

No. 18,010. Improvements in Grain Binders. (*Perfectionnements aux lieuses à grain.*)

William B. Burson, Chicago, Ill., U. S., 1st November, 1883; 15 years.

Claim.—1st. The knotted constructed with its working extension substantially segmental, and its recessed hook or barb as described, the whole operating to lay the loop of the knot around it and to receive the part of the twine that is to form the bow by a forward rotary movement, combined with means for shedding the loop thus formed over the twine thus engaged by the barb, and the barb itself, as set forth. 2nd. In a knotted, the combination of the working extension provided with the barb, with the latch a_1 , substantially as described. 3rd. The combination of the barb and the concave flange g , operating as a resistant to the escape of the twine during the stress incident to tying the knot, substantially as set forth. 4th. The curved knotting hook a provided with the concentric groove, combined with the stationary stripping hook h which enters said groove, for the purpose set forth. 5th. The holder blade e having a rotary reciprocation upon an axis coincident with a knotted, and a stationary flange e_1 , substantially as described. 6th. The rotary knotting hook a combined with the holder e , and the flange e_1 provided with the notch e_2 arranged to pay out so much cord or twine as may be required to form the knot, as set forth. 7th. In a grain binder, the knotted, the slotted breast-plate for guiding the twine thereto, the holding notch e_3 , the slotted knotted frame for guiding the needle twine therein, in combination with the needle, the whole operating substantially as described. 8th. The knotted, the slotted breast-plate for guiding the twine thereto, the holding notch e_3 , the slotted frame for guiding the needle twine therein, and the holder d_1 as means for retaining the twine at intervals in said notch, the whole in combination with the needle, substantially as described. 9th. The arrangement of the knotted frame and the actuating gear of the knotted, substantially as shown and described, so that both the knotted and pinion may overhang the bearings of the shaft and they may be so close to each other as to permit casting them integral, as set forth. 10th. In a grain binder, a pinion overhanging its bearings, a delay surface on the said pinion, and a knotting device also thereon, provided with a sloping base forming a cast off, and an operating point around which the knot is laid, substantially as described. 11th. In a knotting device, a pinion provided with a delay surface, a base forming a cast-off, the said base extending to support and carry the operating point of the said knotted axially forward in relation to the pinion, substantially as described. 12th. The combination, with the knotted having the barb, when operated to form the bow of the knot and give a second forward rotation to return it to its position of rest, of the concave so located, as shown and described, that the bow if still clinging to the barb will be carried against the termination of the said concave and brushed thereof, substantially as described. 13th. The combination of the knotted a , shaft c , pinions b and b_2 , delay surface b_1 , with a wheel having segments 1 and 2, and guide rim 4, the whole constructed, substantially as described. 14th. The combination of the knotted operating to tie the knot by a forward and reverse rotation, and discharge the bow from the barb by a second forward rotation, with a wheel having the segments 1, 2 and 3, constructed and operating substantially as described. 15th. The combination of the knotted provided with a barb for engaging the ends of the cord, with the rest g_1 , for receiving and retaining them in proper position to be engaged by said barb, substantially as set forth. 16th. The combination, with the knotted operating to complete the knot by a reverse movement on its axis, and having the concentric groove, the fixed unyielding stripping hook, its point directed into the said groove and adapted to permit the cord to pass it when the knotted is revolving forward to form the loop by yielding into the said groove, but to engage and operate to strip the loop when the knotted is reversed to complete the knot, substantially as set forth. 17th. The combination, with a knotted having a barb and operating to complete the knot by a reverse rotation, a stripper operating to retain the loop while the ends of the cord are drawn through it, and a concave provided with the recess g_2 , substantially as described. 18th. The oscillating cord holder, constructed substantially as described, combined with operating means to engage the cord and carry its end along the concentric flange of the holder in its forward oscillation, and to draw the end of the twine with it in its return movement to pay out, substantially as set forth. 19th. In a grain binder, the holder shaft d provided with the arm d_1 and the teeth 8, 9, and 6, 7 cast integrally thereon, for the purposes set forth. 20th. In a grain binder the holder shaft d , constructed so as to form a bearing for the knotted shaft and provided with the arm d_1 , and teeth 8, 9 and 6, 7, for the purposes set forth. 21st. In a grain binder, the combination of the knotted and holder frame constructed so as to form a bearing for the holder shaft, and having the flange e_1 cast integrally thereon, substantially as and for the purpose set forth. 22nd. In a knotting mechanism, the combination, with a holder, of the concentric groove f , and corresponding shaped knife f_1 , constructed and operating to form a resistance between the outer and holder and the knotted, substantially as described. 23rd. The combination, with the needle, of the holder arm d_1 , constructed as described, and operating in the paying out movement of the holder to pass between the needle and cord, and retain the latter in position to be grasped by the holder proper, without regard to the position of the needle, substantially as set forth. 24th. The combination of the cord-holder and knife mounted upon arm d_1 , shaft d provided with teeth 6, 7 and 8, 9, with their operating gears on the driving wheel, substantially as described. 25th. The combination of the intermittently moving cord holder, the shaft provided with the teeth 6, 7 and 8, 9 and the driving wheel provided with the teeth 6 $_1$, 7 $_1$ and 8 $_1$ 9 $_1$, and guide tracks 7 $_2$ and 8 $_2$, the whole constructed and operating, substantially as described. 26th. The combination of the cord-holder shaft provided with the teeth 6, 7 and 8, 9, with the wheel F provided with the teeth 6 $_1$, 7 $_1$ and 8 $_1$, 9 $_1$ and the delay or guide tracks 7 $_2$, 8 $_2$ and 6 $_2$, the whole constructed and operating, substantially as set forth. 27th. The combination of the intermittently oscillating cord holder shaft provided with its operating teeth, and the knotted shaft provided with its pinions, with means for producing the various movements upon them, for the purpose set forth. 28th. The combination of the intermittently oscillating cord holder shaft d , provided with the arm d_1

