

No. 1852. OTIS C. WHITE, Hopkinton, Mass., U. S., 30th November, 1872, for 5 years: "A Dentist's Chair." (Une chaise de dentiste.)

Relates to the mechanism employed for raising, lowering and inclining the seat, foot rest and frame of the chair.

*Claim.*—1st. The combination of the stationary internal nut-threaded tube B, rotating screw-shaft or spindle N, and sliding sleeve L, the latter encompassing both the tube and spindle; 2nd. The combination with the sliding sleeve L, and its enclosed screw-spindle N, of the clamping-ring R, screw S, and arm or treadle T; 3rd. The combination with the tipping chair frame D, and pivoted seat or seats supporting frame of the bar C, and stop B; 4th. The combination with the foot-rest I, made adjustable in height, or with reference to the seat or seat-frame of the worm shaft O, segmental gears M, M', and arms L, links K, and foot rest frame H; 5th. The foot rest frame pieces, each made with the side bars H, and arms G, cast in one piece; 6th. The combination with a chair seat to be raised and lowered, a metal spindle F, having a vertical series of gear teeth e, on the spindle the points of the teeth being flush with, or sunk below the outer surface of the spindle, a worm wheel or gear G, engaging the teeth of said spindle, and a worm J, on an actuating shaft H; 7th. The combination with the seat frame D, and seat bottom E, of the tipping spider frame A, seat supporting spindle F, worm wheel G, worm J, and shaft H; 8th. The combination with the main chair frame D, of a pivoted seat-bottom and a supporting mechanism whereby the seat can be retained in a horizontal position or nearly so when the chair frame is tipped back or inclined.

No. 1853. JAMES C. FRENCH, Chicago, Ill., U. S., 30th November, 1872, for 5 years: "A Vault Light." (Une lampe de cave.)

Consists in the construction of vault lights with double lenses so as to prevent the gathering of moisture and consequent dripping.

*Claim.*—1st. The lenses B, and D, with the intervening space; 2nd. The combination of the lenses B, and D, with the iron frame A; 3rd. The combination of the ribs c, c, lenses B, and D, and iron plate A.

No. 1854. ROBERT HENEAGE, Buffalo, N. Y., U. S., 30th November, 1872, for 5 years: "Machine for Generating and Purifying Ozone." (Appareil pour produire et purifier l'ozone.)

*Claim.*—1st. The apparatus for producing and purifying ozone consisting principally of tank-pumps B, valve-chamber c, feed-tank d, feed-pipe e, air-valve F, division-plate G, retort H, supply-pipe I, funnel J, washing-chambers K, K, diaphragm L, exit-chamber M, water supply-pipe S, plunger a, rods b, ropes and chains c, pulley d, over-flow dish e, pump-discharge g, vibrating-fork N, vibrating-pipe i, lugs j, waste-pipe k, air supply-pipe r, cistern-exit t, cisterns u, exit-pipe v, connecting-pipes 1, 2, 3, 4, and 5, or the equivalents of any of these parts; 2nd. The pumps B, operated by the water used for washing or purifying the ozone for the purpose of producing the air necessary to generate the ozone; 3rd. The method of supplying the pump-barrels with water by means of the automatic vibrating supply-pipe i, with the vibrating tank D, vibrating fork h, the rods f of the pumps connected and working over the pulley d, and having lugs j, that engage with the vibrating fork h; 4th. The method of supplying water and air to the tank A, by means of the self-acting pumps B, B, with the water-packed plungers a, a, conducting-chamber c, valves j, f, the air valve-pipes F, F, and connecting openings g, g, v, v; 5th. The method of supplying water and air to the generating and washing chambers by means of the funnel J, air-pipe r, and water pipe s, in combination with the tank A, and pumps B, B; 6th. The generating vessel or retort H, when constructed of two walls, the outer of metal and the inner of glass, the space between packed or luted with plaster of Paris, or its equivalent; 7th. The construction of the purifying vessels consisting of the lower metallic chamber u, having the perforated plate L, and the upper glass chamber K, separated by the division plate G, and with the connecting openings; 8th. The purifying chambers, the plate L, for breaking the globules and having the perforations for the escape of the gas; 9th. The discharge chamber M, the gas discharge-pipe v, constructed with the flaring mouth and perforated sides and arranged over the pipe s.

No. 1855. IRA BENTLEY, Howard, Ont., 30th November, 1872, for 5 years: "Machine for Harvesting Beans." (Machine à moissonner les fèves.)

A combination of iron screws and rakes with other mechanism whereby the beans after been cleansed and freed from all extraneous matter are cast off the screens to the ground.

*Claim.*—1st. The iron screws J, J; 2nd. The iron rakes Q, Q; 3rd. The combination of the screws J, J, and rakes Q, Q; 4th. The combination with the screws J, J, and the rakes Q, Q, of the dog T, the power or drive-wheel S, the rake-frames Qb, the cog-wheels M, and N, the rod V, the pitmen L, L, the projections K, K, the bed-piece F, the lever E, the gauge-wheel-post G, and wheel H, the shovels I, I, and gearing O.

