

stantially as and for the purpose specified. 21st. The plunger 44, actuated by the spring 45, and arranged to fit behind the shoulder 43 on the rod *k*, in combination with a rock shaft 46, one arm of which is connected to the plunger 44, and its other arm projecting over the periphery of the cam disc *L*, upon which the wedge-shaped projection 47 is formed, substantially as and for the purpose specified. 22nd. The spur-pinion 50, fastened to the shaft or spindle 51, upon which the cams for operating the knotting mechanism are attached, and a circular recess 49 formed behind its teeth, in combination with the segment gear 38, having teeth corresponding in number to the pinion 50, and a plain rim 48 arranged to fit into the recess 49, substantially as and for the purpose specified. 23rd. The tucker 54, pivoted at 55 and connected by the rod 85 to the pin 57, attached to a slide fitting in the guide-block 56, in combination with a cam 58 arranged to operate the slide, substantially as and for the purpose specified. 24th. The bell-crank 61, connected at one end to the ratchet pawl 60 and at its other end to the rod 85, of the tucker 54, in combination with the cord-holder 74, and spring 86, substantially as and for the purpose specified. 25th. The combination, with the cord-holder 74, of the spring fork 87 pivoted on the spindle of the cord-holder and arranged to keep the holder clear from the fibres of the cord. 26th. The rod 63 connected to and operated by the cam 62, in combination with a quadrant rack 64, arranged to mesh with teeth formed on the spindle of the bill-hook 66, substantially as and for the purpose specified. 27th. The bill-hook 66, the upper jaw of which is solid with the spindle 67, while the lower jaw is pivoted at 69 to the spindle 67, and connected to the rod 70 which fits into the groove made in the spindle 67, in combination with a friction roller 71, fitting on a cam track 72, formed in the bracket 68, substantially as and for the purpose specified. 28th. The arm 73 pivoted at 75 and carrying the cord-holder 74, in combination with the pivoted rod 77 connected to the cam 76 operating substantially as and for the purposes specified. 29th. The pivoted stripper 59, in combination with the rod 79 arranged to connect it to the cam 78, substantially as and for the purpose specified. 30th. The plate 80 on which the knife 81 is formed, pivoted at 82 and having a slot 83 made in it to receive, the end of the pin 84, in combination with the rod 79 actuated by the cam 78, substantially as and for the purpose specified.

No. 21,581. Combined Header and Thrasher.

(Étêtuse-Batteuse.)

Samuel L. Gaines, Stockton, Cal., U.S., 4th May, 1885; 15 years.

