

supports and the adjusting rope N, substantially as herein shown and described, whereby the said derrick-arm can be swung around the said pole and moved up and down upon it, as set forth. 4th. In a hay-stacker, the combination, with the derrick-arm G and the support K for the centre roller J, of the swivelled screw L and its stationary nut U, substantially as herein shown and described, whereby the said centre roller can be readily adjusted to the pole, as set forth. 5th. In a hay-stacker, the combination, with the vertical cross-bar H, of the derrick-arm, of the lever Q and rope R, substantially as herein shown and described, whereby the said derrick-arm can be readily swung around the pole, as set forth. 6th. In a hay stacker, the combination, with the cross-bar H of the derrick-arm, and the brace M, of the forked arm Y, substantially as herein shown and described, whereby the outer part of the derrick-arm, when raised, will be stopped in a vertical position and will be held from lateral movement, as set forth. 7th. In a hay stacker, the combination, with the inner part of the jointed derrick-arm, of the projecting forked bar Z, substantially as herein shown and described, to receive the hoisting rope when the outer part of the said derrick-arm is raised, and hold the loaded fork from swinging as the derrick-arm is swung around the pole, as set forth.

No. 26,598. Bird Cage Protector.

(Protecteur de Cage d'Oiseau.)

Wesley S. Armstrong, Cleveland, Ohio, U. S., 4th May, 1887; 5 years.

Claim.—1st. The combination, with the cage A, of a hoop or band B provided with a sack or skirt C enveloping the lower part of the cage, and capable of removal and replacement, substantially as and for the purpose specified. 2nd. The combination, with cage A and protector C, having loop or band B, of the bracket rods D, E, having the bracket d and hooks F and G for supporting the protector upon the cage, substantially as and for the purpose specified.

No. 26,599. Spark Arrester. (Garde-Etincelle.)

Paul H. Adams and Henry Gerlach, Philadelphia, Penn., U. S., 4th May, 1887; 5 years.

Claim.—1st. The combination of a funnel E within a smoke stack, with a single central discharge pipe that opens into said funnel, and extends for a part of its length vertically downward in the plane of the axis thereof, and a flaring ring F secured within said funnel to the top thereof to form a shallow annular chamber f, said ring having its opening concentric with the discharge opening of said funnel E and discharge pipe Et, substantially as described. 2nd. In combination, a smoke-stack, a funnel within said stack provided at its lower end with a discharge pipe centrally disposed and extending vertically downward the axis of said funnel, a flaring ring F within and a deflecting ring D above said funnel, substantially as described. 3rd. A smoke stack, a cap therefor, having an annular grooved ring, a funnel below the said ring, and provided with a discharge pipe, and a flaring ring secured to said stack within the same below said funnel, substantially as described. 4th. The combination, in a smoke stack, of a smoke-chamber a, having a steam inlet nozzle, and an inverted funnel arranged below said nozzle, and a stack B having an annular grooved ring D, and a funnel E provided with an exit pipe Et, substantially as described. 5th. In a spark arrester, the combination of a smoke-receiving chamber a, having a steam inlet nozzle, and an inverted funnel suspended at the middle of the chamber above said inlet, and provided with an upwardly-extending pipe with a smoke stack having a cap, an annular grooved ring D, a funnel E having a discharge pipe Et and a flaring ring C, substantially as described.

No. 26,600. Combined Hay Rake and Tedder. (Râteau et Faneuse Combinés.)

John H. Thomas (co-inventor with Joseph E. Offrett.) Springfield, Ohio, U.S., 4th May, 1887; 5 years.

Claim.—1st. In a hay-tedder, the combination, with the thill-frame and the tedder-frame, of the adjusting lever and the yielding support supported by the lever and interposed between it and the tedder-frame, and constructed to support said frame, the yielding capacity of the support being the same, whatever the position of the lever may be. 2nd. In a hay tedder, the combination, with the thill-frame and the tedder-frame, of the pivoted lever and the rod connected with the lever and with the tedder-frame, and a spring for supporting said frame interposed between it and the lever and supported by the lever, the yielding capacity of the support being the same whatever the position of the lever may be. 3rd. In a hay-tedder, the combination, with the thill-frame, the pivoted lever and its detent, the locking segment, the guide secured to the lever, and the rod adapted to play through the lever of the tedder-frame to which the rod is connected, and a spring for supporting said frame interposed between it and the lever and guided by said rod, the yielding capacity of the support being the same whatever the position of the lever may be. 4th. In a hay-tedder, the combination, with the thills and cross-piece, the segment, the lever and the guides secured to the lever of the tedder-frame, the rods secured thereto, and the spring interposed between the frame and the guide, the lever and spring being adapted to adjust the frame to different positions, the yielding capacity of the support being the same whatever the position of the lever may be. 5th. In a rake and tedder, the combination, with the axle and eccentrics mounted thereon, of connecting plates having cheek-pieces, and the locking section and means to secure the section of the cheek pieces. 6th. In a hay rake and tedder, the combination, with the axle and the eccentrics secured thereon of the tedder-frame, and the connecting plates secured thereto and having cheek-pieces, and the locking sections adapted to fit within the cheek-pieces, and to embrace the eccentrics and means to lock the sections to said pieces. 7th. In a hay-rake and tedder, the combination, with the axle having the eccentrics secured thereon, of the tedder-frame, the connecting plates secured thereto and having cheek-pieces, the locking sections, means to secure them to said pieces, the arm secured to the axle, the lever and the connecting pitman, whereby the eccentrics are

