

tons D, having lips E, applied and used as set forth; 3rd. Connecting the cases A by hinges having projecting slotted lugs G, and jointed bar H, adjustable thereto and held by screws I; 4th. The spring keys K, applied as set forth for holding the flasks B, in the cases A.

No. 3138. ROBERT HITCHCOCK, Watertown, N. Y., U. S., 24th February, for 5 years: "Forced Blast Heavy Oil Lamp." (Lampe à huile lourde à courant d'air forcé.)

Claim.—1st. A forced blast lamp, the combination with the oil reservoir A of the movement contained in a chamber B, separate and distinct from but surrounded on all sides by said reservoir, 2nd. The combination in a forced blast lamp of the movement the fan or air impelling device C, separated and partitioned off from but driven by said movement, and air passages through which the air supply for the fan is taken in outside of and without passing through or in contact with the movement; 3rd. The wick tube and its surrounding jacket K, arranged entirely outside of and removable bodily and together from the oil reservoir or main body of the lamp and provided with air passages i and j, for conducting the impelled air from the fan to the flame; 4th. The combination of the air impelling apparatus, the surrounding oil reservoir and the wick tube and jacket surmounting said reservoir, and formed with passages through which the impelled air current will be directed upon the flame; 5th. The combination of the air impelling mechanism, the oil reservoir A, and the wick tube surmounting the same, with the pump mechanism, and supply pipe O, O', for feeding the wick with oil, and the overflow through r, and return pipe r', for conducting back to the reservoir the surplus of oil; 6th. In combination with the elevated wick tube and return pipe, he combined ash shield and strainer intermediate between the open bottom of the wick tube and the air impelling fan, and constructed as described with a cup or dish-shaped receptacle h, and a gauze diaphragm h', to strain the return oil, and catch the refuse from the wick tube, and with an annular projecting flange d, to deflect from the opening above the fan, the matter that might otherwise drop from the said shield and strainer on the fan; 7th. The wick raising sleeve v, slotted as described, and provided with spring catches z, placed in said slots, and normally projecting inward through the slots beyond the inner surface of the sleeve; 8th. In a forced blast lamp, the combination with the movement, or blower, of a pump mechanism for supplying oil to the wick.

No. 3139. OSCAR W. ALLISON, Buffalo, N. Y., U. S., 24th February, 1874, for 5 years: "Improvements in Steam Boilers." (Perfectionnements dans les chaudières à vapeur.)

Claim.—1st. The combination in a steam boiler, with the water chamber A, steam chamber B, and furnace E, of the series of water tubes N, and connecting space blocks; 2nd. The arrangement in a steam boiler having a water chamber A, steam chamber B, and furnace E, of the outer series of water tubes N, and two inner series N', N'', and connecting space blocks; 3rd. The combination in a vertical steam boiler, and with the water tubes thereof, of the connecting space blocks, made concave at the sides to fit between said tubes.

No. 3140. JOHANN E. F. LUDEKE, London, Eng., 24th February, 1874, for 5 years: "Motive Power Machine." (Puissance motrice mécanique.)

Claim.—1st. The combination of the hollow cylinder or fly wheel F, ring or annular chamber G, ring of cork K, vertical stems L, L', horizontal bar M, vertical rod N, lower bearings Q, socket Q', foundation plate A, standard B, crossed head C, shaft E, pulleys S, counter weights R; 2nd. The combination of a paddle wheel G, main shaft e, ring E, attached by spikes Et, cup F; channel H, toothed wheel I, adjusting screw L, toothed wheels O, P, Q, S, spiral spring N, toothed ring W, arm X, pawl X', and arcs E, constructed, arranged and operating as set forth.

No. 3141. THOMAS W. DOWLING, Pontiac, Mich., U. S., 24th February, 1874, for 5 years: "Improvements on Scroll Sawing Machines." (Perfectionnements aux scies à chantourner.)

Claim.—1st. The application of the coil springs D, with lever purchase C, from their centres; 2nd. The forked pitman F with its centre connection on the upright slide B.

No. 3142. HENRY SKOINES, London, Eng., 24th February, 1874, for 5 years: "Gas Apparatus." (Appareil à gaz.)

