

No. 32,970. Machine for Grinding Mower Knives. (*Machine à aiguiser les couteaux des faucheuses*)

The Mower Knife Grinder Company, Yonkers (assignee of Rufus Dutton, New York), N. Y., U.S., 2nd December, 1889; 15 years.

Claim.—1st. In a mower knife grinding machine, the combination, substantially as hereinbefore described, of a flat faced grinding wheel, a knife clamp frame and a grinding wheel frame, said frames being pivotally coupled with relation to each other to provide for lateral swinging adjustment, and said grinding wheel frame being composed of two parts, one serving as an arm in which the wheel is mounted, and sliding in said other part or base portion of said frame, a driving crank mounted on a pivot on said arm portion of the frame at right angles to the axis of the grinding wheel, and gearing also mounted on said arm portion of the frame for rotatively coupling said crank with the grinding wheel. 2nd. In a mower knife grinding machine, a flat faced grinding wheel, a pivoted knife clamp normally inclined toward the grinding face of said wheel, a spring forcing said clamp toward the grinding surface, and a sliding frame carrying said wheel and mounted in guide bearings, which are inclined toward said knife clamp, substantially as described, whereby, as the grinding wheel is lifted by the sliding movement of its frame, it will also be advanced toward a knife held in said clamp, and, by forcing the latter rearward, increase the force of said spring, and thus enable the tips of a knife edge to be ground under abrasive pressure equal to that afforded while grinding the lower portion of the same edge. 3rd. In a mower knife grinding machine, the combination, substantially as described, of a knife clamp, its frame, a flat faced grinding wheel and its frame, the latter being constructed in two parts, one sliding upon the other, a driving crank standing at right angles to the axis of the grinding wheel and coupled to said wheel by gearing, and a lever for lifting and lowering that portion of the wheel frame in which said grinding wheel is directly mounted. 4th. In a mower knife grinding machine, the combination of a knife clamp and a flat faced grinding wheel both mounted in frames, which are pivotally connected to admit of lateral swinging adjustment, stops for restricting said pivotal movement and latches which confine or lock said stops when in position for service, substantially as described. 5th. In a mower knife grinding machine, the combination, with the grinding wheel, of a detachable wheel frame arm in which said wheel is mounted, a band crank standing at right angles to the axis of the wheel and mounted on a stud projecting from said frame at the rear of said wheel, and gearing also mounted on studs projecting from said frame for coupling the crank with the grinding wheel, substantially as described. 6th. The combination, substantially as described, of the knife clamp, the grinding wheel, the sliding wheel frame arm provided with a tail piece having a rack gear thereon, and a hand lever having a segmental gear engaging with said rack gear for lifting and lowering said grinding wheel while its face is in contact with a mower knife held in said clamp. 7th. The combination of the wheel, of the wheel frame arm having a flat tail piece, provided with a central spline or web, and the wheel frame base provided with a central vertical groove for receiving said web, and also provided with guide bearings for receiving the two edges of said tail piece, substantially as described.

No. 32,971. Hot Air Furnace. (*Calorifère à air.*)

The James Smart Manufacturing Company, Brockville, Ont. (assignee of William M. Powell, Brockville, Ont., and Joseph L. Gobeille, Cleveland, Ohio, U.S.), 2nd December, 1889; 5 years.

Claim.—A hot air furnace, having a fire pot 1 and dome 8, provided with convergently arranged corrugations and caps 14 forming tubes, annular ring 16, vertical tubes 17, plate 10 and the mixing chamber 11, jacket 6 and distributing pipes 7, the whole constructed and arranged substantially as and for the purpose set forth.

No. 32,972. Pipe Coupling. (*Joint de tuyau.*)

Frederick G. Botsford, Cleveland, Ohio, U.S., 2nd December, 1889; 5 years.

Claim.—1st. The combination, with two adjacent pipes, provided at their ends with heads or collars, of a pair of links *g* pivoted at their inner ends to the head of one of said pipes, a pivoted yoke or cross-bar *i* arranged between the outer ends of said links and provided with a screw-threaded opening, a locking lever *l* provided with a screw-threaded shank arranged in said threaded opening, and a bearing piece *j* attached to the inner end of said lever, and adapted to engage behind a lug on the head of the opposing pipe, substantially as set forth. 2nd. In a pipe coupling, the combination, with the heads *a*, each provided with a lug *j* and a lug *h* arranged diametrically opposite each other, of springs *l* secured to the lugs *j*, links *g* pivoted at their inner ends to the lugs *h*, and locking levers *l* pivoted to the outer ends of the links and adapted to engage over the lugs *j* and bear against the springs *l*, substantially as set forth.

No. 32,973. Composition of Matter to be used in the Manufacture of Medallions, etc. (*Composition de matières pour servir à la fabrication des médaillons, etc.*)

Charles F. Broadbent, Baltimore, Md., U. S., 2nd December, 1889; 5 years.

Claim.—A new composition of matter, which consists of sulphur pumice stone, powdered antimony and bone black, all combined substantially in the proportions set forth.

