

**No. 18,417. Hub-Attaching Device.**

(Appareil pour retenir les Roues.)

James W. Nunn and John A. Kelly, Kingstree, S. C., U. S., 14th January, 1884; 5 years.

*Claim.*—An improvement in hub attaching devices for vehicle axles consisting of the nut having enlarged base provided with holes *c*, and within which base is formed the chamber *E*, in combination with the washer *D* having smooth and equal bore, and provided with pins *g* and the set screw plug, substantially as described.

**No. 18,418. Hatchet. (Hachette.)**

William P. Cutter, Everett, Mass., U. S., 14th January, 1884; 5 years.

*Claim.*—The herein described improvement on hatchet and similar tools, consisting of the poll *b* with its internal recess or mortise *h*, in combination with the detachable bit *c* having shanks *e*, locking recess or notch *c11*, and fastening screw *d*, substantially in a manner and for the purposes set forth.

**No. 18,419. Self-Binding Harvester.**

(Moissonneuse-lieuse.)

John F. Seiberling, Akron, Ohio, U. S., 14th January, 1884; 5 years.

*Claim.*—1st. In a self-binding harvester, in which the grain is carried on the grain-table by travelling carriers, towards the main drive-wheel, the combination of a series of circular conveyors carried on a revolving shaft suitably journaled above the grain table, between the inner end of the travelling carriers and the binding needle, the said conveyors being provided with hinged teeth, operating substantially as and for the purpose specified. 2nd. In a self-binding harvester, in which the grain is carried on the grain table by travelling carriers, towards the main drive-wheel, and is elevated towards the binding mechanism by an inclined table, a series of circular conveyors carried on a revolving shaft suitably journaled above the grain-table, between the inner end of the travelling carriers and the binding needle, each conveyor being provided with hinged teeth arranged to carry the grain up the inclined table, in combination with a bifurcated bracket for stripping the grain off the teeth and a cam, arranged to fold the teeth as they pass the bracket, and to hold them extended while acting on the grain, substantially as and for the purpose specified. 3rd. In a self-binding harvester, in which the grain is carried on the grain-table by travelling carriers towards the main drive-wheel, and is elevated by revolving conveyors, a vibrating conveyor arranged beneath and at the rear end of the inclined table, the said conveyor being operated by a crank on the packer-shaft, so as to work in conjunction with the packers and carry the head end of the grain retaining bar or spring located above the inclined table, and arranged to hold the head end of the grain during the binding of the shaft, substantially as and for the purpose specified. 4th. In a self-binding harvester, in which the grain is elevated towards the binding mechanism by an inclined table, beneath which is located the needle *E* and one or more horizontal bars extending from the front of the machine to its rear, and connected to the frame supporting the binding mechanism, in combination with brackets fixed to the frame of the machine arranged to support the horizontal bar or bars so that the binding mechanism may be adjusted longitudinally, to accommodate the length of the grain being bound. 5th. In a self-binding harvester, in which the grain is elevated towards the binding mechanism by an inclined table, beneath which is located the needle and packer-shafts and above which is located an overhung knotter-shaft, one or more horizontal bars extending from the front of the machine to its rear, and connected to the frame supporting the binding mechanism, and adjustable carried by brackets fixed to the frame of the machine, with a lever pivoted on the frame of the machine and connected to the frame of the binding mechanism, for the purpose of longitudinally adjusting the said binding mechanism, substantially as and for the purpose specified. 6th. In a self-binding harvester, in which the grain is carried on the grain-table, towards the binding mechanism, by travelling toothed carriers, the combination of an inclined tooth-cleaning table, substantially as and for the purpose specified. 7th. In a self-binding harvester, in which an adjustable inclined binder-table is arranged between the grain-table and top of the driving-wheel, and in which the grain is carried to the foot of the inclined table by travelling toothed carriers, an inclined tooth-cleaner located at the angle formed between the grain and binder tables, in combination and arranged to act on the grain at the point where the travelling toothed carriers leave it, substantially as and for the purpose specified. 8th. The plate *L*, shaped as shown and having a slot *K* cut in it, as specified, in combination with the bridge *I* extending across the angle of the plate *L*, substantially as specified. 9th. The plate *L*, shaped as shown and having a slot *K* cut in it, with a curved recess *m* formed in the plate on one side of the slot, in combination with the bridge *I* located on the opposite side of the slot, substantially as and for the purpose specified. 10th. In a self-binding harvester, in which the grain is carried towards the binding mechanism by travelling carriers, an adjustable clutch located on the shaft supporting the main driving mechanism and carriers, in combination with an arm actuated by the needle mechanism, substantially as and for the purpose specified. 11th. In a grain-binding harvester, in which the grain is elevated from the grain-table toward the binding mechanism by revolving conveyors, an adjustable clutch located on the shaft between the main driving mechanism and conveyor-shaft, in combination with a rod actuated by the needle mechanism and arranged to beine effected, substantially as and for the purpose specified. 12th. In a self-binding harvester provided with revolving conveyors and reel, an endless chain arranged to convey the motion of the main driving mechanism to the conveyors and reel, a clutch connection

