

from the boiling vat or hop strainer through the centrifugal apparatus and the cooling apparatus to the fermenting vat, without bringing the worts during its transit in contact with other than sterilized air, the supply of such air being at the same time regulated at will. 4th. The construction of centrifugal apparatus herein described with reference to the accompanying drawings, which may be combined with a cooling apparatus of any suitable construction, and which consists mainly of an air tight casing containing a centrifugal drum, a supply pipe *a*, a discharge pipe *b* with orifice *d*, and an air supply pipe with filtering chamber *c*, and regulating cock.

No. 30,929. Car-Coupling.

(*Attelage de chars.*)

Richard F. Osborn, Radford, Ill., U.S., 9th March, 1889; 5 years.

Claim.—A car-coupling, comprising the bumper *a*, the platforms *l* and *m*, the ledge *g* having the slot *h*, the pin *q* traversing the ledge vertically and passing through the slot, the swinging link *k* having bearings for its pivot pin *i* in the bumper and in the slot, the catch *n*, the saddle *c* adapted to raise links and the lever *e* connected with the saddle, as and for the purpose set forth.

No. 30,930. Milk Purifier. (*Garde-lait.*)

David M. Macpherson, Lancaster, Ont., 9th March, 1889; 5 years.

Claim.—1st. The combination of the cone-shaped cooler *F*, provided with a rim *f* and overflow pipe *H*, the tripod stand *A* carrying a milk receiver *B*, provided with a strainer *D* and perforated outlet *C*, the wire sieve *E* supported adjustably by the legs of stand *A*, and the receptacle *G*, having pipes *g*, *g'* for inlet and outlet of water to the cooler, as set forth. 2nd. The combination, with the frame or stand *A* having flexible legs supporting milk receiver *B*, of the wire sieve *E*, having projections *e* adjustably engaging the legs of said stand, substantially as set forth. 3rd. The combination, with the cone-shaped cooler *F*, having an internal overflow pipe *H* and exterior rim *f*, of the receptacle *G* having pipes *g*, *g'*, as set forth. 4th. The combination, with the stand *A*, supporting a milk receiver *B*, having a perforated outlet *C*, of the wire sieve *E* and the cone *F*, provided with a rim *f*, whereby the milk is divided into fine streams, and cooled and collected, as set forth. 5th. The combination, with the stand *A*, of the milk receiver *B* having a strainer *D* and perforated outlet *C*, the wire sieve *E* and the cone *F* provided with an exterior rim *f* and an internal overflow pipe *H*, as set forth.

No. 30,931. Motor. (*Moteur.*)

Franz J. Lawn, Willengen, Germany, 9th March, 1889; 5 years.

Claim.—1st. In a motive power engine, the arrangement and combination of the distributing slide valve *E*, within and at right angles to the axis of the steam piston *D*, the ingress and egress ports 1, 2, 8, 9 and 12, and the grooves or channels 5, 10 and 14, substantially as and for the purposes described. 2nd. The combination and arrangement of the motive power engine for working or operating a chisel or drill, substantially as set forth, so that as the piston *D* reciprocates it will rotate the drill shaft or impart blows or vibrations to the chisel holder, which latter is provided with a spring, and is thus always raised when the pressure of the piston is released. 3rd. In combination with the apparatus set forth in claim 2, the side channel or exhaust pipe *K* leading from the exhaust port *P* to the lower end of the apparatus, for conveying the exhaust air and directing it on to the object operated upon, so as to keep the point of the tool clear of dust, substantially as described. 4th. In combination with the apparatus set forth in claim 2, the winged wheel *F* on the chisel holder *C*, upon the wings or blades of which the exhaust is caused to alternately impinge, with the object of causing the chisel to rotate while at work, substantially as described.

No. 30,932. Low Pressure Injector.

(*Injecteur à basse pression.*)

Joseph H. Killey, Hamilton, Ont., 9th March, 1889; 5 years.

Claim.—An injector, consisting of a case *A*, having an enlargement *A'*, the steam cone *I* having bowed ribs *l* and radial fins *l'*, the stem *i*, the cap *H*, the nuts *R* and *P*, the collar *S*, the steam pipe *V*, pin *v*, slot *or*, the passage *X*, valve *v*, the openings *x* and *x'*, the movable side plate *W*, the removable side wall *F*, the lugs *v*, *v'*, the lugs *f*, *f'*, the plate *C*, the plug *t*, having a flange *iz*, the discharge nozzle *M*, having flange *mi*, the bottom plate *N*, with its outlets *n* and *n'*, all formed, arranged and combined substantially as and for the purpose hereinbefore set forth.

No. 30,933. Rubber Matting for Covering Floors. (*Natte de caoutchouc.*)

James D. Humphreys, Toronto, Ont., 14th March, 1889; 5 years.

Claim.—As a new article of manufacture, a rubber matting for covering floors made in continuous lengths, and in which one or more stripes or portions of the face of the matting are formed to a pattern or design of different character and appearance from the other portions of the matting, substantially as shown and described.

No. 30,934. Belt Fastener.

(*Agrafe de courroie.*)

James H. Connor, Ottawa, Ont. (assignee of Jean B. Parrie, Hull, Que.), 16th March, 1889; 5 years.

