No. 2023. JAMES E. EMERSON, Beaver Falls, Pa., U. S., CHARLES H. WATEROUS & GEO. H. WILKES, both of Brantford, Ont., 3rd February, 1873, for 5 years: "A Removable Saw Set Socket." (Une douille de raînette mobile.)

Relates to the construction of a thumb-cam, nut or bolt which as it is partially turned forces the end of the saw blade hard against its end bearings, and at the same time clamps the wings of the socket hard against the sides of the saw-blade.

Claim.—1st. The thumb-bolt D, constructed as described in combination with the wings B^1, of socket B, and saw-blade A; 2nd. The removeable socket A, and handle A^1, of a cross-cut saw in combination with the saw-set composed of the slot *a*, in socket A, anvil-block *b*, having arm B^2, and gauge-screw *c*, when attached and constructed to operate with the handle in the manner described.

No. 2024. SEBRUS C. MAINE, Boston, Mass., U. S., 3rd February, 1873, for 5 years: "A Portable Ventilator." (Un ventilateur portatif.)

Claim.—1st. A ventilator of the character described by means of which currents of air will be deflected from a direct coruse on enteringthe apartment to be ventilated; 2nd. The combination in a ventilator of a deflector for changing the direction of the currents of air on entering the apartment to be ventilated, and a damper for regulating the supply of air to be admitted; 3rd. The combination in a railway-car ventilator of a deflector for changing the direction of the currents of air as they enter the car, and an automatic valve operating as described for directing the external air into the ventilator in whichever direction the car may be moving; 4th. The combination in a railway-car ventilator of a deflector for changing the direction of the currents of air as they enter the car and a screen arranged and operating as described for excluding dust, cinders, etc., from the air admitted to the car; 5th. The combination in a railway car ventilator of a deflector for changing the direction of the currents of air as they enter the car and a sliding valve as shown in figures 2, and 4, for automatically directing the external air into the ventilator in whatever direction the car may be moving.

No. 2025. JAMES H. BUTLER, Hampton, Me., U. S., & HIRAM DUCLOS, Jr., Montreal, Que., 3rd February, 1873, for 15 years: "Machine for Cutting Laths." (Machine à scier la latte.)

Consists in the manner of running a series of gang-saws on an inclined arbor by a belt from a horizontal drum and shaft, said saws being secured by conical collars so arranged on a line parallel with the plane of the feed table that the saw blades shall have an even support on each side.

Claim.—A lath cutting machine, the combination of the gang-saws C, inclined arbor D, conical collars C^1, driving inclined-belt *d*, horizontal shaft E^2, and feed-rollers G and G^1, the whole constructed and arranged for the purpose of cutting laths with bevel-edges.

No. 2026. EDWARD J. CHAPMAN, Toronto, Ont., 3rd February, 1873, for 5 years: "Art of Treating Auriferous Mispickel for the Extraction of Gold." (Art de traiter le mispikel aurifère pour en extraire l'or.)

Claim.—The ignition or gentle deflagration of auriferous mispickel or arsenical pyrites with a sufficient quantity of nitrate of soda or nitrate of potash, or both, and the dissolving out the resulting soluble matters thus leaving a residuum which is more easily treated for the extraction of the gold therein contained either by amalgamation or the so called chlorine process.

No. 2027. SILAS DODSON, Jersey City, N. J., U. S., 3rd February, 1873, for 5 years: "A Grain Scourer." (Un nettoyeur des grains.)

Consists of a stone casing constructed in sections or blocks, combined with an interior cylinder armed with beaters which scour the grain by projecting it against the casing.

Claim.—1st. A case B, B, composed wholly or in part of stone and used in connection with interior beaters; 2nd. The combination of the revolving cylinder *g*, armed with a series of beaters J, J, or their equivalents, with a stone-case B, B; 3rd. The combination of the bevel-edges *b*, *b*, and the square bearing-edges *d*, *d*, so arranged as to compensate for the wear of the interior of the case by a redressing of said square-edges; 4th. The mode of scouring grain, the same consisting in projecting the grain upon the inner periphery of a stone-case by means of interior beaters or wings.

No. 2028. WILLIAM J. KEEP, Troy, N. Y., U. S., 3rd February, 1873, for 5 years: "A Side Base Burning Stove." (Un poêle à charbon à foyer de base et de côté.)

