upper portion of said boiler; 2nd. The combination with a screw H^2 actuated in rotation by the pressure of gas or vapour and a labial drum C^2, secured thereto, of a chamber or casing D^2 in which the latter rotates, together with suitable packing inserted between said drum and chamber; 3rd. The combination with a chamber or casing D^2 having communication with the boiler and a screw H^2, actuated in rotation within the former by the tension of gas or vapour, of a condenser or dissolver T^2, together with connections of the same, respectively with said chamber and boiler; 4th. The combination with a screw H^2 actuated in rotation within a chamber or casing D^2, by the tension of gas or vapour, and a boiler E^2, of a condenser or dissolver T^2, connecting with the eduction end of said chamber, and having communication also with the upper body of the boiler; 5th. The combination with a screw H^2 actuated in rotation within a chamber or casing D^2, by the tension of gas or vapour, a boiler E^2 and a condenser or dissolver T^2, of pipe communications B^2 G^2 of the latter, respectively with the upper and lower body of the boiler, and the eduction end of said screw chamber; 6th. The combination with a screw H^2 actuated in rotation by the tension of a gas or vapour, and secured to a tubular axial shaft B^2, of a condenser or dissolver T^2 having communication with the upper body of the boiler through said shaft; 7th. The combination with a chamber or casing D^2 provided with a screw A^2 which is actuated in rotation by gas or vapour, of a condenser or dissolver T^2, connecting with the eduction end of said chamber and mechanism H^2 adapted to force the motive fluid therefrom into the boiler; 8th. In a motor engine provided with a screw H^2, which is rotated by gas or vapour in a state of tension, the combination with a condenser or dissolver T^2 and pipe connection of the same B^2, with a boiler, of an inverted screw H^2 located longitudinally within said pipe and free therefrom, the same being adapted to force the motive fluid into said boiler; 9th. The combination with a screw H^2, actuated in rotation by the tension of gas or vapour, and secured to a tubular axial shaft B^2, which latter provides communication between the boiler T^2 and condenser or dissolver, of a screw H^2, located within said shaft and adapted to force the fluid from said condenser or dissolver into the boiler; 10th. In a motor engine, the combination with a screw H^2 actuated in rotation by the tension of gas or vapour, and a tubular axial shaft B^2, to which is secured, and which provides communication between the boiler and the condenser or dissolver T^2, of a fixed screw H^2 longitudinally within said shaft and free therefrom, said screw having its thread formed the reverse of the thread of the rotating screw H^2; 11th. In a motor engine actuated by the expansive force of certain gases or vapours against a screw, the combination with the screw chamber or space D^2, of a perforated plate or diaphragm K^2 inclosing its fluid induction end, and adjustable valve mechanism controlling said perforations or openings, the same being adapted to automatically govern the supply of the motive fluid into said screw chamber or open space; 12th. In a motor engine actuated by the expansive force of certain gases or vapours against a rotating screw, a governor consisting in the combination with the screw chamber or space D^2, of adjustable devices adapted to control the passage of the motive fluid therein, together with governor connecting mechanism; 13th. In a motor engine actuated by the expansive force of certain gases or vapours against a rotating screw, the combination with the screw chamber D^2, having communication at its eduction end with a condenser or dissolver T^2 of a governor located at the opposite and eduction end of said chamber, whereby the passage of motive fluid into the latter is controlled.

No. 10,043. Improvement on Toys.

(*Perfectionnement aux jouets.*)

Charles C. Johnson, Springfield, Vt., U. S., 7th June, 1879, for 5 years.

Claim.—1st. The combination in a toy, of two or more tops, spun simultaneously by the same string; 2nd. The combination with one or more tops, of a bar or stick, into which they are set, a resistance piece and the cord operating them.

No. 10,044. Cooking and Heating Apparatus.

(*Appareil de cuisine et de chauffage.*)

John H. Graves, Rochester, N. Y., U. S., 7th June, 1879, for 5 years.