Claim.—1st. A belt fastener, consisting of a stout wire *A*, bent into such shape as to resemble the thread inserted by the needle of a lock stitch sewing machine, forming a straight base, interrupted by a series of loops *a* with eyes for the reception of a lock-wire, and a straight lock-wire *B*, adapted for insertion in the eyes *at*, of the

loops *a* of the wire *A*, substantially as set forth. 2nd. In a belt fastening, the combination of the ends of a belt punched to receive the loops *a* of a wire *A*, a wire *A* bent to have a straight base, and a series of loops *a* adapted to be inserted in the perforations of the belt ends, and extending through the collective thickness of the ends to be connected, and a lock wire *B* passing through the projecting eyes *at* of the loops *a*, substantially as set forth.

No. 30,935. Combined Bed and Cabinet.

(*Lit-armoire.*)

Walter Seldon, Peterborough, Ont., 19th March, 1889; 5 years.

Claim.—The combination, with the bed and cabinet, of the connecting arm *F*, pulley *E*, cord or chain *X* and spring *Z* at opposite sides of the bed, as set forth.

No. 30,936. Anatomical Apparatus.

(*Appareil anatomique.*)

Elias Smith, Peoria, Ill., U.S., 19th March, 1889; 5 years.

Claim.—1st. An anatomical apparatus, consisting of a flat non-flexible base or frame, having the outline of the human body, and a plurality of thin plates having the form of the various organs, muscles and parts of the human body, said plates being movably attached upon said base. 2nd. An anatomical apparatus, consisting of a flat, non-flexible base or frame, a plurality of thin plates having the form of muscles, organs or parts of the body, and pins or hooks inserted in the base or frame for removably securing said plates in position upon said base or frame. 3rd. An anatomical apparatus, consisting of a base or backing having the outline of the human body, and provided with a plurality of plates and with a pivot at its lower end, in combination with a tripod or equivalent support, having a socket or hole to receive said pivot, whereby said apparatus is sustained in an upright position, and is made capable of rotation on said tripod. 4th. A base or backing for anatomical apparatus, consisting of a flat non-flexible base, having the outline of the human body and divided into parts, and means, substantially as described, for removably uniting said parts so that the same may be separated for convenience in packing.

No. 30,937. Dynamo Electrical Machine.

(*Machine d'induction-electric.*)

Addison G. Waterhouse, Hartford, Conn., U. S., 19th March, 1889; 5 years.

Claim.—1st. In a dynamo electric machine, and in combination with an auxiliary collecting brush, a shunt conductor connecting said brush to the main circuit, a device located in said main circuit and responding to changes therein, and mechanism consisting of a variable resistance controlled by said responsive device and located in said main circuit, between the main positive brush and the point of connection of the shunt conductor thereto, substantially as and for the purpose set forth. 2nd. In a dynamo electric machine, and in combination with an auxiliary collecting brush, a shunt conductor connecting said brush to the main circuit, and a variable resistance adapted to be operated by hand located in said main circuit, between the main positive brush and the point of connection of the shunt conductor thereto, substantially as and for the purpose set forth. 3rd. In a dynamo electric machine, and in combination with an auxiliary collecting brush, a shunt conductor connecting said brush to the main circuit, a device located in said main circuit and responding to changes therein, mechanism consisting of a variable resistance controlled by said responsive device, and a variable resistance adapted to be operated by hand located in said main circuit, between the main positive brush and the point of connection of the shunt conductor thereto, substantially as and for the purpose set forth. 4th. In a dynamo electric machine, and in combination with an auxiliary collecting brush, a shunt conductor connecting said brush to the main circuit, a device located in the main circuit and responding to changes therein, and a circuit-breaking device located in the shunt circuit and controlled by said responsive device, substantially as and for the purpose set forth. 5th. In a dynamo electric machine, and in combination with an auxiliary collecting brush, a shunt conductor connecting said brush to the main circuit, a device located in the main circuit and responding to changes therein, mechanism consisting of a variable resistance interposed in the main circuit, between the main positive brush and point of connection of the shunt conductor and controlled by such responsive device, a device located in the main circuit and responding to changes therein, and a circuit-breaking device interposed in the shunt circuit and controlled by such responsive device, substantially as and for the purpose set forth. 6th. In a dynamo electric machine, and in combination with an auxiliary collecting brush, connected as described, of a device responding to changes in the main current, and mechanism consisting of a variable resistance controlled by said responsive device, whereby the resistance of the field and shunt circuits of said machine may be automatically varied relatively to each other, substantially as and for the purpose set forth. 7th. The herein described method of regulating the current from a dynamo electric machine, which consists in collecting the current in two portions, shunting one portion of said current around one or more of the field magnet coils, and in varying the resistance of the circuit in which said shunted coils are included, substantially as described. 8th. The herein described method of regulating the current from a dynamo electric machine, which consists in collecting the current in two portions, shunting one portion of said current around one or more of the field magnet coils, and in varying the resistance in the shunt circuit, substantially as described. 9th. The herein described method of regulating the current from a dynamo electric machine, which consists in collecting the current in two portions, shunting one portion of said current around one or more of the field magnet coils, and in varying the resistance of the circuit in which said shunted coils are included, and that of the shunt circuit simultaneously or separately, substantially as described.