Claim.—1st. The process of treating the crude gases, vapours, or products, arising from the coking or first carbonization of canal coal, and analogous substances by introducing such products with superheated or other steam or with water into retorts or chambers charged with chalk or analogous material in a highly heated state; 2nd. The amalgamating of the gases as described in retorts or chambers charged with coke, or analogous substances, in a highly heated state; 3rd. The described process of manufacturing or producing gas for illuminating or heating purposes by coking or carbonizing canal coal or analogous substances in coking retorts or chambers treating the resulting gases, vapours or rising products with superheated or other steam or with water in other or intermediate retorts or chambers containing chalk or analogous material for absorbing the sulphurous compounds and ammonia, and amal-

gamating the gases in final retort or chambers charged with coke or analogous substance; 4th. The novel combination of the carbonizing or coking retorts A, A', A'', A', A', pipes D, valve W, intermediate or chalk retort As, pipe D', final or amalgamating retort A6, ascension pipe D2, hydraulic sealing vessel E, pipe B', gas main F, steam generator L, steam supplying and superheating pipe O, and other parts all constructed, arranged and operating as set forth; 5th. The process of manufacturing or producing gas by passing air or superheated or other steam through a retort or chamber charged with highly heated chalk or analogous material, thence through a retort or chamber charged with highly heated coke or analogous substance, and afterwards through a highly heated retort charged with canal coal, or analogous substance as explained. 6th. The passing of the heated gases through tanks or vessels charged with tar, tallow, petroleum or other oleaginous substances as described.

No. 3143. SEYMOUR HUGHES, Jersey City, N. Y., U. S., 24th February, 1874, for 5 years: "Improvements on Lanterns." (Perfectionnements aux lanternes.)

Claim.—1st. The crown or dome E, slitted at the lower edge to form the spring jaws b, for holding the globe in position; 2nd. The combination of the perforated plate a, applied beneath the burner with the guard D, and with crown or dome E, having the spring jaws b b'; 3rd. The crown or dome E, provided with the removable cover d, which is held in place by the ends of the bail c; 4th. The combination of the removable lamp F, with the plate a, cylindrical base A, and globe C, all arranged to permit the application of the lamp from above, and hold it in place when applied as set forth; 5th. The combination of the metal band G, with the crown or dome E, said band having the hook h, formed on it, for entering the eye i; 6th. The globe C, made of partly spherical, partly cylindrical form, as shown in fig. 3, and as described.

No. 3144. W. A. KIRBY & D. M. OSBORNE, Auburn, N. Y., U. S., 24th February 1874, for 5 years: "Improvements on Mowing Machines." (Perfectionnements aux faucheuses.)

Claim.—1st. In combination with the main frame, the shoe rigidly attached thereto, the finger-bar hinged to the main frame, and the lifting lever hung to the standard o, the main frame, and connected with the finger-bar, so as to raise up the finger bar independent of the shoe, hold it up, or lower it; 2nd. The combination of the main frame with a rigid shoe attached, the finger-bar hinged to said main frame, and the pole-block, and lifting lever connected therewith; 3rd. Combination of the hinged finger bar and the crank wheel shaft whereby said finger-bar shall vibrate about the crank shaft, as a centre of motion; 4th. Combination of the lugs and stud on the main frame, with the finger-bar supports, to keep the finger bar joint in proper position; 5th. The combination of the seat, seat beam, pole-block-link, and main axle so that the driver in his seat may be by his weight, through seat-beam, and in raising up the main frame as described.

No. 3145. THOMAS MURGATROYD, Hamilton, Ont., 24th February, 1874, for 5 years: "Improvements in Carriage Springs." (Perfectionnements aux ressorts de voitures.)

Claim.—1st. The horizontal brace springs F, applied to and between each pair of main springs D D'; 2nd. The main springs D, fastened to the cross bar B, by a hinge at their lower ends and their upper ends attached directly to the body or seat of the carriage; 3rd. The means of connecting the brace springs D, to the main springs B, by perforated ears h, firmly attached to the main springs; 4th. The brace springs F, cross pieces G, vertical rods K, brace rods l, and rests e, combined with springs D D'; 5th. The arrangement of hanging the f, out of the carriage to the forward part of the curved seat rider H, as specified.

No. 3146. STUART PERRY, Newport, N. Y., U. S., 24th February, 1874, for 5 years: "Rotary Hay Tedder." (Machine rotatoire à faner le foin.)

Claim.—1st. Combination of the supporting and driving wheels, turning independently of each other on a continuous axle tree, the main-frame D D', the rotating reel hung upon the said main frame in rear of the axle-tree and within the wheels, and carrying tino-bearing shafts, having rigid arms which connect them with a cam-way fastened upon the said main frame, all constructed and arranged in the manner described; 2nd. A rotary tedder, the combination of a reel having rocking tie shafts, each connected by its single rigid arms and friction roller slide to a cam-way g, which controls its rocking movement and the cam-way g, having that part of its track which controls the times while acting on the grass, in the form of a true circle concentric with the axis of the reel, for preventing either acceleration or retardation of the times while acting on the grass, and the other part formed so as to cause the tines to dip backwards after lifting and be restored again before entering the grass; 3rd. The wrought iron tubular tie shafts F, in combination with a series of grass spreading tines coiled around each of said tubular shafts and fastened thereto by bolts which pass directly through them; 4th. The main frame D, made and arranged in the manner described; 5th. Construction of the pawls Q, Q, and