are actuated and the frame adjusted to and fro. 8th. In a hay rake and tedder, the combination, with the axle having eccentrics, and an arm secured thereon, the lever and the pitman connecting it with said arm of the tedder frame, the connecting-plates secured thereto and having cheek-pieces, the locking-sections locked to said pieces, the tedder-shaft mounted upon said frame, and the cog-rims mounted on the drive-wheels intergearing with the tedder-shaft pinions. 9th. In a hay rake and tedder, the combination, with the axle, the eccentrics and arm secured thereon and a lever and pitman for actuating the same, of the rake-head, the connecting-plates secured thereto and having cheek-pieces and the locking-sections locked to said pieces. 10th. The combination, with the tedder-frame mounted upon the axle, the tedder-shaft and pinions and the cog-rims mounted on the drive-wheels, of the seat standard secured to the frame between the tedder-shaft, and the axis of the axle and the seat-beam pivotally connected with the thills and to the seat, whereby the weight of the driver holds the pinion down against the lifting action of the cog-rims. 11th. The combination, with the rake-head mounted upon the axle of the seat-standard pivotally connected to the head in front and above the axis of the axle, and the seat-beam pivotally connected with the thills and connected to the seat. 12th. The combination, with the tedder-arm, of the coupling consisting of two plates rigidly secured thereto, one of which has a sleeve extending therefrom and into the other, and the radius-arm pivotally mounted on said sleeve. 13th. The combination, with the tedder-arm, of the lugs fitted thereto and the sleeve fitted over the arm, the rods connecting the sleeve and lugs and the interposed springs. 14th. The combination, with the tedder-arm, of the springs and the tedder-shaft boxes secured thereto, and having the recessed ends, and the tedder shaft passing through the boxes and having its cranks in proximity to said recesses. 15th. The combination, with the tedder-frame and the tedder-arms, of the boxes secured to the frame and the boxes secured to the arms, both being provided with recessed ends, and the tedder-shaft journaled in said boxes. 16th. A tedder-shaft box constructed with recessed ends, whereby the tedder-shaft is prevented from having longitudinal motion, and from binding in the box at the juncture of the shaft and the crank. 17th. A tedder-shaft box constructed with enlarged portions having warden bushings fitted therein and having its ends recessed. 18th. The combination, with the axle having the annuli of the two-part boxes having recesses in which said annuli fit and the thills secured to said boxes.

No. 26,601. Hose Coupling. (Joint de boyau.)

James A. Sewall, Portland, Me., U.S., 3th May, 1887; 5 years.

Claim.—1st. A two part hose coupling composed of like halves or portions, each half consisting of a body portion A having a suitable passage therethrough, a broad extension a, locking flange a' shaped as described and located at one side of the body portion, a groove or passage b, shaped as described, upon the other side of the body portion, and a joint connection at the lower side of the meeting face of the body portion A upon which the two halves may be turned to disengage them one from the other, substantially as described. 2nd. A two part hose coupling composed of two like halves or portions adapted to be locked together against lateral or downward pressure, but to be disengaged by the upward movement only, each half of which consists of a body portion A having a suitable passage through it, a broad extension a located at one side of the body portion and having a locking flange a' upon the upper side of the broad extension a, and extending in a diagonal line, a groove or passage b upon the other side of the body portion also extending in a diagonal line and having at the lower side of the meeting faces of the body portions, a co-operative part of a separable connection, all substantially as and for the purposes set forth. 3rd. In a two part hose coupling composed of like halves or portions, each of which has a free and unobstructed passage through it directly from end to end, which passages co-operate together to form a longitudinal unobstructed passage directly through the hose coupling, combined with locking devices as described upon each side to lock the said halves or portions together, as set forth.

No. 26,602. Vent Stopper for Drive Well Tubes. (Valve d'évent pour sondes de puits.)

Ernest G. Gosch, Freeport, Mich., U.S., 4th May, 1887; 5 years.

Claim.—1st. The combination, with the tube A of a clamp attached thereto above the vent-opening so as to encircle the well-tube, a bell-crank lever provided at its lower end with a suitable packing, and a spring rod provided with a flat central portion attached to the outer end of said bell-crank lever, said spring-rod extending above the platform, and provided with means for engaging with said platform, so that said rod will exert a spring-pressure upon the bell-crank lever, substantially as shown and for the purpose set forth. 2nd. The combination, in a vent-stopper for well-tubes, of a bell-crank lever and operating-rod, a clamp consisting of two sections which are hinged to each other, the free ends of said clamp being bent outwardly, and a bolt for clamping the parts upon each other, said bolt also serving as a pivot for the bell-crank lever, substantially as shown. 3rd. In combination, with a vent-stopper for well-tubes, a clamp consisting of two sections which are pivotally secured to each other, the opposite ends of said pivoted sections extending outwardly from the well-tubes and parallel with each other, a bell-crank lever pivotally connected between said outwardly-projecting portions of the clamp, and a bolt e, said bell-crank lever being provided at one end with packing adapted to cover the vent-opening, and at the opposite end with a spring operating-rod which extends above the platform and engages therewith, substantially as shown. 4th. In a vent-stopper for well-tubes, the combination of a clamp having pivotally attached thereto a bell-crank lever, a spring operating rod provided near its upper end and below the platform with a notch, a platform securely attached to the well-tube and provided with an opening through which the upper end of the spring-rod passes, and a rigid dog, substantially as shown and for the purpose set forth.