said wheels to turn them and their screws in opposite directions, substantially as described. 5th. The combination, with the roller A and bearings b, of the screws G and worm wheels G_1, the sliding worm or screw H provided with the collar g, bearings f, f_1, and the removable block or abutment h fitting the worm or screw shaft between the bearing f and collar g, substantially as described. 6th. The feeder, herein described, consisting of a tapering throat and wedge fitting and movable therein, and provided with a stop, for the purpose set forth. 7th. The combination, with the lower working roller, of the stripper consisting of a piece or bar having a knife edge and connected with its supports by soft metal pins which will be sheared or cut off by undue strain on the stripper, substantially as described and for the purpose set forth. 8th. The combination, with the stripper J and soft metal pins s, of the supports J_1 and steel bushings r, substantially as described. 9th. The rolling mill roller, herein described, and consisting of a roller face or sleeve of hard steel internally tapered and screw threaded, screwed upon a shaft corresponding by tapered and and threaded, substantially as set forth. 10th. The rolling mill roller, herein described, consisting of a roller face or sleeve of hard steel, and a metal lining internally tapered and screw threaded and screwed upon a shaft correspondingly tapered and threaded substantially as set forth. 11th. The rolling mill roller, herein described, consisting of a shaft provided with a fixed collar and a collar screwed thereon, and a roller face or sleeve of hard steel secured between the collars and connected by pins or spurs with the fixed collar, substantially as set forth. 12th. The rolling mill roller, herein described, consisting of a shaft provided with collars the faces of which are bevelled inwards, and one of which is fixed on the shaft while the other is screwed thereon, and a roller face or sleeve of hard steel secured on the shaft between the collars and having its ends bevelled to fit the bevel of the collars, substantially as set forth.

No. 19,883. Fertilizer Distributer.

(Distributeur d'Engrais.)

Joseph S. Kemp, Magog. Que., 1st August, 1884 ; 5 years.

Claim.—1st. The combination, with a rotating drive axle of a fertilizer distributer provided with a spur-pinion and a movable bottom, and its actuating shaft having a worm gear secured to one end thereof, of a worm shaft provided with a worm to mesh with the worm gear and having a spur pinion capable of longitudinal adjustment on said shaft but prevented from revolving thereon, and the wheel G journaled to the body A and having teeth on its periphery to mesh with the spur-pinion on the drive axle and provided with two or more concentric series of cogs on one of its sides, substantially as and for the purpose set forth. 2nd. The combination, with the wheel G removably held on the stud g secured to the body A, of the squared worm shaft held to the stud g and provided with the pin, as shown, and the spur-pinion free to move longitudinally on said squared shaft and having the flange, substantially as described and for the purpose set forth. 3rd. The combination, with the rotating drive axle, of a fertilizer distributer provided with a pinion, and movable bottom, and its actuating shaft having a worm gear secured to one end thereof, of a squared worm shaft provided with a worm to mesh with the worm gear, a pin, as shown, and a spur-pinion free to move longitudinally on said squared shaft and having a collar or flange g_1, and the wheel G removably held on the stud g secured to the body A having teeth on its periphery to mesh with the spur-pinion on the drive axle and provided with two or more concentric series of cogs on one of its sides, substantially as shown and described and for the purpose set forth. 4th. The combination, with the movable bottom and its actuating shaft provided with a worm gear wheel, of the worm shaft adapted to be moved on its stud in a vertical plane, and provided with the worm and slotted sleeve, the slotted sector and the bell-crank lever connected to the sleeve and having a bar extending to the forward part of the body, as shown and described and for the purpose set forth. 5th. The shaft M having the crank-arm, the slotted bar provided with the coiled spring, the bell-crank lever, the movable worm shaft provided with the sleeve, the bottom actuating shaft provided with the worm gear wheel and the movable bottom, in combination, for the purpose set forth. 6th. The stop wheel, the shaft M provided with the crank arm, the connecting rod Y and lever g having the projection g_1, in combination substantially as shown and described and for the purpose set forth.

No. 19,884. Circular Saw Mill.

(Scierie à Scies Circulaires.)

Charles Esplin, Minneapolis, Minn., U. S., 1st August, 1884 ; 5 years.

