said cylinder and separated by longitudinal openings, and perforated elevating buckets arranged in the space between the drum and the cylinder, substantially as set forth. 3rd. In a grain scourer, the combination, with the rotating perforated scouring cylinder, of a perforated scouring drum secured within the cylinder and rotating in the same direction and with the same speed as the cylinder, elevators arranged between the cylinders and the drum, and a suction fan having its eye connected with the end of the scouring cylinder, whereby the air is drawn inwardly through the perforations of the scouring cylinder, and through the space between said cylinder and the inner scouring drum of the fan, substantially as set forth. 4th. The combination, with the enclosing casing provided with air inlets, of a perforated rotating scouring cylinder arranged in said casing, a perforated scouring drum arranged within said cylinder and rotating in the same direction and at the same speed as the cylinder, elevators arranged between the cylinder and drum, a suction fan and air spouts connecting the fan with both ends of the securing cylinder, substantially as set forth.

No. 30,878. Device for Setting, Gauging, etc., the Teeth of Saws. (*Appareil pour donner la voie, le calibre, etc., aux dents des scies.*)

William N. Harsen and William R. Gillett, Attica, Mich., U. S., 4th March, 1889; 5 years.

Claim.—1st. A sawyer's implement made in flat form, consisting of a plate provided on one edge with a flange b^{11}, said flange being recessed to admit the raker gauge B, and on the other edge with saw sets, a jointer groove and an adjustable saw-tooth gauge consisting of a screw D moving in and out of a slot d^4, all substantially as described. 2nd. A sawyer's implement, provided with the flange b^2 and raker gauge B on one edge, and on the other edge with saw-sets, saw-toothg auges, a jointer groove and a swage F situated in the upper enlarged end of the saw-set C, substantially as described.

No. 30,879. Carpet Cleaner. (*Balayeuse de tapis.*)

William P. White, Cincinnati, Ohio, U.S., 7th March, 1889; 5 years.

Claim.—1st. A rotable carpet cleaning cage of a configuration, substantially as shown, and consisting of one continuous slat-work of irregular configuration, as and for the purposes set forth. 2nd. A rotable carpet-cleaning cage, provided with hollow journals, substantially as set forth. 3rd. A rotable carpet cleaning cage, provided with hollow journals and flanges, said journals and flanges being cast in one piece, substantially as set forth. 4th. In combination with a carpet cleaning cage, having closed ends, the hollow journals D_1 and flange C, said journals having the collars E and E^1 and band wheel G, and the blow-pipe H, substantially as set forth.

No. 30,880. Support for Sliding Doors.

(*Support de portes roulantes.*)

Reuben Clarke, Toronto, Ont., 7th March, 1889; 5 years.

Claim.—1st. A sliding door A having a roller B, or other support connected to its inner lower corner, to rest upon a loose track C extending below the door behind its jamb, in combination with a roller D or either support, connected to its outer upper corner, and resting on a track F extending across the doorway, substantially as specified. 2nd. The bracket D, having jaws d combined with the bearing e held in said jaws, and provided with a vertical shank, the pin g in said shank, the wedge-shaped block G on said shank and resting on said pin, and the adjusting screw H engaging said block, all arranged and operating substantially as shown and described.

No. 30,881. Galvanic Battery.

(*Pile galvanique.*)

Alexander Schanschieff, Gipsy Hill, Eng., 7th March, 1889; 5 years.

Claim—1st. A saline preparation composed of mercury and sulphuric acid, forming a salt freely soluble in water to such a degree that two pounds or thereabout of metallic mercury may be held in solution in a gallon of water. 2nd. A saline solution composed of mercury, sulphuric acid and water, so combined, substantially as described, that the water holds in solution one-fifth of its weight or thereabout of metallic mercury.

No. 30,882. Apparatus for Carburetting Air and Enriching Gas. (*Appareil à carburer l'air et enrichir le gaz.*)

Conrad Herzog, London, Eng., 7th March, 1889; 5 years.

Claim.—1st. An apparatus for carburetting or enriching air or gas, comprising a carburetting chamber a containing a number of superposed trays b, having openings e, e arranged therein in such a manner that air forced through the said chamber is caused to pass in a circuitous direction, whereby it is brought into contact with a large surface of liquid, in combination with a collapsible chamber adapted to be filled with air or gas, and then to be lowered under the action of a weight k, or the like, to force the air or gas which it contains through the carburetting chamber a, or two or more of such chambers to maintain a continuous current of air or gas. 2nd. In apparatus for carburetting air, or enriching gas, a carburetting chamber a containing a series of superposed trays b, constructed and arranged substantially as described. 3rd. In air carburetting or gas enriching apparatus, the use of one or more flexible or other extensible and collapsible chambers for containing the air or gas to be carburetted or enriched, substantially as described.

No. 30,883. Rock Drill. (*Foret de mine.*)

Henry C. Sergeant, New York, N.Y., U.S., 7th March, 1889; 5 years.