being formed between the conveyor-shaft and its sprocket-wheel actuated by the endless chain, in combination with the bar *t* connected to the needle-shaft and arranged to break the clutch connection, substantially as and for the purpose specified. 13th. In a self-binding harvester, a needle 2 having a curved back about one half the ordinary length, in combination with an arm 3 journaled on the needle-shaft and having a curved guard attached to its end fitting against, and corresponding in shape to the curved back of the needle, substantially as and for the purpose specified. 14th. In a self-binding harvester, a needle 2 fixed to its shaft and having a clip end *r* formed on the end of its curved back, in combination with an arm 3 journaled on the needle-shaft and shaped as specified, with a clip 4 on its end so that, on the upward movement of the needle, the end 4 comes in contact with the clip 4, so that the curved guard forms a continuation of the needle-back. 15th. In a self-binding harvester, in which the binding mechanism is put into operation by the pressure of the grain on the trip-lever, an arm or hammer 6 fixed to the trip-lever shaft and arranged to come in contact with an angle plate, to prevent the second movement of the binding mechanism. 16th. In a self-binding harvester, a grain-table provided with travelling carriers for conveying the grain to the foot of the binder-table, revolving conveyors located above the grain-table between it and the needle, in combination with adjustable clutch mechanism arranged to connect the revolving conveyors and travelling carriers to the main driving mechanism, so that the motion of the conveyors and carriers shall be simultaneously stopped during the period that the binding is being effected, substantially as and for the purpose specified. 17th. In a self-binder harvester, in which the binding mechanism is attached to, and moves with a frame adjustably connected to the frame carrying the grain-table, a butter pivoted at its lower end to a bracket fixed to the frame of the grain-table, and connected at its upper end to the adjustable frame, in combination with mechanism for imparting an oscillating movement to the butter, substantially as and for the purpose specified. 18th. In a self-binding harvester provided with rotary conveyors attached to, and moving with a frame adjustably connected to the frame carrying the grain-table, a butter-shaft journaled at its lower end on a crank deriving motion from the shaft of the rotary conveyors, which crank is held in a bracket attached to the grain-table frame, and its upper end adjustably held in a bracket attached to the adjustable frame, in combination with a wing-board connected to the cutter-bar at its lower end, its upper end being connected by a link to the bar from which the conveyor shaft is suspended.

**No. 18,420. Nut Lock. (Arrête-écrou.)**

George Grover, London, Eng., 14th January, 1884; 5 years.

*Claim.*—The locking-trough *E* locking the nuts upon bolts, by which fish-plates are secured to railway rails, or locking other similar parts under like circumstances.

**No. 18,421. Process for Collecting Metallic Particles, &c. (Procédé pour recueillir les parcelles métalliques, &c.)**

Jonathan Miller, Concord, N. H., U. S., 14th January, 1884; 5 years.

*Claim.*—The method, herein described, of recovering metals in suspension in liquid, consisting essentially in forcing such liquid through a filtering medium having a capacity of expansion and resisted by a rigid inclosing vessel or medium, and then burning the filling material, or otherwise separating the metal therefrom, substantially as set forth.

**No. 18,422. Radiator for Furnaces for Heating Buildings, &c. (Radiateur des calorifères pour chauffer les maisons, &c.)**

Dwight S. Richardson, Brooklyn, N. Y., U. S., 14th January, 1884; 5 years.

*Claim.*—1st. The combination, with the body of an air-heating furnace, of a solid cast-iron radiator having a diaphragm or partition extending through the same, with an opening therein connecting the two chambers of the radiator, substantially as and for the purpose set forth. 2nd. The combination, with the body of an air-heating furnace and encircling the dome of the combustion chamber of the same, of a solid cast-iron radiator having a diaphragm or partition extending through the same, with an opening therein connecting the two chambers of the radiator, substantially as and for the purpose set forth. 3rd. The combination, with the body of an air-heating furnace, of a cast-iron radiator cast in one piece, having a diaphragm or partition extending horizontally through the same, whether cast solid therewith or separate therefrom, with an opening therein, as described, substantially as and for the purpose set forth.

**No. 18,423. Treatment of Cotton Seed.**

(Traitement de la graine de coton.)

James F. O'Shaughnessy, New York, N. Y., U. S., 14th January, 1884; 5 years.

*Claim.*—The hereinbefore described process of reducing cotton seed and separating the fiber from the hull and kernel, consisting in first grinding in a suitable mill the seed and adhering fibre, then separating the fibre from the ground hull and kernel, as and for the purpose set forth.

**No. 18,424. Fruit Dryer. (Séchoir à fruits.)**

The Steam Heat Evaporator Company, (Assignee of Frank S. Belcher and John B. Belcher,) Charlotte, Mich., U. S., 15th January, 1883; 5 years.

*Claim.*—1st. In an evaporator, the supporting trays arranged in vertical series on opposite sides of an intermediate air passage and inclined from their inner to their outer edges, and a vertical partition dividing the air passage, substantially as set forth. 2nd. In an evaporator, the steam pipes and fruit trays, the latter supported be-