and driving teeth 6, 7 and 8, 9, and the knotted a with its shaft c , and pinion b provided with the delay b_1 and pinion b_2 , with the wheel F having teeth 6 $_1$, 7 $_1$ and 8 $_1$, 9 $_1$ and delay tracks 6 $_2$, 7 $_2$ and 8 $_2$, and segments 1, 2 and 3, the whole constructed and operating, substantially as described. 29th. In knotting mechanism, the combination of the oscillating cord holder shaft d provided with the arm d_1 and holding blade e , with the notch or recess e_3 operating to retain the twine in position while the cord-holder passes over it, preparatory to securing a new hold upon the said twine, substantially as set forth.

No. 18,011. Rocking and Reclining Chairs.

(*Sièges à bascule et pliant.*)

Alexander G. Fuller, Grand Rapids, Mich., U. S., 1st November, 1883; 5 years.

Claim.—The combination of the base frame, rocker frame and springs for connecting them together, the back frame pivotally connected to the rocker frame as shown, the seat pivotally connected at its rear end to the lower end of the back frame, and the locking device attached to the rocker frame and adapted to engage with the base frame to prevent rocking, and with the seat or back frame to prevent reclining, substantially as specified.

No. 18,012. Pulverizing Machine.

(*Machine à pulvériser.*)

Ryerson D. Gates, Chicago, Ill., U. S., 1st November, 1883; 15 years.

