No. 27,547. Method of Spinning and Twisting Yarns and Threads. (*Manière de filer et retordre les fils.*)

Matias A. Dretina and Joseph Just, Rothkostelets, Province of Bohemia, Empire of Austria, Hungary, 1st September, 1887; 5 years.

Claim.—1st. An improved method of converting roving into yarn and of twisting yarns, the said method consisting in unwinding the roving or the doubled yarns from a rotating spindle, and hereafter passing the said roving or doubled yarns from a rotating spindle, and hereafter passing the said roving or doubled yarns between two nipping rollers, or any other nipping device adapted to prevent the roving or yarns from twining, substantially as and for the purpose set forth. 2nd. The combination, with a rotating spindle carrying a cop of roving or of doubled yarns, of two nipping rollers or any other nipping device, through which the roving or set of yarns unwinding from the spindle is passed, and of a reel or a warp-beam, or any other winding mechanism for the yarn or thread coming from the nipping device to wind thereon, substantially as and for the purpose set forth. 3rd. The combination, with a rotating spindle, carrying a cop of roving or of doubled yarns, of two nipping rollers, or of any other nipping device through which the roving or the set of yarns unwinding from the spindle is caused to pass, of an apparatus for reeling or winding up the product delivered by the nipping device, and with machines or apparatus for starching, sizing, printing, cleaning, drying, dying, bleaching, or finishing the product, either or all interposed between the nipping and the winding mechanism, substantially as and for the purpose set forth.

No. 27,548. Electric Water Level Indicators for Steam Boilers. (*Indicateur electrique d'eau pour chaudière à vapeur.*)

Charles H. Wickersham, Pottstown, Pa., U. S., 1st September, 1887; 5 years.

Claim.—1st. The combination, with the float spindle E, of the auxiliary spindle *c*, the mercurial circuit, closers K, K1, the arm *i* secured to the spindle *c* and provided with the curved bar J, the arm *i*1 placed loosely on the spindle *c* and adjustable along the bar *j*, the flexible conductors *q*, *q*1, *t*, *t*1, and means, substantially as herein described, for indicating an electric contact formed by either of the circuit closers K, K1, as specified. 2nd. The combination, with the float G and spindle E, of the auxiliary spindle *c*, the arm *i* fixed to the spindle *c* and provided with the curved apertured bar *j*, the arm *i*1 placed loosely on the spindle *c* and adjustable along the curved bar *j*, the circuit-closers K, K1, carried by the arms *i*, *i*1, the index *g* and graduated scale *h* and an electric annunciator connected with the circuit-closers K, K1, substantially as herein shown and described. 3rd. In a water level indicator for steam boilers, the combination, with the relay-magnet *e*1, and armature lever *g*1 provided with the catch *j*1, of the contact spring *l*11, the contact screw *r*1 and the lever O for holding the spring *l*11 out of contact with the screw *r*1, substantially as herein shown and described. 4th. In a water-level indicator for steam boilers, the combination, with the relay-magnet *e*1, and armature lever *g*1 provided with the catch *j*, of the contact spring *l*11, the contact-screw *r*1, the lever O for holding the spring *l*11 out of contact with the screw *r*1, and the spring-acted push-rod P for operating the lever O, substantially as herein shown and described. 5th. The combination, with the float G and spindle E, of the auxiliary spindle *c*, the fixed circuit-closer K and the adjustable circuit-closer K1 carried thereby, the annunciator magnets *e*1, *e*11, the annunciator needle *d*1, the relay magnet *e*1, the armature lever *g*1 and contact spring *l*11 carried thereby, contact screw *r*1, the electtic bell *f*1 and the electrical conductors connecting the bell relay, and annunciator magnets and the local and main batteries, substantially as herein shown and described.

No. 27,549. Railway Rail Splice.

(*Joint de rail pour chemin de fer.*)

Daniel E. Shea and John F. Shea, Carthage, N.Y., U.S., 1st September, 1887; 5 years.

Claim.—In combination with the perforated end portions of the rails, the chair composed of the base *b*, the longitudinal rib *r* on one edge of said base, the lip *l* on the opposite edge of the base, and the fish bar *a* rising from the lip, all formed in one piece, and the fish bar *c* formed with the foot *d* abutting against the rib *r*, and with the head *h*, having its top flush with the top of the rails, and bolts *e*, *e* clamping said fish bars against opposite sides of the rails, substantially as described and shown.

No. 27,550. Sheaf Carrier. (*Porte-gerbe.*)

William A. Brown, Boissevain, Man., and Banfield Capron, Paris, Ont., 1st September, 1887; 5 years.

Claim.—1st. In combination, with a binder, a sheaf-carrying frame centrally supported and rigidly attached to a bar adapted to rock on on its journal, so as to tilt the loaded sheaf carrier under the weight of sheaves when tripped, slats centrally hinged, the front halves being rigidly attached to the frame of sheaf carrier, and the rear halves being designed to hinge upwardly and trail along the ground while the sheaves are being discharged, and mechanism provided for tripping the loaded sheaf-carrier, and for automatically locking the same after it has assumed by gravitation its normal position and the head has been discharged, substantially as specified. 2nd. The combination, with the bracket E and bent rod A rigidly attached to the binder of the sheaf-rod D and frame, of sheaf-carrier carrying the jointed-slats I, I1, the standard H, stop *d*, spring latch *e*, link N and treadle lever L, substantially as described and specified. 3rd. The rear half I of hinged slat hinged at *m* to the front half I1, with square shoulder and stop at *n*, in combination with the frame of sheaf-carrier, and sheaf-rod D on which the frame is adapted to tilt when the sheaf-carrier is tripped, substantially as specified. 4th. The bracket E rigidly attached to the binder, and having journal *c* for the sheaf-rod D, in combination with the stop *d*, standard H of the sheaf-carrier frame, lath *e*, spindle *e*1 having slotted enlarged end, spring *p*, frame-piece P, link N and treadle lever L suitably attached to the binder-frame, so as to operate the spring-latch, substantially as specified. 5th. The treadle-lever L, suitably attached to binder-frame, so as to give throw to the bent arms *l*2 and *l*3 by pressure on the pedal *l*, in combination with a link N connecting a spring-latch with the short arm *l*3 of the treadle lever L, the spring-latch and stop *d* being designed to lock the frame of sheaf-carrier in position to receive its load, substantially as specified.

