

No. 28,614. Evaporator. (*Evaporateur.*)

Soth W. Lowell, Belfast, N.Y., U.S., 3rd March, 1888, 5 years.

Claim.—1st. In an evaporator, the combination, with the sections of steam pipes and the case therefor open at one side, of inclined deflecting plates removably connected to the underside of each section and adapted to be inserted and removed through the open side of the case, substantially as set forth. 2nd. In an evaporator, the combination, with the casing, of the vertical series of sections of detachably connected horizontal steam-pipes, and an imperforate deflecting plate removably secured to the underside of each section, whereby a section of pipes with its deflecting plate may be removed together at any time, or the plate alone removed as may be desired, substantially as set forth. 3rd. In an evaporator, the combination, with the vertical series or sections of horizontal steam pipes, of the sleeves *k* mounted upon the outer pipe of each series, and having on their sides the arms *l* parallel with the pipes, the transverse strips *n* resting at their outer ends on the arms *l*, clips *K* at the rear ends of the strips *n*, engaging the inner pipe *o* each section, and the deflecting plate supported on said strips, substantially as set forth.

No. 28,615. Machine for Engraving and Carving Buttons. (*Machine à graver et découper les boutons.*)

Cæsar R. Bannihir, West Cheshire, Conn., U. S., 3rd March, 1888, 5 years.

Claim.—1st. The combination of the table *D* with the indexing device around the column or shaft *A*, for the purpose of bringing the table in any desired relation with any of the spindles *a*, *a1*, *a2*, as herein shown and described. 2nd. The combination of the table or arm *D* having an indexing device around the shaft *A*, the box *E* having within it the index *F*, for the purpose of bringing any desired surface of the article in the chuck *c* under the spindles *a*, *a1*, *a2*, as and for the purpose herein shown and described. 3rd. The combination of the table or arm *D* having an indexing device around the shaft *A*, box *E* having within it a horizontal rotary index *F*, and the vertical circular index *G*, as herein shown and described and for the purpose specified. 4th. The combination of the table or arm *D* having an indexing device around the shaft *A*, and box *E* having within it the index *F*, in a horizontal relation to the vertical index *G*, in relation to the spindles *a*, *a1*, *a2*, with cutters or grinders *b1*, *b2*, *b3*, for the purpose of cutting or grinding designs upon articles, as herein fully shown and described. 5th. The combination, in an indexing device, of the pins *j*, springs *i* and *A*, box *E* and cylinder *F* provided with holes *k*, substantially as and for the purpose set forth. 6th. The combination of the cam or eccentric groove *S* with a slide *P*, lever *O*, sleeve *N* and spring *k*, pitman *Q* and spring *k1*, for the purpose of changing the index while the arm *D* is moved from one spindle to another, all for the purpose herein set forth and described. 7th. The combination of a horizontal spindle *b* with a vertical spindle *a*, in which the vertical spindle forms plunger or slide for the horizontal spindle, being set by means of the pin *m*, as herein set forth and described.

No. 28,616. Machine for Coring, Paring and Quartering Apples. (*Machine àvider, peler et trancher les pommes.*)

William E. Blakely, Brighton, Ont., 3rd March, 1888, 5 years.

Claim.—1st. A tube *T* fastened to the end of a shaft, substantially as and for the purpose set forth. 2nd. A plunger *Y*, *P*, substantially as and for the purpose set forth. 3rd. A lever arm *J*, substantially as and for the purpose set forth. 4th. A rack *I*, substantially as and for the purpose set forth. 5th. A double-edged knife *Q*, moving forward and backward through the apple lengthways of the core, substantially as and for the purpose set forth. 6th. A brake *Z*, substantially as and for the purpose set forth. 7th. The combination of a set of cogs on the wheel *E*, and a pinion *G*, substantially as and for the purpose set forth. 8th. The combination of a loose pinion *F*, with dog attached, and a ratchet wheel *i*, substantially as and for the purpose set forth. 9th. The combination of a plate *r*, with spring attached, a slide *W* and a slide *Y*, with plate *N* attached, substantially as and for the purpose set forth. 10th. A part cog-wheel *B*, substantially as and for the purpose set forth. 11th. A knife-carrier *M*, moving forward and backward lengthways of the apple, substantially as and for the purpose set forth. 12th. A crank *R*, substantially as and for the purpose set forth.