Claim.—1st In a circular saw mill, the combination of the laterally adjustable husk frame A_1 supporting the saw or saws B_2, H_2, stationary bed plates a_1, a_1 on which the said husk frame is supported and by which it is held in position, and means for laterally adjusting the said frame upon the said bed plates, substantially as and for the purpose herein specified. 2nd. The combination of the laterally adjustable husk frame A_1 having the manderel B_1, saw B_2, lumber supporting rollers C_1, C_2, C_3 and wedge plate D mounted thereon, stationary bed plates a_1, a_2 on which the said husk frame is supported and by which it is held in position and means for laterally adjusting the said frame upon the said bed plates, substantially as and for the purpose herein specified. 3rd. The combination of the laterally movable husk frame A_1 having the mandrel B_1, saw B_2, lumber supporting roller C_1, C_2, C_3, wedge plate D and upper saw supporting frame E_1, E_2, E_3 mounted thereon, stationary bed plates a_1, a_1 on which the said husk frame is supported and by which it is held in position, adjusting screws F_1, F_2, nuts a_7, a_8 and sockets a_9, a_{10}, substantially as and for the purpose herein specified. 4th. In a circular saw mill, the combination of the husk frame A_1 carrying the lower saw B_2, the upper saw supporting frame E_1, E_2, E_3 mounted on the husk frame fixed bed plates a_1, a_1 and frame adjusting screws F_1, F_2, substantially as herein specified. 5th. In a circular saw mill, the combination of the husk frame A_1, carrying the mandrel B_1, saw B_2 and driving pulley B_3 and the upper saw supporting frame E_1 E_2 E_3 attached to the said husk frame located entirely at one side of the said mandrel B_1, substantially as and for the purpose herein specified. 6th. In a circular saw mill, the combination of the husk frame A_1 carrying the lower mandrel B_1, saw B_2 and saw driving pulley B_3, the upper saw supporting frame E_1 E_2 E_3, the yoke frame H_3 carrying the upper saw mandrel H_1 and adapted to swing laterally and vertically around the centre of one mandrel bearing, and means, substantially as described, for adjusting it at the other mandrel bearing both horizontally and vertically, for the purpose herein specified. 7th. In a circular saw mill, the husk frame A_1 carrying the lower saw, upper saw frame having concave face e_1, yoke frame H_3 carrying the upper saw mandrel and saw and having convex face e_2, and means for adjusting said yoke frame, substantially as shown. 8th. The combination of the frame E E_2 E_3 having concave face e_1, yoke frame H_3 carrying the upper saw mandrel H_1 and having convex face e_2, journal box H6, bracket H8 and means for adjusting said yoke and mandrel, substantially as specified. 9th. The combination of the frame E_1 E_2 E_3 having the concave face e_1, yoke frame H_3 having convex face e_2, guide arm H_4, guide H_5, mandrel H_1, saw H_2, journal box H6, bracket H8 and means for adjusting said yoke frame, substantially as described. 10th. The combination of the frame E_1 E_2 E_3 having the concave face e_1, yoke frame H_3 having convex face e_2 and carrying the mandrel H_1 and saw H_2, journal box H6, bracket H8 and screws K_1, K_2, substantially as and for the purpose specified.

No. 19,885. Green Corn Cutter.

(Hache Blé-d'Inde Vert.)

Solomon D. Warfield, Baltimore, Ind., U. S., 1st August, 1884 : 5 years.

Claim.—1st In a green corn cutter head consisting of a plate with a central opening for the passage of the ear, a series of interlocking knives with holders and suitable supports susceptible of a radial movement in a constant plane, springs to effect the radial sliding movement of the knives and holders toward the center of the said plate, and to give a yielding pressure to the said knives against the ear during the cutting operation, and gaging devices against which the ear impinges to effect the outward movement of the knives and their attachements, combined with a center rod and yielding centering devices, substantially as specified. 2nd. In a green corn cutter, a knife support and knife adapted to have a radial movement in a constant plane, and a scraper fastened to the said knife holder or some attachement thereof adapted to have a similar movement, and to exert a yielding pressure on the cob independently of that produced by the spring which effects the movement of the said knife and its connections, combined with a center rod and yielding centering device, substantially as specified. 3rd. In a green corn cutter, the combination of a cutting head provided with clamping devices to hold the cob after the cutting operation, and secondary clamping devices in which the cob is forced and held until displaded by another cob, substantially as specified. 4th. In a green corn cutter, the combination of a center rod prongs adapted to slide on the said rod, devices to yieldingly sustain the end of the prongs beyond the center point and a flexible covering for the said center rod to prevent the contact of the removed grain therewith, substantially as specified. 5th. In the cutting head of a green corn cutter, hollow faced gaging rollers which serve to initiate the radial movement of the cutting knives which are connected therewith, provided with deflecting pieces to guide the entering ear to the practically circular space between the said rollers, substantially as specified. 6th. As means for gaging the depth of cut of the knive of a green corn cutter, a hollow faced roller connected to the said knife or to some attachement thereof, substantially as specified. 7th. In a green corn cutter, a fixed central supporting rod for the ear, combined with a head having a retractive device to remove the cob from its support, substantially as specified. 8th. In a green corn cutter, reciprocating cutting head with knives to surround the ear, combined with mechanism to effect the reciprocating motion of the said head longitudinally of the ear in the cutting operation, substantially as specified. 9th. In a green corn cutter, a vertically reciprocating head carrying cutting and scraping devices adapted to slide on bars, a head plate to connect the said bars at their upper end, sheaves supported by the said head plate, ropes or chains extending from the cutting head over the said sheaves and provided at their other end with counterbalancing weights, and means for effecting the reciprocating movement of the said cutting head and its attachments, substantially as specified. 10th. In a green corn cutter, a vertically reciprocating head carrying cutting and scraping devices adapted to slide on bars, a head plate to connect the said bars at their upper end, sheaves supported by the said head plats, ropes or chains extending from the cutting head over the said sheaves and provided at their other end with counterbalancing weights which slide on the said bars, and means for effecting the reciprocating movement of the said cutting head and its attachements, substantially as specified.

No. 19,886 Improvements in Cuttlery.

(*Perfectionnements dans la Coutellerie.*)

Joseph Rogers and Sons, (assignees of Charles Wingfield,) Sheffield, Eng., 1st August, 1884 ; 5 years.

Claim.—The combination, with a knife blade or anologous article provided with a flat tang, of externally roughened bolster pieces adapted to fit close to the sides of the tang and against the heel of the knife blade or analgous article, and a handle made of plastic material molded or otherwise formed around the tang and bolster pieces, substantially as specified.

No. 19,887. Shingle Machine.

(*Machine à Bardeau.*)

Thaddeus Hodgson, Amherst, N. S., 2nd August 1884 ; 5 years.

Claim.—1st. The carriage L, with its lower part secured to the pivot bolt x, and with its upper part swinging towards and from the saw and steadied by the segmental guide plate B. 2nd. The weight O, the weight lever N, and the connecting rod or link K, each by itself. 3rd. The combination of the weight O, the weight lever N, the rod K and the sett roll frame A for the purpose of bringing a sufficient pressure of the upper sett roll upon the shingle block to hold it securely. 4th. The combination of the foot lever R, the weight lever N and the