Claim.—1st. The combination, with a cylinder, a piston having reversely arranged inclines or shoulders, and a main valve arranged to move by pressure upon its end, of a supplemental valve which is actuated by the inclines or projections of the piston to serve the sole purpose of placing the ends of the main valve chest alternately in connection with the exhaust, whereupon the valve will be moved by the pressure in the opposite end of the chest, substantially as herein described. 2nd. The combination, with a cylinder, a piston having reversely arranged inclines or shoulders, and a main valve arranged to move by pressure upon its end, of a supplemental valve which controls the operation of the main valve, and which is moved in opposite directions alternately by the inclines or shoulders on the piston, substantially as herein described. 3rd. The combination, with the main cylinder, a piston having reversely arranged inclines or shoulders, and a main valve arranged to move by pressure upon its end, of a supplemental arc-shaped slide-valve fitted to a corresponding seat, and arranged to be moved in opposite directions alternately by the inclines or shoulders of the piston, to control the operation of the main valve, substantially as herein described. 4th. The combination, with the main cylinder, a piston having reversely arranged inclines or shoulders, and a main valve arranged to move by pressure upon its end, of a supplemental arc-shaped valve fitted to a corresponding seat, arranged to be moved in opposite directions alternately by the inclines or shoulders of the piston, and having a port or cavity in its flat side or surface for controlling the operation of the main valve, substantially as herein described. 5th. The combination, with the cylinder A having a cavity or opening b^1, the piston B having inclines or shoulders e, e^1, and the main valve chest and its valve D, of the renewable bed F for the valve chest provided with the projection F^1 having formed therein the arc-shaped valve-seat d, and ports f, f^1, f^2 and the arc-shaped supplemental valve E fitting said seat, and arranged to be moved by the inclines or shoulders on the piston, substantially as herein described. 6th. The combination, with the cylinder and piston of a rock drill, of rotating devices comprising two members, one of which consists of a sleeve or ring held by friction within the cylinder, and the other of which is locked to turn the piston and arranged within the sleeve or ring, one member being provided with ratchet-shaped teeth and the other with pawls engaging therewith, substantially as herein described. 7th. The combination, with the cylinder and piston of a rock drill, of a sleeve or ring clamped by friction within the cylinder constituting one member of the rotating devices, and provided upon its interior surface with ratchet-shaped teeth extending lengthwise of the cylinder, of a head or piece constituting the other member of the rotating devices arranged within the sleeve and locked to the piston, and pawls carried by the last mentioned member of the rotating devices and engaging with the ratchet-teeth of said sleeve, substantially as herein described. 8th. The combination, with the cylinder and piston of a rock drill, of a spirally grooved bar fitting a nut in the piston and having upon it a head, a sleeve encircling the head, and clamped and held by friction within the cylinder, the sleeve and head constituting the two members of the rotating devices, and one being provided with ratchet-shaped teeth extending lengthwise of the cylinder, and the other carrying pawls engaging with said teeth, substantially as herein described. 9th. The combination, with the cylinder and piston of a rock-drill, of a spirally grooved bar fitting a nut in the piston and having a cylindric head carrying pawls, and a sleeve encircling said head clamped and held by friction in the cylinder, and provided upon its interior surface with ratchet-shaped teeth with which the pawls of the head engage, substantially as herein described. 10th. The combination, with the cylinder and piston of a rock-drill, of rotating devices consisting of the sleeve or member G clamped and held by friction within the cylinder, and provided upon its interior surface with ratchet-shaped teeth g, and the member I^1 locked to the piston and provided with tangential slideways h and sliding spring-actuated pawls H fitting said slideways, and engaging with the teeth of the sleeve or member G, substantially as herein described. 11th. The combination, with a cylinder and piston of a rock-drill, of the sleeve G, clamped and held by friction within the cylinder and provided with ratchet-shaped teeth g, the spiral bar I fitting a nut in the piston and having a head I^1 in which are tangential slideways or pawl-seats h, and spring-actuated sliding pawls H fitting said seats or slideways, substantially as herein described. 12th. The combination, with the cylinder and piston of a rock-drill, of the sleeve G provided with teeth g upon its inner surface, and clamped and held by friction within the cylinder, the member I^1 constructed with tangential slideways or seat h, and with sockets or holes i^2 extending inward therefrom, and the sliding pawls H provided with inwardly-projecting stems or studs h^1, and spring i^3 arranged in the sockets or holes i^2 and acting upon said pawls, substantially as herein described. 13th. The combination, with a drill-back or frame P provided with lugs p, p^1, of the standards Q provided with collars p^2 fitted cylindrically to the lugs p, p^1 and screwed into the lugs p^1, and having a portion of reduced diameter lifted free between the lugs p, p^1, substantially as herein described.

No. 30,884. Apparatus for the Manufacture of Peat Fuel. (*Appareil pour la préparation de la tourbe combustible.*)

Archibald A. Dickson, Côte St. Antoine, Qué., 7th March 1889; 5 years.

Claim.—1st. In apparatus for the manufacture of peat fuel, the combination, with means for delivering the peat from the bog to the stick-catching mechanism, such stick-catching mechanism, carriers and hoppers, of rollers between which the peat passes for partially removing the moisture from it, and means for rotating such rollers, all as herein described. 2nd. In apparatus for the manufacture of peat fuel, the combination, with means for delivering the peat after passing through the stick-catching mechanism, and means for partially expelling moisture therefrom, of mechanism for compressing the peat consisting of a chamber composed of a cylinder proper, and the frustrum of a cone with inlet and outlets for the peat, and a helix mounted axially in such cylinder for forcing the peat from inlet and to outlets, and means for rotating such helix, all as shown and described. 3rd. In apparatus for the manufacture of peat fuel, the combination, with means for delivering the peat after passing through the stick-catching mechanism, and means for partially expelling moisture from the peat, of mechanism for compressing and drying