

the arm *k*, all combined and operating together substantially as described. 3rd. The combination of the rod *e*, the nuts *g* and *i*, the spring *f*, the rest *h*, the lever *d* and means for operating the same, substantially as described. 4th. In combination, the discharge chamber, the hinged cover of the same, the swinging disk at the bottom of the same, the elastic connection between the cover and the disk, and the bolt or its equivalent for locking the cover and disk, all substantially as described and for the purpose set forth.

No. 21,971. Mortising Machine.

(Machine à Mortaiser.)

The Square Hole Auger Company, Wooster, Ohio, (Assignee of James Oppenheimer, Shenandoah, Iowa), U.S., 2nd July, 1885; 5 years.

Claim.—1st. In a mortising machine, an oscillating cutter-head, having a cam groove running spirally across one portion of the head, a shaft with a lug or toe, connected and eccentric with the shaft, acting as a cam and operating in the cam-groove of the cutter-head, and so arranged that, by rotating the shaft, an oscillating movement is given to the cutter-head, substantially as set forth. 2nd. In a mortising machine, in combination with a sliding stock, of a cutter head and shaft journaled therein, a cam groove running spirally across the periphery on one said of the cutter-head, a lug or toe connected and eccentric with the shaft for operating in the cam-groove of the cutter-head by means of which an oscillating movement is given to the cutter-head by rotating the shaft, substantially as set forth. 3rd. In a mortising machine, a sliding stock with a cutter head and shaft journaled therein, a cam-groove on the periphery of the cutter head, an engaging lug or cam connected with the shaft for oscillating the cutter, but rotating the shaft, and the parts arranged substantially as indicated, so that the mortising device may be attached to and operated by an ordinary boring machine. 4th. The cutter head having a flat base, a cam formation at the side opposite to the base, combined with a flat cutting-blade having side and end cross segmental cutters, a vertically-operating slide-stock, and a vertically revolving shaft fitted in bearings in said slide-stock, having the lower end terminating in a nose-cam projection adapted to act upon the cam formation of the cutter head, substantially as described, for the purpose specified. 5th. The combination, with the slide-stock *B* and the cam cutter-head, journaled therein, of a cutter blade having side cutting edges *e*, and projecting end segmental cutters *e'*, secured to said cutter-head, and the vertical revolving shaft *C*, having a free engaging cam projection with said cutter-head, the said end cross-cutters extending out side of the vertical plane of the said slide-stock substantially as herein described, for the purpose specified. 6th. The slide-stock *B*, having its lower end rounded at each side and formed with the side clearing shelves or projections, combined with the cam cutter-head, the cutter *E* and the revolving cam-shaft, cam whereof has a free engagement with the cutter-head cam, for operation substantially as shown and described. 7th. The cutter-head having the cam hollows or steps *d*, and the cutter *E*, having the side and end cutters, substantially as described, in combination with a driving shaft having a cam projection adapted to engage with said cutter-head, cam-steps, and a stock in which the cutter-head and its operating shaft are mounted in the relation to each other, as described. 8th. An oscillating mortising cutter-head having journal bearings, combined with a cutter having parallel side cutting-edges *e*, and segmental end projections having cutter-teeth *e'*, beveled from their inner sides in opposite directions from the middle of said cutter, substantially as herein set forth, for the purpose specified. 9th. The combination, with an oscillating cutter-head and a shaft adapted to operate said cutter-head by a revolving motion, of a vertically operating stock having side clearing shelves or projections arranged above the oscillating cutter, substantially as described, for the purpose specified. 10th. The combination, with the slide-stock, of an oscillating cutter-head, and a cutter proper having opposite edge cutters and end cutters, the latter being toothed to cut across the grain in the direction of its operation both ways, substantially as described.

No. 21,972. Hay Elevator and Carrier.

(Monte-Foin et Charriot.)

Mathew H. Dowd, Mornington, Ont., and James M. Watson, Luther, Ont., 2nd July, 1885; 5 years.