No. 32,974. Process and Apparatus for Heating Tan Liquor. (*Procédé de réchauffage du tannin et appareil pour cet objet.*)

Oliver F. Carley, Westfield, Penn., U.S., 2nd December, 1889; 5 years.

Claim.—1st. The above described process of heating tan liquor, which consists in passing it in a sinuous flow over the surface of steam pipes in a direction opposite to that of the movement of the steam within the pipes, whereby the advancing liquor is subjected to a gradually increasing temperature, substantially as described. 2nd. The above described process of heating tan liquor, which consists in pumping it upward through a series of zig-zag or sinuous passages through which steam is circulating in pipes in a direction contrary to that of the direction of the liquor, substantially as described. 3rd. A tank for heating tan liquor provided with a zig-zag passage for the liquor, and a zig-zag steam heating coil within the liquor passage, substantially as and for the purposes set forth. 4th. In combination with the tank A, having partitions B to afford a zig-zag passage throughout it, the zig-zag steam pipes or coils E, the inlet F, the connection *e*, the pump C for forcing the liquor through the tank and steam or water outlet *f*, all as set forth. 5th. In combination, with the tank A, made as described and having zig-zag passages for the tan liquor and steam, a gate G for letting off the liquor when desired. 6th. In a tan liquor heating tank, as described, the end pieces *a'*, each provided with doors *a''*, substantially as and for the purposes described, whereby at pleasure a door can be removed or opened when it is desired to inspect any one of the steam coils. 7th. In a tank for heating tan liquor, the end pieces *a'* and rods *a''* for holding them in position, whereby when occasion requires, the said pieces, or either of them, can be removed and access had to the entire inner part of the tank, substantially as set forth. 8th. An apparatus for heating tan liquor provided with means for forcing the liquor through it, and means for treating the liquor by steam, the combinations of the forcing or pumping mechanism with the heating system in the manner set forth and described, whereby the liquor escapes from the tank at its highest temperature. 9th. In combination, with the tan liquor heating tank A, the steam coils E, each having at the joints the ends *e'* united, as described, by rod *e''* and nuts, substantially as set forth. 10th. In an apparatus for heating tan liquor, the combination of the following elements, viz: a knock-down tank having zig-zag passages for the liquor, zig-zag heating pipes in said passages, means for forcing the liquor through the tank doors by which each coil can be inspected, removable end pieces by which the entire interior of the tank can be inspected, and a gate to draw off the liquor as occasion demands. 11th. In an apparatus substantially as described, the combination of the steam pipe or coil having a projecting lug *e'* at each bend or joint, as set forth, with the partition B, whereby the coil or pipe is supported in the manner and for the purposes explained.

No. 32,975. Telegraphic Instrument. (*Appareil télégraphique.*)

Charles G. Burke, Richmond Hill, N. Y., U.S., 2nd December, 1889; 5 years.

Claim.—1st. In a circuit closing device, the combination of a main arm, and two auxiliary arms frictionally attached thereto, said auxiliary arms carrying circuit-closing points which are caused to simultaneously approach or separate from each other by the motion of the main arm. 2nd. In a telegraphic instrument, the combination of a coreless coil of insulated wire in the main circuit arranged to turn upon one of its diameters within a field of force created by opposite magnetic poles, both of said poles being presented to one of the faces of said coil, the section of the coil presented to one pole having its windings in a direction opposite to those of the section presented to the other pole. 3rd. In a telegraphic instrument, the combination of a coreless coil of insulated wire movable within a field of force created by two magnets, one located on each side of said coil, each presenting both its poles to one of the respective faces of said coil, the section of the coil presented to one pole of each magnet having its windings in a direction opposite to those of the section presented to the other pole of the same magnet. 4th. In a telegraphic instrument, a coreless compound coil composed of two parts movable in a field of force created by two magnets, opposite poles being presented to the same face of each one of said parts, the section of the coil presented to one pole of each magnet having its windings in a direction opposite to those of the section presented to the other pole of the same magnet. 5th. In a telegraphic instrument, a coreless coil of insulated wire arranged to turn upon one of its diameters within a field of force created by two magnets, each presenting opposite poles to the respective faces of said coil, the angular position of the poles of said magnets with reference to the coil being adjustable, the section of the coil presented to one pole of each magnet having its windings in a direction opposite to those of the section presented to the other pole of the same magnet. 6th. In a telegraphic instrument, a cylindrical coil of insulated wire forming part of the main circuit and suspended within a field of force formed by one or more magnets, both poles of the same magnet being presented to the same side of the coil. 7th. In a telegraphic instrument, a coil of insulated wire forming part of the main circuit suspended within a field of force formed by one or more magnets, and a local circuit-closing device consisting of an arm attached to the axis of the coil, moving with said coil between stops carried by a second arm turning upon an axis coincident with the axis of the coil. 8th. In a telegraphic instrument, a flat coil of insulated wire wound in two parts separated from each other, and fixed on each side of a common centre movable in a field of force created by two magnets, each magnet presenting its opposite poles to the outer face of one of the parts of said coil, said magnets being fixed so that the faces of the poles of one magnet are not parallel to the faces of the poles of the other.