Claim.—1st. A frame adapted for a combined heading and thrashing machine, said frame consisting of the transverse beams *D*, *D*, longitudinal beams *B*, *C*, *E*, *E*, *E*, *E*, rearwardly extending beam *F* and platform *H* extending at right angles to the line of draft, substantially as described. 2nd. A frame composed of the transverse beams *D*, *D*, longitudinal beams *B*, *C*, *E*, *E*, *E*, and rearwardly extending beam *F*, in combination with suitable supporting wheels, and driving wheel *A* mounted in said frame, and connecting gearing consisting of the axle *a*, shafts *d* and *g*, gears *b*, *c*, *e*, *f*, *h*, and *o*, cam *K* and pivoted connecting rod *K*, substantially as set forth. 3rd. In the combination, with the main frame of a heading and thrashing machine, the heading and conveying frame *I* *I* and *I* *z*, roller *J* *z* having a pivoted shaft for said heading, and conveying frame roller *J* *z*, apron *J*, cam *K*, pivoted lever *K*, a cutter mechanism operated by said lever, and suitable driving and adjusting mechanism, substantially as specified. 4th. In combination with the main frame of a heading and thrashing machine, the frame *I* *I* and *I* *z*, roller *J* *z* having a pivotal shaft, conveyor *J*, cam *K*, pivoted lever *K*, a cutter mechanism operated by said lever, conveyor *O* located at the rear of conveyor *J*, and mechanism for actuating said conveyers and cutting mechanism, substantially as set forth. 5th. In combination with the main frame of a heading and thrashing machine, the heading and conveying frame, substantially as described, pivotally secured at its rear end to the main frame, conveyor *J*, cam *K*, pivoted lever *K*, a cutting mechanism operated by said lever, conveyor *O* located at the rear of conveyor *J* and at right angles thereto, auxiliary conveyor *P* and mechanism for operating said conveyor, substantially as shown and described. 6th. The combination of a cutter mechanism conveyor *J*, conveyor *O* located at the rear of conveyor *J*, and extending at right angles thereto, auxiliary conveyor *P* located to one side of conveyor *O* and being auxiliary thereto, and suitable operating mechanism, substantially as shown. 7th. In combination with the main frame *A*, conveyor frame pivoted therein at its rear end having a cutting mechanism at its front end, and a suitable vertical adjusting mechanism, and a reel frame pivoted to the main frame and flexibly connected to the conveyor frame, for the purpose set forth substantially as described. 8th. In combination with the main frame, a conveyor frame pivoted therein at its rear end, having a cutting mechanism at its front end, and a suitable vertical adjusting mechanism, a reel frame pivoted to the main frame and flexibly connected to the conveyor frame, conveyor *O* located at the rear of conveyor *J* and extending at right angles thereto, and vertical conveyor *P* located at one side of the conveyor *O* and auxiliary thereto, substantially as set forth. 10th. The combination of the main frame, a conveyor frame pivoted therein, at its rear end a cutting mechanism at the front end of the conveyor frame, windlass *G* mounted on the main frame, and rope *N* extending therefrom to the pivoted conveyor frame, for the purpose of vertically adjusting said frame, substantially as shown and described.

No. 21,582. Sectional Ladder. (Echelle Brisée.)

Philemon T. Gates, New York, N.Y., U.S., 4th May, 1885; 5 years.

Claim.—1st. The herein-described means for securing sections of ladders together, consisting in interlocking the ends of the narrow sections *A*, within the inner sides of the wider sections *A* *1*, by means of slots *c* in the ends of the narrow sections *A*, fitting into recesses in the rounds *d*, of the adjacent wider sections *A* *1*, and slots *c* in the

ends of said wider sections, fitting over projections on the narrow sections *A*, substantially as and for the purposes set forth. 2nd. The narrow sections *A*, provided with projecting rounds and slots *c*, in combination with the wider sections *A* *1*, having similar slots *c*, and rounds provided with recesses to receive the slotted ends of the said narrow sections and suitable spring fastening devices, substantially as shown and described. 3rd. In combination with the top section having slots *c*, the roller *e* having journals *f* to fit into said slots and the spring fasteners *B*, as and for the purpose set forth.

No. 21,583. Dynamo-Electric Machine.

(Machine Dynamo-Electrique.)

Elihu Thomson, Lynn, Mass., U.S., 4th May, 1885; 5 years.

Claim.—1st. The combination, with the field-magnet in a dynamo-electric machine, of a secondary or storage battery in a branch around the field magnet coils, and arranged in the manner described, so that the discharge-current from said battery may circulate through the coils in a direction to preserve the normal polarity of the magnet. 2nd. The combination, in a dynamo-electric machine, of field-magnet coils connected to a commutator brush, a branch taken from a point between the commutator and said coils, and a secondary or storage battery in said branch, as and for the purpose described.

No. 21,584. Band Cutter and Feeder for a Thrashing Machine. (Coupe-Hart et Alimentateur pour Machines à Battre.)

Robert Aikin, Brampton, Ont., 4th May, 1885; 5 years.