Claim.—1st. A stove having the upper or supply end of its magazine separated from the air of the apartment by means of two covers, between which is a chamber for the escape of gas, when said covers are so combined that the inner cover must be opened by an independent motion before the outer cover can be removed; 2nd. An exterior cover for the upper-end of a stove casing which can only be removed after an exterior cover is raised and which, when thus removed, carries with it said interior cover; 3rd. An exterior and an interior cover, so combined and arranged that when the former is moved horizontally, the latter is carried in the same direction; 4th. The covers O^1 and S^1, when combined and arranged with relation to the upper end of the casing that when said covers are opened, the inner cover is prevented from dropping downward; 5th. An exterior and an interior cover for the upper end of the casing, and for the magazine when so constructed and combined that the closing of the former will permit the latter to close; 6th. The square or rectangular rod R, when combined with the cover Q^1; 7th. A magazine provided with a vertically removable cover, when the opening thus closed is principally in rear of the transverse centre of said magazine; 8th. The latch U^1, constructed and combined with the cover S^1, and with the upper end of the casing; 9th. In the latch U^1, and lower cover Q^1, when so arranged that the raising of the latter shall release the former; 10th. The urn T^1, constructed and combined with the covers Q^1 and S^1, and with the lifting rod R^1; 11th. A chamber situated between the cover of the upper end of the magazine and the cover of the stove-casing and connected with the exit flue when the chamber is not connected with the combustion-chamber; 12th. A chamber so arranged above the magazine of a revertible-flue stove that the exit flue shall produce a constant suction so as to remove therefrom all escaping gases or entering air; 13th. The constructed opening O^1 and P^1, above and below the exhaust chamber H^1; 14th. The funnel N^1, provided with the opening O^1, and so combined with the upper open end P^1, of the magazine and with the cover Q^1 as to cause said cover when being raised to close for an instant said opening O^1; 15th. The cross-pipe L^1, and exhaust flue K^1; 16th. The damper M^1, corresponding to and combined, with the cross-pipe L^1; 17th. A damper for closing the direct draught of a stove when provided with two handles which extend outward from opposite sides of the same; 18th. A magazine having its rear-wall curved inward so as to increase the space horizontally between the same and the contiguous portion of the casing; 19th. The flue strips D^2, situated at the upper end of the diving-flue B^1, and combined with the same, the magazine and the casing of the stove; 20th. The flue-strips D^2, when constructed with A shaped upper sides; 21st. The division plate M^2, constructed and combined with the base of the stove; 22nd. The removable panel O^2, constructed and combined with the casing of the stove; 23rd. An oven applied to and combined with the rear-side of the stove, and connected directly with the diving-flue so as to cause the heated escaping gases to pass into and through the flue surrounding said oven, instead of entering the base of the stove; 24th. An oven combined with and arranged upon the rear-side of a stove, when said oven is so constructed that by turning a damper, the heated escaping products of combustion may be caused to pass from the diving-flue directly into and around said oven or may be caused to enter the base of said stove and then pass into and around said oven; 25th. The extra-plate P^3, attached to and forming a part of the oven L^3, and inclosing the open rear-side of the diving-flue; 26th. The lining Q, for the upper edge of the fuel-chamber when combined and arranged with relation to the moveable bars N; 27th. The lining Q, constructed in sections and provided with tenons q, and mortises q^1; 28th. Combination with the lining Q, provided with the recess q^2, the lugs R, secured to and extending inward from the casing and containing the pin *r*; 29th. The bearing-ring L, provided with the sockets M, and bearing *m*, in combination with the movable bars N; 30th. The bearing-ring L, constructed as described and provided with the opening m^1, within the sockets M; 31st. A movable bar forming a part of the said lining of a fuel-chamber, when its upper end is provided with a journal having such a relative angle to said bar as to cause it to have a rotary motion, within its bearing, when the lower end of said bar is caused to vibrate around the circle of the slag-pit; 32nd. A moveable bar forming a part of the side of a fuel-chamber, when the axial bearing for its upper end is so arranged as to permit each side of said bar to be alternately thrown forward and back, horizontally as well as radially when its lower end is vibrated around the circle of the slag-pit; 33rd. The head or collar n^1, secured upon the outer end of the journal *n*, in combination with the same, the bar N, and the ring L; 34th. The bars N, provided with the bearings O, and lateral flanges *o*, in combination with the ring G, provided with the opening *g*; 35th. The bars N, constructed and combined with the ring G, so as to permit of their longitudinal expansion without displacement of parts; 36th. The rear moveable bar N, provided with the lateral wing n^2: 37th. A fuel chamber capable of a horizontally rotary motion in combination with an imperforate horizontally stationary bed plate; 38th. The lining C^1, of the diving-flue B^1, when constructed and combined therewith; 39th. The means employed for attaching the lining C^1, to or upon the flue B^1, consisting of the lug c^1, secured to or upon the rear-side of said lining and provided with the pin C^2, and projecting through a corresponding opening within the front-wall of said flue; 40th. The brick or extra-lining D^1, constructed and combined with a metal lining C^1 or flue B^1; 41st. The brick or extra-lining D, constructed as shown and combined with the metal-lining C^1, by means of the downward projecting end of the magazine and the flanges *d*, or the ledge d^2; 42nd. In the nose X^1, constructed open at the rear, and combined with the magazine E^1; 43rd. A fuel-chamber capable of a horizontally rotary motion and resting upon and wholly or in part supported by balls; 44th. The lower cup-bearings I, constructed as shown and provided within their sockets *i*, with the openings i^1; 45th. The upper recessed bearings H, provided with the overlapping wings *h*; 46th. The slag-pit cylinder G, so constructed as to extend below the bed-plate *s*; 47th. The axial bearings T and A^1, of the bed-plate *s*, when constructed as shown and resting within the bearings *t* and *w*; 48th. The combined plate X, and bar Y, constructed as shown and combined with the bed-plate *s*, and slag-pit cylinder G; 49th. The washer *z*, provided with the radial-arm A^1, and combined with the bed-plate *s*, and the arms T and U; 50th. The frame-bar W, constructed as shown and combined with the bed-plate *s*; 51st. The combination with the horizontally