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INVENTIONS PATENTED.

NOTE—Patents are granted for 15 years. The term of years for which the fees have been paid, is given after the date of the patent.

No. 20,089. Electric Commutator. (Commutateur Electrique.)

Elihu Thomson, Lynn, Mass., U. S., 1st September, 1884; 5 years.

Claim.—1st. The combination, with an electric switch or commutator, of a magnet placed in proximity to the switch contacts or to surfaces between which a spark or flash is liable to occur, substantially as and for the purpose set forth. 2nd. The combination, with the commutator for a dynamo-electric machine, of a magnet placed in proximity to the commutator-cylinder at a point immediately succeeding the commutator-brush, as and for the purpose set forth. 3rd. The combination, with a dynamo-electric machine commutator, of an accessory commutator, set so that the spaces between its segments will pass its brushes immediately after the corresponding spaces of the main commutator passes its brushes, and magnets placed in proximity to the accessory commutator, as and for the purpose described. 4th. The combination, with the contacts points or surfaces of an electric switch or commutator, of suitable means for producing a magnetic field in proximity thereto, which field shall act, by its attractive or repulsive influence, to diffuse or displace any electric arc or current that may pass, or tend to pass, at the instant of break or commutation.

No. 20,090. Needle Threader for Sewing Machines. (Enfileur d'Aiguille pour Machines à Coudre.)

Edwin N. McPherron, Greenfield, Ill., U. S., 1st September, 1884; 5 years.

Claim.—A needle threader for sewing machines in which are combined a thread guide *b*, pivoted by an arm to the head of the machine and provided with a slot *c*, which is adapted, when in position for the threading, to be closed by the grooved side of the needle, a tongue *h*, projecting from the lower edge of the orifice of the thread guide, adapted to enter the lower part of the eye of the needle, for the purpose of preventing the end of the thread when presented to the entrance of the eye from catching upon the lower edge thereof, and the curved plate *f* provided with a bevelled needle rest or stud *g*, arranged and operating as and for the purpose set forth.

No. 20,091. Appliance for Filtering Water, &c. (Appareil pour Filtrer l'Eau, &c.)

John P. Jackson, Liverpool, Eng., 1st September, 1884; 5 years.

Claim.—1st. The chamber or funnel D, having a small opening D₁ at its lower end, and the rim or open diaphragm D₂, substantially as described and for the purpose specified. 2nd. The chamber B with solid walls above, and open or perforated below, substantially as and for the purpose set forth and shown. 3rd. The pocket filter consisting essentially of the chamber B perforated or open at B₂, which is charred or as with asbestos cloth or equivalent, and filled with granular material as shown. 4th. The filtering chamber G composed of ends or discs H, of a circular or polygonal shape, connected by rods G₁ and covered with asbestos cloth or equivalent, substantially as described and shown. 5th. The conical chamber D suspended inside the chamber B, having a small opening at its point, and an inwardly project-

ing rim or open diaphragm D₂ a little away from the point, in combination with the tapered end formed at the bottom of the chamber B, having a groove B cut around it, to receive a cord or its equivalent for holding a cloth of asbestos or other suitable material, arranged substantially as and for the purpose specified.

No. 20,092. Boiler Furnace.

(Fourneau de Chaudière.)

William P. Hall, Piqua, Ohio, U. S., 1st September, 1884; 5 years.

Claim.—The combination, in a boiler-furnace, of the parallel flues E and I, the dividing-partition K and the passages L, M and N, substantially as and for the purposes specified.

No. 20,093. Furnace. (Fourneau.)

Victor Colliau, Detroit, Mich., U. S., 1st September, 1884; 5 years.

Claim.—A blast-furnace having an outer metallic lining E, an inner metallic casing D above the tuyeres, the section C below the tuyeres being of fire brick, as described, to prevent damage to the portion of the furnace where there is no circulation of air, an air-inlet G into which air passes under pressure, and a spiral diaphragm between the casings extending from said air-inlet to the tuyeres, for compelling the air to circulate around the section above the tuyeres, and gradually descend to the same, whereby the air is gradually heated before entering the tuyeres, substantially as described.

No. 20,094. Rag Engine for Paper Making.

(Pâte à Cylindre pour la Fabrication du Papier.)

John Hoyt, Manchester, N. H., U. S., 1st September, 1884; 5 years.

Claim.—1st. The improvement, in beating rags to pulp, in a rag engine having a beater roll and bed plate knives, consisting in circulating the fibrous material and liquid in vertical planes, drawing the same between the knives at the bottom of the vat, carrying it around and over the roll and delivering it into the upper section of the vat, substantially as described. 2nd. A rag engine for paper-making comprising the vat, the beater roll mounted on a horizontal shaft, and the horizontal partition dividing the body of the vat into an upper and a lower section or passage, the fibrous material and liquid being carried from the lower section between the knives, and delivered over the top of the beater roll into the upper section or passage, substantially as described. 3rd. The combination, of the bed plate knives, the flanged shoe and the wedges, substantially as described. 4th. The combination, with the beater roll, of the adjustable bed plate knives arranged radially with respect to said roll, and the means for adjusting the position of said knives, substantially as described.

No. 20,095. Type Writer. (Machine à Copier.)

Willard H. Gilman, Boston, Mass., U. S., 1st September, 1884; 5 years.

Claim.—1st. In a type writer, the combination of the following elements, viz: a rotary type wheel, movable support or lever supporting said wheel, whereby the latter may be depressed to make an impression of one of its characters on a sheet of paper held under it, means, substantially as described, whereby the operator can cause the rotation of the type wheel in either direction and to any desired extent, a paper holding carriage and automatic means for feeding the same after each depression of the type wheel, as set forth. 2nd. The combination of the rotary type writer, the movable support for the same, a spring adapted to rotate the type wheel in one direction, a movable device or handle adapted to slide on a guide on the supporting base, a flexible connection or cord between said handle and the type wheel adapted to rotate the latter against the orifice of its spring, and a series of orifices or indications in the supporting base, where the operator is enabled to bring any desired character on the type wheel into position for printing, as set forth. 3rd. The combination of the rotary type wheel, the movable support therefor adapted to be depressed by the operator, means for automatically raising said