Claim.—1st. The combination of the hay elevator track *A*, long threaded bolts *A'* passing through the same, and hook *B* having threaded eye to receive the bolt *A'* and engaging a board *B'* secured to the rafters of a barn. 2nd. The combination of the car *C*, levers *E* pivoted thereon, bail *F* connected to the levers *E*, catch *F* fast on the track, stop *H* adapted to engage said catch, and pulley block *I* carrying anchor *J*, adapted to engage the levers *E*. 3rd. The combination of the car *C*, the bail *F*, adapted to slide in guides *f*, and levers *E* pivoted to the car and connected with the bail *F*. 4th. The combination of the levers *E*, anchor *J* adapted to be engaged by said levers, pulley block *I* secured to said anchor and carrying the fork *L*, and the pulleys *D*, *D'* and rope *K*. 5th. The combination of the fork *L* having at its legs *l*, pivoted harpoons *l'*, slide *M*, its legs *m*, also pivoted to the harpoons *l'*, the clips *l''* connecting fork and slide, the lever *N* pivoted to the slide *M*, lock *O* secured to lever *N* and embracing bars *L* and *M*, and latch *P* pivoted to said lock, all substantially as described and shown and for the purpose set forth.

No. 21,973. Brick Machine. (Machine à Brique.)

William S. Smith, William P. Smith and Thomas H. Smith, Galt, Ont., 2nd July, 1885; 5 years.

Claim.—1st. A brick machine, constructed substantially as herein shown and described, and consisting of a wheel provided with mould openings, a cam-driven pawl for revolving the mould-wheel intermittently, and a series of plungers entering the mould openings from opposite sides of the wheel, and worked by cam-driven levers connected by a bar passing through a central opening in the wheel, whereby the mould-openings will be filled with clay, the clay pressed into bricks, and the pressed bricks discharged from the wheel automatically, as set forth. 2nd. In a brick machine, the wheel *S*, made

substantially as herein shown and described, with mould openings *S₂*, and provided with recesses *S₁*, *S₂*, upon the side parts of its rim, to receive the operating pawl *R* and the locking-latch *r*, and having the middle part of its rim *V*-shaped to engage grooved supporting rollers *F*, as set forth. 3rd. In a brick machine, the combination, with the mould-wheel *S*, having rim-recesses *S₁*, of the cam *J* *K* and its driving mechanism, the sliding plate *M*, having pin *L* and bolt *Q*, and the pawl *R*, substantially as herein shown and described, whereby the said wheel will be revolved with an intermittent movement by the continuous revolution of the driving mechanism, as set forth. 4th. In a brick machine, the combination, with the mould-wheel *S*, of the cam *h*, *k* and its driving mechanism, the levers *f*, *e*, *n*, connected to the sliding bar *C*, and the plungers *l*, *m*, substantially as herein shown and described, whereby the said plungers will be moved forward and backward intermittently by the continued revolution of the driving mechanism, as set forth. 5th. In a brick machine, the combination, with the feed-hopper *V*, the mould wheel *S* and the sliding bar *c*, the levers *e*, *f*, the cam *h* *k* and its driving mechanism, of the plunger *W*, the lever *Y* and the fulcrum bar *Z*, substantially as herein shown and described, whereby the feed-plunger will be operated from the mechanism that operates the pressing-plungers, as set forth. 6th. In a brick machine, the combination, with the mould-wheel *S*, the sliding bar *c*, connected to the levers *e*, *f*, the cam *h*, *k*, and its driving mechanism, of the lever *o* and the plunger *p*, substantially as herein shown and described, whereby the discharge plunger will be operated from the mechanism that operates the pressing plungers, as set forth. 7th. In a brick machine, the combination, with the mould-wheel *S*, having rim recesses *S₃*, and the plunger *m* having pin *S*, of the latch *r*, substantially as herein shown and described, whereby the said mould-wheel will be locked in position and released automatically, as set forth. 8th. In a brick machine, the combination, with the mould-wheel *S*, the pressing plungers *l*, *m*, and the frame *O*, of the guide-rods *t*, the scrapers *u*, the rods *v*, *w*, the lever pawl and spring *x*, *y*, the trip-rod *z* and the arm-rod, and weight *3* *2* *1*, substantially as herein shown and described, whereby adhering clay will be scraped automatically from the faces of the said mould-wheel and plungers, as set forth.