No. 1856. HENRY BOLTON, Elizabethtown, Ont., 30th November, 1872, for 5 years: "A Spring regulating the Friction of Machinery worked

by Animal Power." (Un ressort régulateur de la friction des machines à force animale.)

Consists in the combination (when no cog-wheels are used) of a spring and guide-bar to regulate the amount of friction of the platform on the driving-wheel of dog or other animal powers.

*Claim.*—A flat spring A, inserted in the friction bar B, controlled in its flexure by a guide-bar C, fastened to the frame of the power, also in the spring and guide-bar as described in combination.

No. 1857. CALVIN H. GOULD, Madrid, N. Y., U. S., 30th November, 1872, for 5 years: "A Bee-Hive." (Une ruche.)

*Claim.*—1st. A bee-hive, the body or breeding chamber of which is constructed in two sections A and B, the line of division being vertical, and from front to rear; 2nd. Constructing the comb-frames of horizontal open top bars D, D, and comb-bars E, and end-bars F, the width of the latter being equal with the bars D, D; 3rd. The moveable partition H, fitting between the comb-frames for contracting the working space in the hive; 4th. The moveable slide J, arranged below the observing glass I, and covering a side entrance, in combination with a moveable or hinged side K.

No. 1858. TERENCE SPANHAM, Brockville, Ont., 30th November, 1872, for 5 years: "Composition of Matter for Covering Steam Boilers, etc." (Composition pour couvrir les chaudières à vapeur, etc.)

*Claim.*—A boiler covering made of a mixture of finely powdered plumbago, soap-stone, and mica with flour or sugar and sufficient water to compose a paste, the mixture of all the ingredients as set forth, the combination of any three or more of them, according to the particular purpose for which the covering is to be used and the degree of heat to which it is to be exposed.

No. 1859. FERDINAND DIECKMANN, Cincinnati, Ohio, U. S., 30th November, 1872, for 10 years: "A Pipe Elbow." (Un coude de tuyau.)

*Claim.*—A pipe elbow produced by means of a succession of flat crimps or seams B, in the form and manner described. The pipe elbows so constructed as aforesaid being tinned, re-tinned, galvanized or re-galvanized by dipping in zinc, solder, tin or other molten metal so as to coat or re-coat them and thereby give them a better finish and prevent them from leaking.

No. 1860. ALBERT E. EDSON, Hamilton, Ont., 30th November, 1872, for 5 years: "A Sewing Machine Shuttle." (Une navette de machine à coudre.)

*Claim.*—1st. The arrangement of the circular bearing d, on the top of a shuttle as shown in figs. 1, 2 and 3, constructed at any angle of modification thereof as figs. 6, 7, 8, 9, &c.; 2nd. The arrangement of the perforated face of the shuttle by either one slot p, as shown in fig. 5, or by holes, one or more for the purpose specified; 3rd. The arrangement of the top tension-bar c, on the top of the shuttle as shown in fig. 2, or its equivalents in the shape of slots or wire; 4th. The arrangement of the hole i, through the top of the shuttle as shown in fig. 4, for threading the shuttle or passing the thread around the bar c; 5th. The arrangement of the opening e, at the back of the shuttle to lighten it, and reduce it in weight; 6th. The arrangement of the above improvements in combination with a solid shuttle or one made in parts.

No. 1861. JOHN WADE, JR., Port Hope, Ont., 2nd December, 1872, for 5 years: "Improvements on Cultivators." (Perfectionnements aux cultivateurs.)

Consists in the mechanism whereby the gauge of the wheels and coulters can be altered and the frame, to which the coulters are attached, raised so as to avoid obstructions, or when it is necessary the cultivator can be moved without using the coulters.

*Claim.*—1st. The combination of the top frame A, hangers B, and wheels C; 2nd. The coulters-frames G, hinged to the rod H, in combination with the vertical pieces D, cross-pieces E, and braces F; 3rd. The coulters-frames G, loop L, and hoops K, in combination with the pins M, outer cranks N, and centre crank N.

No. 1862. JOHN H. MILLS, Boston, Mass., U. S., 2nd December, 1872, for 5 years: "A Steam Generator." (Un générateur de vapeur.)

*Claim.*—1st. A cast iron steam generator composed of one homogeneous casting consisting of the pipes a, b, c, d, e, f, g, and the elevated grate-surface q, erected on the lower water-pipe b; 2nd. A steam generator composed of sections formed each of a single casting, with a fire-space, a grate-bar erected on and elevated above the lower water-pipe, and flanges to form air-pockets, so that when said sections are placed side by side together, the furnace or fire-box elevated grate-surface and air-pockets will be formed without further fitting; 3rd. The air-pockets n, with orifices p, formed in the side walls and between the sections of the generator; 4th. A steam-generator provided with passages, so that the products