Claim.—1st. In an oil burning stove, the combination of the oil ring A, provided with the centre opening *a*, the cylinder *c* resting over said opening, and wick tubes B B proceeding inwardly and upwardly from the oil ring and extending through said centre opening; 2nd. The combination with the wick tubes B B, of the separate burners E E, provided with bearing plates *j j* fitted over the open ends of said wick tubes, and provided with suitable locking attachments whereby they are made removable; 3rd. The locking attachment of the burners composed of the side flanges *k k*, tongues *l*, grooves *m*, the side lugs *n n o* and cross pins *p q*, all combined as specified; 4th. The cone plate D provided with cones *f f* and constructed with slots *g g* near the outer edge, for admitting cold air to the cylinder outside the cones; 5th. The cap G, constructed with the elevated skeleton frame H, provided with the oval rings *t t*, for the attachment of the tops of the chimneys; 6th. The combination with the frame H provided with the oval rings *t t*, of the chimneys I I, provided with side openings *w w*; 7th. The combination with the chimneys I I, of the conical jacket J^1, closing the space from the sides of the cylinder too near the top of the chimneys, and serving to concentrate the draft within the cylinder close to the tops of the chimneys; 8th. The combination of the cold air inlets *g g*, in the cone plate, the heat radiating chimneys within the stove, and the conical jacket within the cylinder and near the tops of the chimneys; 9th. The combination with the oil ring A provided with openings *z z*, of the covers K K either imperforated or provided with a perforated or wire cloth screen b^2, for the purpose of ventilating the oil ring, allowing free escape of the gas from the same, and preventing ignition of the oil; 10th. The wood blocks f^2 f^2 resting in sockets on top of the oil ring A, forming non-conductors to prevent the transmission of heat from the stove downward to the oil ring; 11th. In combination with the top of an oil stove, the open-bottomed heating drum L, constructed with the chimney i^2, enclosing jacket K^2, with discharge holes n^2 n^2, and the cross tube p^2 and the connecting vertical tube r^2.

No. 10,045. Improvements on Sinks.

(*Perfectionnements aux éviers.*)

John Law and David Darville, London, Ont., 7th June, 1879, for 5 years.

Claim.—1st. The mode of attaching flange J, or body of outlet pipe F, to trough I; 2nd. The combination of nut G with tapered base outlet pipe F, with cone-shaped face and thread *a*, and waste pipe H.

No. 10,046. Improvements on Lemon Squeezers. (*Perfectionnements aux pressoirs à citron.*)

Isaac Williams and Josephine P. Fanning (Assignees of John Fanning), Brooklyn, N. Y., U. S., 7th June, 1879, for 5 years.

Claim.—1st. The convex perforated bed to receive the lemon, in combination with a concave presser; 2nd. The convex bed with a rim around the same, and perforated, in combination with the concentrator below the perforated bed to receive the juice, and pass the same to the tumbler or other vessel; 3rd. The combination of the convex perforated bed *a*, concentrator *c*, supporting ring *e*, standard *d*, guide rods *n*, cup and actuating mechanism; 4th. The combination of the removable convex perforated bed, the supporting ring *e*, standard *d*, lever *g*, link *l* and presser cup.

No. 10,047. Improvements on Water Filters.

(*Perfectionnements aux filtres à eau.*)

James H. Davis, John C. Davis, Josiah D. Cook and James A. Haigh (Assignees of John N. Stevens), Toledo, Ohio, U. S., 7th June, 1879, for 5 years.

Claim.—An upward filtering device as set forth, viz: receiving chamber A, influent pipe N, discharge faucet I, perforations L K, holding down bar *b*, sponge chamber D and perforations *d d*, clear water reservoir B, in combination with delivery pipe and faucet H, and air pipe P.

No. 10,048. Manufacture of Slag Glass. (*Fabrication du verre de crasse.*)

Edward Bishop, London, (Assignee of Bashley Britten, Red Hill,) England, 7th June, 1879, for 5 years.

Claim.—The process of treatiag slag hot as it runs from the smelting furnace, for the manufacture of glass or vitreous material.

No. 10,049. Improvements on Horse Shoes.

(*Perfectionnements aux fers à cheval.*)

Luther H. Bellamy, North-Augusta, Ont., 7th June, 1879, for 5 years.

