

l, m, substantially as and for the purpose described. 2nd. In a steam engine, a cylinder A having an internal annular groove R, a stuffing-box as P, a communicating passage between said groove and the exhaust passage of the cylinder, substantially as described, and whereby the water arising from condensation in the said annular groove may flow directly to the steam exhaust passage and there escape.

No. 31,259. Pneumatic Machine for Distributing Solid or Liquid Substances over Land or Crops. (*Machine pneumatique pour distribuer les corps solides ou liquides sur le sol ou la semence.*)

George F. Strawson, Newbury, Eng., 4th May, 1889; 5 years.

Claim.—1st. The combination of the fan or blower *h* with the delivery nozzles or spreaders *e, e*, and tank *a*, substantially as and for the purpose hereinbefore set forth. 2nd. The combination, with the fan *h*, and tank *a*, of the spreader shown in Figs. 3 and 4, substantially as and for the purpose hereinbefore set forth. 3rd. The combination of the fan *h* and hopper *a*, with the delivery nozzle *K*, and delivery board *L*, substantially as and for the purpose hereinbefore set forth. 4th. The combination, with the spreaders *e, e*, of the telescopic or sliding tubes *g, f, f*, substantially as and for the purpose hereinbefore set forth. 5th. The combination, with the nozzle *K*, of a delivery board *L* having partition pieces across the same, substantially as and for the purpose hereinbefore set forth.

No. 31,260. Clothes Wringer. (*Essoreuse à linge.*)

John Kinleyside, Hamilton, Ont., 4th May, 1889; 5 years.

Claim.—The combination and arrangement of the several parts or their equivalents, namely, the levers *C, arm, C*, arms *I*, pins *I* and the stops *J*, in connection with the fasteners *D*, and the frame *Q*, all operating substantially as and for the purposes herein set forth and described.

No. 31,261. Animal Trap. (*Ratière.*)

Walter F. Denman and George C. Denman, Montréal, Qué., 4th May, 1889; 5 years.

Claim.—An animal trap comprising a platform *A*, a dropping cage *B* provided with a trigger *C*, and a bail *D* provided with a hook *D* to engage the trigger and hold the cage suspended when the trap is set, as set forth.

No. 31,262. Stop Cock. (*Robinet de retenne.*)

Maria M. Forestier, Brussels, Belgium, 4th May, 1889; 5 years.

Claim.—1st. The arrangement of the valves *P, V, V*, in combination with the valve spindle *S*, and the barrel section *b, b* of a stop cock, substantially as herein described and as shown in the accompanying drawings. 2nd. The construction and relative arrangement of the barrel sections *b, b*, the valve spindle and the valves *P, V, V*, and the means for operating the said valve spindle, substantially as herein described and shown in the drawings.

No. 31,263. Head Rest. (*Appui-tête.*)

Edward T. Ryan, New Bedford, Mass., U.S., 4th May, 1889; 5 years.

Claim.—A head rest, consisting of the bar *A*, provided with a lateral opening through its body adapted to receive one arm of the angle-bar *B*, and provided with the thumb-screw *e* for clamping said arm, one end of said bar *A* being provided with the thumb-screw *e* working laterally through it, and the other end having a lateral opening for the reception of the bolt *e* provided with the thumb-screw *f*, loose collar *m*, and a lateral perforation near its head in which the rod *g*, provided with cushion *h* is adapted to be adjusted in any desired position and clamped by means of the thumb-nut *f*, all as shown and described.

No. 31,264. Steam Generator.

(*Générateur de vapeur.*)

The Eno Steam Generator Company (assignee of Joseph A. Eno), Newark, N.J., U.S., 4th May, 1889; 5 years.

Claim.—1st. In a steam generator, the combination, with a boiler *a*, circulating pipes *f, f*, a series of generating pipes *e, e*, a branch pipe *h* and vertical connecting pipes, of a mud-drum, having the inlet pipe thereof disposed beneath the said branch, substantially as set forth. 2nd. In a steam generator, the combination, with the boiler and a series or collection of circulating pipes disposed horizontally beneath the boiler, and having a vertical course or turn, as at *h, h*, *h*, in their length, and a mud-drum or sediment receptacle *i* disposed beneath the said vertical course or turn in said circulating pipes, substantially as and for the purposes set forth. 3rd. In combination, a steam generator, with a series of generating pipes *e, e*, a branch *h* and a mud-drum directly connected with said branch and receiving the sediment therefrom, substantially as and for the purposes set forth. 4th. The combination in a steam generator with a series of pipes *e, e*, a mud-drum *i* and circulating pipes *f, f*, of a branch *h*, having upwardly-turning extremities *h*, and intermediate pipes *h*, and a downwardly-extending pipe *h*, all formed integral with said branch, and providing means for coupling with the said pipes and a mud-drum, substantially as and for the purposes set forth.

No. 31,265. Dynamo Electric Machine.

(*Machine dynamo-électrique.*)

Jesse F. Kester and Joseph H. Briggs, Terre-Haute, Ind., U. S., 4th May, 1889; 5 years.

