

No. 15,770. Improvements in Lifting Jacks.*(Perfectionnements aux crics.)*

Hiram R. Terris, Cleveland, Ohio, U. S., 11th November, 1882; for 5 years.

Claim.—1st. The combination, with a lifting shaft provided with ratchet teeth on opposite sides thereof, of grasping devices located on each side of the lifting shaft and adapted to automatically engage the teeth thereon, an actuating lever and devices connecting the lever and grasping devices. 2nd. The combination of a shaft B having a screw-thread and a supporting nut F, with a head D, said head having a grasping device adapted to engage with the said screw-thread and being operated by means of a lever H. 3rd. The head D, said head having the inclines *a b c d* and the jaws E B, said jaws being also provided with inclines adapted to rest on the incline *a b c d*. 4th. The combination, with a lifting shaft provided with teeth on its opposite sides, of two grasping devices located on each side of the lifting shaft, the locking device I and lever J.

No. 15,771. Improvements in the Method of Treating Fibrous Vegetable Substance. *(Perfectionnements dans le traitement des substances végétales fibreuses.)*

Carl D. Ekman, London, Eng., 11th November, 1882; for 15 years.

Claim.—The method of treating fibrous vegetable plants, for wholly or partially resolving their fibrous constituents, which consists in boiling such substances under pressure in a solution containing sulphuric acid and magnesia, or other alkaline equivalent having the properties of magnesia.

No. 15,772. Improvements in Cant-Hooks.*(Perfectionnements aux renards.)*

Albert Sanford, Oshkosh, Wis., U. S., 11th November, 1882; for 5 years.

Claim.—1st. The combination of a divided ferrule having internal projecting ribs, with a nut and bolt for drawing the parts of the ferrule together and causing its ribs to embed in the wood of the staff. 2nd. The ferrule having the longitudinal ribs *g g* at its lower end, the shorter ribs *h h* opposite the hook supporting lugs, and the internal rib *i* extending around the ferrule below the ribs *h h*.

No. 15,773. Improvements on Attrition Mills. *(Perfectionnements aux moulins à broyer.)*

Thomas F. Rowland, Brooklyn, N. Y., (Assignee of Henry A. Duc, jr., Charleston, S. C.) U. S., 11th November, 1882; for 5 years.

Claim.—1st. As an improvement in the process of grinding, the method of withdrawing the reduced material from the mill by a current of air, depositing out of said air the material carried in suspension in it, and returning said air to the mill so that said air flows in a continuous closed circuit from the mill and back to the same. 2nd. The combination, with an attrition mill, of a closed air circuit for withdrawing the air and reduced material from the mill, a blower or exhauster connected with said circuit, and a return pipe from said blower into the mill. 3rd. The combination, with an attrition mill, of a closed air circuit for withdrawing the air and reduced material from the mill, a blower or exhauster connected with said circuit and a return pipe from said blower into the mill, and a pervious bag of fibrous material or its equivalent, for preventing excess of pressure in the pipe leading to the mill. 4th. In an attrition mill provided with a plough or bar which may be continually fed into the mill, for the purpose of compensating for any wear which may occur at the end of said bar. 5th. The combination of a rotating shell open at one side, at or about its axis of rotation, and a slide adapted to enter the rotating shell through said opening and supporting a plough. 6th. The combination of an oblate rotating shell with a curved plough bar adapted to be fed into said shell. 7th. The combination of an attrition mill and a selecting chamber connected therewith, and apparatus allowing the withdrawal of the exhaust channel and plough bar from the mill.

No. 15,774. Improvements on Electric Lamps. *(Perfectionnements aux lampes électriques.)*

James Fyfe, London, Eng., 11th November, 1882; for 5 years.

Claim.—1st. An electric lamp, in which a carbon pencil pressed towards a carbon block is restrained by clamp, which is released by the action of an electro-magnet, in a by-pass circuit. 2nd. An electric lamp, wherein the distance of the carbon is automatically regulated by the action of two solenoid coils upon an iron core having its mass lessened towards its extremities. 3rd. The construction and arrangement of the horizontal carbon lamps. 4th. The construction and arrangement of vertical carbon lamps.

No. 15,775. Improvements on Processes for Tanning Hides. *(Perfectionnements aux procédés de tannage des peaux.)*

William Harris, Forest, Me., U. S., 11th November, 1882; for 15 years.

Claim.—1st. The improvement in the art of manufacturing leather consisting in, first, submitting the hides to any ordinary tanning process and, after they have been drenched, passing them through and between pressure rollers having hard or unyielding surfaces. 2nd. The improvement in the art of manufacturing leather consisting in, first, submitting the hides to any ordinary tanning process and, after they have been tanned and drenched, passing them through and between heated or warmed pressure rollers having hard or unyielding surfaces.

No. 15,776. Improvements on Steering Wheels. *(Perfectionnements aux roues des gouvernails.)*

Stephen B. Greacen, Perth Amboy, N. J., U. S., 11th November, 1882; for 5 years.