No. 28,617. Grain Binder. (*Lieuse à grain.*)

The Sarnia Agricultural Implement Manufacturing Company (assignee of Samuel D. Maddin), Sarnia, Ont., 3rd March, 1888, 5 years.

Claim.—1st. The frame of the binder supported upon two wheels, and consisting of a sleeve carried by the axle and bars *F*, *D*, the former extended to constitute the overhanging arm supporting the knotting devices, and the strip *E* consisting of the horizontal and vertical portions, all substantially as set forth. 2nd. The combination of the compressor and discharge arms, needle and knoter devices with a wheel *N*, and connections with the said wheel, whereby the batter is made the means of operating all the parts, substantially as set forth. 3rd. The combination, with the knoter devices, compressor and discharge arms and needle, of the wheel *N* having a crank pin connected by a link with the needle, and provided with racks *23*, *26*, the mutilated crank pinion *Q* connected with the knotting devices, and the mutilated pinion *S* connected with the compressor arms, substantially as set forth. 4th. The combination, with a wheel *N*, of a continuously rotating wheel *S*, and connections between said wheels operated by the grain being bound, whereby the wheel *N* is thrown into and out of gear with the wheel *S*, substantially as described. 5th. The combination, with a continuously rotated wheel *S*, of a wheel *N* and a clutch interposed between said wheels operated by the grain being bunched, substantially as described. 6th. The combination, with a continuously rotated wheel