Claim—The combination of the body *a* and the spring sole *b*, having the arch *c*, web *d* and calk *e*.

No. 10,050. Improvements in Soldering Machines. (*Perfectionnements aux machines à souder.*)

William Farwell (Assignee of Peter Dillon and John Cleary), Sherbrooke, Que., 7th June, 1879, for 5 years.

Claim.—1st. A gas generator R, in combination with a solder bath T, inserted within it or in contact with it; 2 d. A solder bath T in combination with a gas generator R, and having in connection therewith, one or more soldering bolts t^2; 3rd. A circular rotary table I with moulds L L, and clips M M attached to it, made to revolve around a stationary circular centre-piece C, with a cam cut groove on its surface and a cam cut groove on its edge, all in combination with a soldering apparatus, consisting of a gas generator R, containing a solder bath T supplied with a soldering bolt t^2; 4th. A gas generator R, containing a solder bath T, supplied with a soldering bolt t^2, connected by a sliding bar H to a lever F, attached to a shaft G, in combination with a main shaft D and driving wheel E, working by means of gears, o^1 o^2 o^3 o^4 o^5 J and shafts P^1 P^2, a rotary table I, having attached to it moulds L L with bevelled clips M M, the latter operating on shafts m^1 m^1, to serve as hinges, moved by cranks m^2 m^2, travelling in a cam cut groove on the edge of a centre piece C; 5th. A sliding bar H, formed with an under wedge-shaped piece *h*, to operate as a lift, attached in such manner as to raise the bar in its backward motion and to let it descend to the horizontal line in its forward motion; 6th. A mould L, with shaft l^1 and truck l^2, in combination with a pair of bevelled clips M M to fold around the moulds on hinges or shafts m^1 m^1; 7th. Bevelled clips M M with shafts or hinges m^1 m^1 and cranks m^2 m^2, the latter is so made as, by travelling in a cam cut groove, to fold and open the clips M M closely around a circular mould ...; 8th. A hollow box W, consisting of an upright hollow tube to receive wire solder, and attached to and upon a horizontal tube, into which the pieces of wire solder drop, and are moved forward to the seam, by means of a slide W^2 working in the horizontal tube of the box; 9th. A hollow box W, as described; or made in other equivalent form, in combination with a soldering apparatus consisting of gas generator R, with soldering bolt t^2, but which in such case may be made without a solder bath, and with burners projecting through and below the gas pot, so that the flame shall strike against the soldering bolt; 10th. The combination of a rotary table E, section H, with a number of hollow spindles G, to serve as holders with their operating mechanism; 11th. A rotary table E, section H, with a hollow spindle G, to serve as a holder worked by mechanism, in combination with a soldering apparatus consisting of a gas generator R, with solder bath T and soldering bolt t^2; 12th. A spindle G, with internal grips *g g*, and shaft *h*, with bevelled end *j* at the upper end, to work the grips; 13th. A spindle G, with internal grips *g g*, shaft *h* with bevelled end *j*, all in combination, by means of the coupling *i*, with the shaft *m* and mechanism attached to the main shaft H, by which the spindle G is made to rotate under the end of the soldering bolt of the soldering apparatus; 14th. A machine with a main shaft D, having on it a gear o^1 and a driving wheel E, the former o^1 in combination with a circular rotary table I, supplied with moulds L L, clips M M, made to revolve around a centre-piece C, and the latter driving wheel E in combination, by means of lever F and sliding bar H, or other equivalent mechanism, with a soldering apparatus, consisting of a gas generator R, solder bath T and soldering bolt t^2; 15th. A soldering apparatus, consisting of a gas generator R, with gas tubes and burners s^2, projecting below the gas generator R in such manner as to throw the flame and heat directly upon the lower extremity of the soldering tool t^2.

No. 10,051. Machine for Jointing Staves.

(*Machine pour joindre les douves.*)

John A. Seaman, Chicago, Ill., U. S., 7th June, 1879, for 5 years.

Claim.—1st. The former D, composed of the jaws *b b*, plate *c c*, pivots *d d*, pin F and cap E, in combination with the endless saw C; 2nd. The combina-