Claim.—1st. In combination with a steering wheel D of a hand steering apparatus, a friction becket or lock connected with a hand wheel and uniting screw, and adapted by the turning of said hand wheel to form a locking contact with the friction plate C, the screw F turning in the square hub G and forcing the wheel D sliding on the hub against the plate C. 2nd. In combination with the shaft A having the square hub or boss G and carrying the friction plate C, the steering wheel D having in its inner face a square hole H, adapting it, by the movement of the hand wheel E, to slide upon the square hub G. 3rd. In combination with the shaft A having the square hub and convex friction plate C, the concave face of the steering wheel D adapted, by the movement of the hand wheel E, to form a locking connection with the plate C. 4th. In combination with the shaft A, plate C and steering wheel D, the hand steering wheel E provided with the screw F.

No. 15,777. Improvements on Water Traps.*(Perfectionnements aux soupapes hydrauliques.)*

William J. English and William Wood, Cohoes, N. Y., U. S., 11th November, 1882; for 5 years.

Claim.—1st. A water trap consisting of three substantially parallel limbs *a b c* connected by two bends *d e*, the mouth of the limb *a* and the discharge opening of the limb *c* being in line with each other, whereby the trap can be turned at any angle in a vertical plane and a deep seal still be preserved. 2nd. A water trap consisting of the three parallel limbs *a b c*, the limb *b* being interposed between the limbs *a c* and formed with a laterally projecting side enlargement or channel *h*. 3rd. The combination of three communicating limbs *a b c*, chamber *k*, lineable termination of inlet and discharge limbs *a b*, screw covered opening *l* on suitable neck, and vent *e* made or cast in one piece with limb *c*. 4th. The combination, with the bend *d*, of the neck *h* having opening closed with screw cover *d'*, and suitable packing ring *d'*. 5th. The combination, with the discharge limb *c*, of a vent pipe *e* made or cast in one piece with the said limb and forming a continuation of the same.

No. 15,778. Horse Rake. *(Râteau à cheval.)*

German M. Cossitt and Newton Cossitt, Brockville, Ont., (assignees of Charles M. Titus, of Ithaca, N. Y., U. S.) 13th November, 1882; (Extension of Patent No. 1790.)

No. 15,779. Improvements on Hydro-Carbon Furnaces. *(Perfectionnements aux foyers à hydro-carbures.)*

James Mundell, John Gordon and John Mundell, of Philadelphia, Penn., U. S., 13th November, 1882; for 15 years.

Claim.—1st. The combination, with a vapourizing apparatus and the fire-box, of wall openings and inwardly projecting adjustable shutters or plates. 2nd. The combination, in a hydro-carbon furnace of a vapourizing apparatus, a fire box having wall openings and inwardly projecting shutters or plates, with means whereby said shutters or plates are adjusted in relation to each other and held in position when set. 3rd. The combination of a vapourizing apparatus, a fire-box having wall openings and inwardly projecting shutters or plates with the pintle rods and the clamps therefor. 4th. In combination, the combustion chamber provided with narrow horizontal openings in its opposite walls, hinged plates or shutters for said openings and end doors, the boiler, the pipes *h e* connected with the steam chamber thereof, the pipes *j d*, the coupling *i* and the spraying ejectors carried by said couplings. 5th. The combination, with the wall openings C provided with shutters or plates adapted to be closed, a vapourizing apparatus and the grate of the furnace, of a removable bed-plate F, whereby the furnace may be converted for the burning of ordinary carbonaceous fuel. 6th. The combination, with the wall openings C provided with shutters or plates D adapted to be adjusted nearer to, provided with shutters or plates D adapted to be arranged upon the grate or further from each other, of a bed plate arranged upon the grate bottom of the furnace. 7th. The combination, with the wall openings and their inwardly projecting shutters or plates D D, of a bed plate F and their inwardly projecting shutters or plates D D, of a bed plate F having the curving abutment. 8th. The nozzle of the oil ejector having surface edges, in combination with a steam spraying tube. 9th. The steam spraying tube and the oil ejector, having their orifices at or near the same point, one within the other, in combination with the fire box having wall openings and the adjustable spray directing plates or shutters. 10th. A hydro-carbon furnace provided with a grate and a removable grate closing plate or bottom, in combination with a vapourizing apparatus. 11th. The combination in a hydro-carbon furnace, of a combustion chamber provided with narrow horizontal openings in its opposite walls and end doors, with an abutment arranged upon the grate and having its opposite sides concave, the arranged upon the grate and having its opposite sides concave, a vapourizing ejectors and the hinged plates. 12th. The fire-box of a hydro-carbon furnace for steam boilers having opposite wall openings, a centrally arranged abutment and plates or shutters for said wall openings, in combination with one or more steam spraying orifices connected with the dome of said boiler, and one or more oil ejectors connected with the same supply and arranged in relation to the steam spraying orifice or orifices.

No. 15,780. Improvement on Rock Drills.*(Perfectionnement des forêts de mine.)*

John E. Booth, Bangor, Me., U. S., 13th November, 1882; for 5 years.

Claim.—1st. The combination, with the threaded drill-bar H, the threaded sleeve H provided with the collar A, the spring *f* and the cam *c*, of the chambered tappet F provided with the ratchet *g* and the adjustable spring actuated pawl J. 2nd. The combination, with the drill-head E provided with the ratchet *g*, of the adjustable spring-actuated pawl J.