S and a wheel *N*, of a foot *V* operated by the grain being bunched, and connections between said foot and wheel *S*, whereby the wheel *N* is intermittently rotated, substantially as described. 7th. The combination, with a continuously rotating wheel *S* and a wheel *N*, for operating the compressor arm, needle and knoter devices, of connections between said wheels operated by the grain being bunched, to cause the wheel *N* to be started when the bunble is compressed to the desired extent, substantially as described. 8th. The combination, with a continuously rotated wheel *S* and a wheel *N* for operating the compressor arm, needle and knoter devices, of a foot *V* operated by the grain being bunched, and connections between said foot and wheel *S*, whereby the wheel *N* is started on the bunble being compressed, substantially as described. 9th. The combination, with the compressor and discharge arms rotated by a mutilated wheel *S*, of a wheel *N* provided with a rack *23* and a plain face *27*, for intermittently rotating said wheel *S*, and the compressor and discharge arms, substantially as described. 10th. The combination, with a needle *K* pivotally mounted, of an intermittently rotated wheel *N* and link *20*, for reciprocating said needle, substantially as described. 11th. The combination, with a continuously rotated wheel *S*, a wheel *N* and a pivotally mounted needle *K*, operated by said wheel *N*, of a foot *V* operated by the grain being bunched, and connections between said foot and the wheel *S*, whereby the wheel *N* is started on the bunble being compressed, substantially as described. 12th. The combination, with a continuously rotated wheel *S*, provided with two or more shoulders *z*, of a wheel *N*, a lever *T* pivoted thereto and having a stud *30*, for engagement with the shoulders of said wheel *S*, a foot *V*, and connections between said foot and lever, substantially as described. 13th. The combination, with the platform *4*, needle and packers, of a movable frame *W* and means for elevating it, whereby the incoming grain is held out of the path of the packers while the needle is raised, substantially as described. 14th. The pivoted frame *W* arranged to be struck and elevated by the needle on its ascent, substantially as described. 15th. The combination of the needle compressor arm, discharge arms, of a wheel *N* connected to operate the said parts, a continuously driven wheel *S* and intermediate clutch, and the compressor arms, and knoting devices connected to be driven by the wheel *S*, substantially as described. 16th. The combination of the wheels *N* and *S* and intermediate clutch devices, the knoter devices, mutilated wheel *Q*, and lever *P* connected with the wheel *Q*, and knoter devices, substantially as described. 17th. The combination, with the wheel *R*, driven from the driving wheel, wheel *41* on the packer operating shaft, and wheel *42* on a shaft *43*, with connections to operate the cutting mechanism, of a chain passing round said wheels, a wheel *S* driven by said chain, and adjustable connections for throwing the wheel *S* into and out of connection with the needle, and knoter operating devices, substantially as described. 18th. The combination, in a binder, of a shaft carrying a compressor arm, and means for intermittently rotating the shaft, substantially as described. 19th. The combination, in a binder, of a shaft carrying a discharge arm, and means for intermittently rotating the shaft, substantially as described. 20th. The combination, in a binder, of a shaft carrying both the compressor and discharge arms, and connections whereby said shaft is intermittently rotated, substantially as described. 21st. The packer arms, combined with a double cranked shaft, and suspended at the forward ends by pendant links, substantially as described. 22nd. The combination, with the packers *M*, *M1*, of a supplemental packer *M2*, substantially as and for the purpose set forth. 23rd. The combination, with the platform shaft packers, needle, compressor and discharge arms and knoting mechanism, of a bracket carried by the shaft, and supporting devices connected to drive the needle, compressor and discharge arms, packers and knoting devices, substantially as described. 24th. The combination, with two supporting wheels and intermediate shaft, of the packing, binding, discharge and knoting devices arranged above and forward of the shaft, substantially as described. 25th. The platform, knoting, packing, binding and discharge devices carried by a frame supported by two wheels, said frame flexibly connected with the cutter frame, substantially as described. 26th. The combination of the frame of the binder supported upon two wheels, the cutter frame *B2* and the connecting arms, and a shaft *64* having bearings near the front edge of the cutter frame and having an arm at the end, and supporting the axle of the end wheel in line with the axle of the cutter frame, and means for rocking the shaft *64*, substantially as set forth. 27th. The combination, with the harvester frame connected to the binder frame and traveling therewith, of a longitudinal bar located near the forward part of said harvester frame and having a rearwardly extending arm and axle for a bearing wheel mounted laterally about in line with the wheels of the binder, substantially as described. 28th. The combination, with a harvester frame connected with the binder frame, of a longitudinal bar *64*, mounted near the front of the harvester frame and having a rearwardly extending arm and axle for a bearing wheel, and a lever connected to said bar, for raising and lowering the front of said harvester frame, substantially as described. 29th. The combination, with travelling elevating aprons *84*, *86*, of the wheels *92*, *96* and *97*, and a chain connecting said wheels for driving said aprons, substantially as described. 30th. The combination, with a travelling apron *84*, of a second apron *86* pivotally mounted so as to adjust itself to the quantity of grain being carried by said apron, substantially as described. 31st. The combination, with the platform *4*, of a vertically arranged shifting belt, and means under the control of the driver for changing the position of said belt, substantially as described. 32nd. The combination of the binder frame, mounted on two wheels, of a cutter frame, connected to the binder frame by pivoted bars or links *60*, *60*, and an elevator frame pivoted to the cutter frame and extending upward above the platform, substantially as described. 33rd. The combination, with the rollers for the upper and lower elevator belts, of a frame carrying the lower elevator rollers and another frame carrying the upper rollers and suspended to the lower frame at the upper end, substantially as described. 34th. The combination of the elevator frame, carrying the upper and lower elevator rollers on shafts provided with sprocket wheels, a driving chain passing round a sprocket in the shaft of the upper elevator roller, back of a sprocket on the upper shaft of the lower elevator, and to a lower sprocket wheel, and connections for driving the latter from the binder, substantially as described. 35th. The