Claim.—1st. In a dynamo electric machine or motor, the combination, with a field magnet, of a magnetic deflector located between the field magnet poles, said deflector having polar extremities ad-

jacent to the field magnet poles similarly polarized, whereby substantially all the lines of force are thrown into the armature orbit. 2nd. In a dynamo electric machine or motor, the combination, with a field magnet, and an armature, of a magnetic deflector, whereby substantially all the lines of force are thrown into the armature orbit. 3rd. In a dynamo electric machine or motor, the combination of a field magnet, of a magnetic deflector located between the field magnet poles and coils on the field magnet, and on the deflector wound and connected in series. 4th. In a dynamo electric machine or motor, the combination of the field magnet magnetic deflectors, an armature opposite coils in said armature connected and terminating in commutator strips, ninety degrees apart, the coils opposite adjacent field magnet poles being oppositely wound respectively, and brushes spaced to correspond to the terminal commutator strips. 5th. In a dynamo electric machine or motor, a drum or cylinder armature, having its coils longitudinally wound on its outer surface, and carried transversely across its ends to form chords of the outer periphery of the armature, said coils being arranged in sets, each set covering approximately the whole circumference of the armature, and the coils of each set being located an equal distance apart, a commutator, having a number of strips equal to the number of armature coils, coils of the same polarity in each set being electrically connected and terminating in commutator strips, electrical connections between commutator strips of the same polarity, and a pair of commutator brushes, substantially as described. 6th. In a dynamo or motor, the combination, with a field magnet of an armature, a series of coils arranged flat on the circumference of the same in successive sets, the coils being located an equal distance apart, and adjacent coils being wound in opposite directions, and each set covering approximately the whole circumference of the armature, a series of commutator strips equal in number to the armature coils, the coils in the same set and of the same polarity being electrically connected and terminating in commutator strips, and the terminal commutator strips of the same polarity and belonging to the same set being electrically connected, and a pair of commutator brushes spaced to correspond to said terminal strips, substantially in the manner and for the purpose described. 7th. In a dynamo or motor, the combination of the field magnet, of an armature, having a series of coils arranged flat on the circumference in successive sets of four located ninety degrees apart, and each set approximately covering the whole circumference of the armature, a series of commutator strips corresponding to the series of armature coils, the successive pairs of coils on opposite sides of the armature, and in each set being electrically connected and terminating in commutator strips located ninety degrees apart, the diametrically opposite commutator strips being electrically connected and brushes set ninety degrees apart, whereby the coils in one set may be thrown into the generating circuit and the remaining coils shut out of the circuit.

No. 31,266. Milk Aerator. (*Aérateur à lait.*)

Pitt W. Strong, Brockville, and Ogle Cars, Smith's Falls, Ont., 4th May, 1889; 5 years.

Claim.—1st. The combination of the suspending rod *D*, pail *A* and valve *E*, whereby the pail moves upward on the rod to open the port and falls to close the port, for the purpose set forth. 2nd. An aerator vessel, comprising a pail *A*, having a perforated bottom, provided with a central port *b* and a bar *C* at top, a rod *D* passing through said bar and port and provided with a suspending pulley *G* and stop *d*, and a valve *E* connected to the lower end of said rod below the bottom of the pail, whereby the pail will rise upwardly on the rod and fall upon the valve to open and close the port in the bottom of the pail, substantially as and for the purpose set forth.

No. 31,267. Transplanting Implement.

(*Appareil de transplantation.*)

Thomas R. Coon and John H. Middleton, Hood River, Ore., U.S., 4th May, 1889; 5 years.

Claim.—An improved planter, consisting of the blade *D* formed of a spring band having a sharpened lower edge, and the pivoted handles *B* having their end portions secured to the end portions *b* of the blade, substantially as herein shown and described.

No. 31,268. Plough. (*Charrue.*)

David Smith (assignee of Malcolm Wilson), London, Ont., 4th May, 1889; 5 years

Claim.—1st. The bearing *C*, having socket *C* formed therein, in combination with the frame *A*, and axle *C*, and means for securing them together, substantially as shown and described, and for the purpose specified. 2nd. The chains *G, G*, in combination with and secured to the frame *A*, and bearing *C*, substantially as shown and described and for the purpose specified. 3rd. The combination, with a straight jointed frame *A*, of the lever *K* and anti-friction roller *K*, substantially as shown and described and for the purpose specified. 4th. The combination, with the frame *A*, of the lever *K*, anti-friction roller *K*, rod *M*, pivotal bar *N*, link *N*, arm *N*, and caster wheel *N* revolving in bearings secured to or in the arm *N*, substantially as shown and described and for the purpose specified. 5th. The shaft *C*, having a portion *T* round in cross section, and the plate or segment *C* having recesses *C* therein, in combination with the arm *P*, wheel *W*, tube *U*, lever *T* and dog *T*, substantially as shown and described and for the purpose specified. 6th. The bracing roller *S*, in combination with the casting *S*, bracket *S*, and the plough *R*, substantially as shown and described and for the purpose specified. 7th. The outer *R*, rigidly secured to or formed integral with the plough *R*, substantially as shown and described and for the purpose specified. 8th. The brace *J* and clips *R*, in combination with the plough standard *H*, substantially as shown and described and for the purpose specified.