Claim.—1st. A feed-box, having a bottom formed by an endless travelling apron *A*, and adjustable sides *F*, designed to form the box hopper-shaped, in combination with the revolving saw *N*, arranged substantially as and for the purpose specified. 2nd. A feed-box, having a bottom formed by an endless travelling apron *A*, in combination with hinged sides *F* having slats *b* hinged to their bottom side, substantially as and for the purpose specified. 3rd. The sides *F*, hinged to the feed-box frame *B*, in combination with the arm *H*, fixed to the spindle *G* and operated by the hand-lever *K*, substantially as and for the purpose specified. 4th. The combination of the sides *F*, hinged to the feed-box frame *B*, the arms *H* fastened to their spindles *G*, the chain *M* arranged to connect the two spindles to the hand-lever *K*, for operating the same. 5th. The revolving saw *N*, fixed to and driven by a spindle journaled within the stationary pipe *O*, in and driven by an endless travelling apron *A*, arranged to operate substantially as and for the purpose specified. 6th. An endless travelling apron *A*, arranged to convey grain towards the cylinder of the thrashing-machine, in combination with the spreader *O* having a series of curved fingers *D*, shaped and fixed to the spreader, substantially as and for the purpose specified. 7th. An endless travelling apron *A*, arranged to convey grain towards the cylinder of the thrashing machine, in combination with the feeder *R* having curved fingers, substantially as and for the purpose specified. 8th. An endless travelling apron *A*, in combination with the revolving saw *N*, the revolving spreader *Q* and the revolving feeder *R*, arranged and operating substantially as and for the purpose specified. 9th. A feed-box having hinged adjustable sides *F*, and a bottom formed of an endless travelling apron *A*, arranged to convey grain towards the thrashing cylinder *D*, in combination with the saw *N*, spreader *Q* and feeder *R*, all arranged and operating substantially as and for the purpose specified.

No. 21,585. Churn Dasher. (Baite à Beurre.)

Jeremiah J. Lanning, Yarmouth, Ont., 4th May, 1885; 5 years.

Claim.—The cross pieces *B*, *B*, *B*, *B*, including the piece *a*, *a*, into which they are fixed, and the wires or strips *c*, *c*, *c*, *c* which are placed upon them, as shown in Fig. 1 on the plan hereto annexed, substantially as and for the purpose hereinbefore set forth.

No. 21,586. Washing Machine.

(Lavaseuse Mécanique.)

Joseph Cadran, Sorel, Que., 4th May, 1885; 5 years.

Claim.—1st. In a washing machine, the revolving cross *D* secured to the vertical spindle *O*, and having the fingers *c*, *c*, *c*, *c* projecting downward from it at different distances from its centre, substantially as shown and described. 2nd. In a washing machine, the handle *d* attached to the lying shaft *E*, so as to overhang the side of the machine, substantially as shown and for the purpose set forth.

No. 21,587. Portable Barb Wire Fence.

(Clôture Portative en Fil de Fer Barbelé.)

Newton L. Forster, Trafalgar, Ont., 4th May, 1885; 5 years.

Claim.—A combination of sections *A*, *A*, and the manner of bracing and locking the heads of both sections together at once, also the helve property of the bolt *E*, allowing the sections to adapt themselves to rough and uneven grounds, as and for the purpose hereinbefore set forth.

No. 21,588. Wash Boiler Fountain.

(Puits de Chaudière de Buanterie.)

James R. Berney, Sharbot Lake, Ont., 4th May, 1885; 5 years.

Claim.—A wash boiler fountain, having the hollow base *A*, subdivided by volutely-curved walls *E*, *E*, *F*, *F*, forming spaces *H*, *H*, *H*, and provided with inflow openings *C*, *D*, whereby the flow up the tubes *G*, *G* is accelerated by the steam from the spaces *H*, *H*, *H*, as set forth.

No. 21,589. Lamp. (Lampe.)

Stillman H. Matthews, Toronto, Ont., 4th May, 1885; 5 years.

Claim.—1st. The combination of the fount *B*, jacket *D* and wick-