Claim.—1st. The pulverizing roller case A having the separately constructed sections a and a_1 , and the side portion a^x which are provided with the oblique flanges and the fastening bolts, the upper section a being of cap-form and separately united to the side section a_1 and portion a^x by said bolts and oblique flanges, whereby the upper section of said case is removable in an upward direction, substantially as and for the purpose described. 2nd. The pulverizing roller case A having the separately constructed section a_1 a_2 and the portion a^x , which are provided with flanges and fastening bolts, the side sections a_1 a_2 being provided with journal bearing supports, whereby a side section a_1 and the journal bearings on a side of the outer case or frame are removable laterally after said section a has been upwardly removed, substantially as and for the purposes described. 3rd. The pulverizer case A having separate sections a_2 and a_3 united by a lapping flange and bolts, the section a_3 being removable downwardly, substantially as and for the purpose described. 4th. The pulverizer roller case A formed of the top section a , side or middle sections a_1 a_2 and lower sections a_2 and a_3 , in combination with the pulverizing rollers, the driving friction rollers and the journals or shafts and boxes of said rollers, substantially as and for the purpose described. 5th. The combination of inner shell plates B B $_1$, supporting rods m , uniting bolts n , the sectional case A, revolving elevating-screen H H $_1$ and pulverizing rollers, substantially as and for the purpose described. 6th. The combination of the interior hopper G $_2$ and supporting rods m , with the outer case A provided with outside feed hoppers O, the rollers G G $_1$ and revolving screen H, substantially as and for the purpose described. 7th. The revolving screen provided with ring plates h_2 , clamping rods l , elevator buckets H $_1$ having short journals and being adjustable between the clamping plates, substantially as and for the purpose described. 8th. The revolving screen provided with ring-plates h_2 , clamping rods l and separately constructed bars of metal h which are filled with wood as g_1 and are clamped between the said ring-plates, substantially as and for the purposes described. 9th. The revolving screen provided with the ring-grooved plates h_2 and wood g_3 , substantially as and for the purpose described. 10th. The revolving screen provided with ring-plates h_2 , bars h and the wood fillings g_1 and g_3 , substantially as and for the purpose described. 11th. The combination of the pulverizing rollers, a casing therefore, a revolving elevating screen inclosing said rollers, the gearing for the pulverizing rollers, the gearing m_1 c_1 e_1 v_1 c_2 e_2 c_3 e_3 , shafts b_1 b_3 , and friction rollers b_2 b_4 , for driving the revolving elevating screen, substantially as and for the purpose described. 12th. The combination of the pulverizing rollers G G $_1$, the revolving elevating-screen H H $_1$, the inclosing roller case A and the friction rollers b_2 b_4 for frictionally driving said screen, substantially as and for the purpose described. 13th. The combination, with the rollers and inclosing case A, of the central shaft M $_5$, gears M M $_1$ M $_2$ M $_3$, journals g_5 g_6 , spider M $_6$, gears N N $_1$ and pulley shaft N $_2$, substantially as and for the purpose described.

No. 18,013. Improvement on Neck Yokes.

(*Perfectionnement des jougs.*)

Sidney Conant, Ole O. Peterson, Arcadia, Wis., and William B. Reed, (assignees of James Hollister,) St. Paul, Minn., U. S., 1st November, 1883; 5 years.

Claim.—1st. A three-horse equalizing neck-yoke consisting of the single-tree A provided with means for pivoting it to a tongue B, in combination with whiffle-trees C and D provided with means for attachment to harness, and pivoted to said single-tree, substantially as set forth, so as to give each horse an equal leverage in backing and turning, for the purpose specified. 2nd. A three-horse equalizing neck-yoke consisting of the single-tree A, provided with means for pivoting it to a tongue B, in combination with whiffle-trees C and D having a longitudinally-adjustable connection with said single-tree, and provided with means for attachment to harness and pivoted to said single-tree, substantially as set forth, so as to give each horse an equal leverage in backing and turning, for the purpose specified.

No. 18,014. Door Hanger. (*Penture de porte.*)

I. Besse, (assignee of Henry T. Moody), Newburyport, Mass., U. S., 1st November, 1883; 5 years.

Claim.—1st. In combination, the plates A A having projections d d connected by the rider bar B, the track-rail D and wheels C, all shaped, combined and operated in the manner and for the purposes specified. 2nd. The rider-bar D shaped and adapted to be operated in connection with the wheel C, substantially as and for the purposes described. 3rd. The track-rail D having a raised central portion with inclined