No. 27,551. Apparatus for Making Gas.

(*Appareil pour la fabrication du gaz.*)

Alfred Langdon and Charles R. Lewis, Jefferson City, Miss., U.S., 1st September, 1887: 5 years.

Claim.—1st. In an apparatus for carbureting air, the combination of a water-tank having a perforated diaphragm, pipes terminating above the same, a cylinder provided with inlet and outlet valves communicating with said pipes and with a delivery-pipe, an air-chamber and means for heating the same, these chambers being connected with each other, substantially as specified. 2nd. The combination of the cylinder D, with its valves, the pipes F and L, air-chamber K, mixing-chamber M, still N and the gas-supply pipe Q, Q1, substantially as specified.

No. 27,552. Apparatus and Method of Extracting Stumps. (*Manière d'arracher les souches et appareil pour cet objet.*)

John Barton, Jacksonville, Fla., U.S., 2nd September, 1887; 5 years.

Claim.—1st. A stump-extracting apparatus consisting of the movable winch, having winding drum A, winding-chain A1, worm-wheel B, guard B1, worm C, shaft D, disengaging motion E, E1, D1, *d*1 frame F, F1, F11, and anchor-bar G, substantially as set forth. 2nd, The combination of the movable winch, as set forth, the draft chain H, tripod L, pulleys M and N, and grab-hooks K, substantially as set forth. 3rd. The combination of the movable winch, as set forth, anchoring-bar G, anchor-chain J, winding-chain A1, draft-chain H, and grab-hook K, substantially as set forth.

No. 26,553. Hydraulic Gold Extractor. (*Appareil hydraulique pour l'extraction de l'or.*)

Benjamin Westhaver, Lunenburg, N. S., 2nd September, 1887; 5 years.

Claim.—1st. In a hydraulic gold separator, the combination of the reservoir having the transverse roller or shaft, the elevated roller, the endless elevator chain having the cups, the elevated receiver, the tubular leader communicating at the lower end with the bottom of the mercury-cup, the mercury-cup having the perforated cut-off plate, the waste pipe and the faucets, arranged as described, the vertical shaft having the lower fans and the upper fan, and having the gear wheel on its upper end, the short transverse shaft having the gear wheel, the drive-shaft and the connecting belts, substantially as and for the purpose set forth. 2nd. In a hydraulic gold separator, the combination of the reservoir having the transverse roller or shaft, the elevated roller, the endless elevator chain having buckets, the elevated receiver having the conical bottom and the roller at its front and rear edges, the tubular leader communicating at its lower end with the bottom of the mercury-cup having the removable neck bottom, the perforated cut-off plate, the waste pipe and faucets, arranged as described, the vertical shaft having the lower fans and the upper spiral fan, and having the gear wheel on its upper end, the short transverse shaft having the gear wheel, the drive-shaft and the connecting belts, substantially as and for the purpose set forth.

No. 27,554. Seeding Machine. (*Semoir.*)

William D. Arnett, Denver, Col., U. S., 2nd September, 1887; 5 years.

Claim.—1st. In a grain-drill, and in combination with its distributor shaft, a spur gear H1, a cone gear G1, an intermediate laterally movable pinion I1, a lever by which the said pinion is carried, and means, substantially as described, for locking said lever in position. 2nd. In a grain-drill or seeder, the combination of the main-axle, its ground wheels and the cone gear G1 with the distributor shaft, the spur gear H1 fixed thereon, the intermediate pinion I1, and means, substantially as described, for sustaining said pinion, and permitting its lateral adjustment. 3rd. The cone gear G1, gear H1 and intermediate pinion I1, in combination with the hand lever, the oblique guide or rod K1 and the pinion support arranged to slide in said guide. 4th. In combination with the feed cup and the fluted distributor roll therein, the transversely sliding gate N1 forming the lower edge and one end of the delivery orifice, and adapted to change its angle in moving to and fro, as described, whereby the lower edge of the orifice is given an increasing obliquity as its width is diminished and *vice versa*. 5th. The feed cup and the fluted distributor roll therein, in combination with the angular transversely sliding gate N1 having its edges *e*1 and *e*2, substantially as described. 6th. The herein described drag-bar for a seeding machine, cast complete in one piece, with its forward end adapted to receive the supporting shaft *c*, and its lower edge formed with the sole or runner *d*. 7th. A drag-bar having the rigid sole or runner thereon, in combination with a furrow-opening disk, a plate supporting said disk and devices, substantially as described, connecting said plate to the drag-bar and permitting its vertical adjustment thereon. 8th. The drag-bar provided with teeth or serrations, the toothed plate having the furrow-opening disk mounted thereon, the adjustable block seated between said plate, and drag-bar, and a transverse bolt or bolts connecting the plate and drag-bar, substantially as described. 9th. In combination, with a drag-bar provided with teeth or serrations *f*, a disk-supporting plate having the curved toothed surface to engage the bar and fastening bolts applied, substantially as described, to connect the plate and drag-bar. 10th. In combination with the fur-