No. 21,974. Fifth-Wheel. (Rond d'Avant-Train.)

John W. Leete, Meriden, Ct., U.S., 3rd July, 1885; 5 years.

Claim.—1st. The herein-described fifth wheel, comprising the upper and lower plate working face to face against each other, the lower plate being secured to the axle, and having slots *a*, *b* at the front and rear, and bolts consisting of an oblong portion fitting in the slots, and a tapering portion arranged in correspondingly tapered perforations of the upper plates, and nuts for securing the bolts in place, as set forth. 2nd. The herein-described bolt, comprising the head and the body having the oblong main portion, diminished tapered portion, and threaded projection, as set forth.

No. 21,975. Dump Waggon. (Tombereau.)

George M. Wallace, Yuba City, Cal., U.S., 3rd July, 1885; 5 years.

Claim.—1st. In a dump waggon, the frame *A*, in combination with the independent bottom boards *D* pivoted in the frame, and a means for turning said boards on edge to dump the load, substantially as herein described. 2nd. In a dump-waggon, the frame *A*, in combination with the independent bottom-boards *D*, pivoted at one edge of their ends in said frame, and the means for turning said boards edgewise, consisting of the oscillating shafts *E* having cranks *e*, and rods *g* connecting said cranks with the other edge of the ends of the boards, the levers *F*, *F'*, and connecting rod *f*, all arranged and operating substantially as herein described. 3rd. In a dump waggon, the frame *A*, having ends *C* flaring or inclined outwardly, in combination with the pivoted independent bottom boards *D*, the oscillating shafts *E* under said flaring ends, the cranks *e*, connecting rod *g*, levers *F*, *F'*, and rod *f*, substantially as herein described. 4th. In a dump waggon, the frame *A*, in combination with the pivoted independent bottom boards *D*, said boards having their adjacent edges bevelled underneath at *o* and a means for turning said boards edgewise with their bevelled edges up, substantially as and for the purpose herein described. 5th. In a dump waggon, the frame *A*, and side guard strips *m*, in combination with the pivoted bottom boards *D*, substantially as and for the purpose herein described.

No. 21,976. System of Electric Lighting and Power Distribution. (Système d'Eclairage Electrique et de Distribution de la Force.)

Eli T. Starr, Philadelphia, Penn., and William Peyton, Washington, D.C., U.S., 3rd July, 1885; 5 years.

Claim.—1st. The combination, substantially as hereinbefore set forth, of a dynamo-electric machine or generator, a main line to receive the current of said generator, a series of independent storage batteries electrically connected with said main line, to be charged therefrom, an independent working circuit for each of said independent batteries, and a series of switches by which said batteries may be simultaneously connected in circuit to be charged from the main line and then simultaneously cut out to constitute independent sources of electric supply. 2nd. The combination, substantially as hereinbefore set forth, of a dynamo-electric machine or generator, a main line to receive the electric current of said generator, a series of independent storage batteries electrically connected with said main line to be charged therefrom, a working circuit for each of said independent batteries, including electrical apparatus to be operated by the energy of said batteries, and a switch for each of said batteries whereby any one or more of said batteries and the apparatus worked by it may be cut out from the main line for an indefinite period without cutting out the others. 3rd. The combination, substantially as hereinbefore set forth, of a dynamo-electric machine or generator, a main line over which the current of said generator is conducted, a series of independent secondary batteries to be charged from said main line, a series of switches, one for each of said batteries, to simultaneously throw said batteries into the circuit of the