé pour emballer la viande.)

*Claim.*—The process of packing and preserving hams, bacon and other cured meats in flour or meal.

No. 1944. LORENZO D. BENNER, Boston, Mass., U. S., 3rd January, 1873, for 5 years: "Manufacture of Paper Bags." (Fabrication des sacs de papier.)

Relates to the construction of a paper bag folded in such manner that when opened it assumes a square or rectangular shape in cross section.