

deflector or conductor therein, of the screw-rod connecting to said partition and extending through the smoke-box with the external adjusting nut *S*. 3rd. The combination, with the smoke-box of a locomotive boiler and with a water chamber in its front portion, of a converging spark conductor converging or inclining on all sides, extending out from the tube sheet over the tubes and discharging downwardly, at its narrow or converging end, into said water chamber, its discharging end or mouth having an area equal to the combined area of the tubes or nearly so, and placed at a distance above the water level equal to the said area, and at a similar distance from the front end of the smoke-box. 4th. The combination, with the smoke-box in a locomotive boiler, of a pendent or depressed water tank in the front portion thereof, and a spark deflector or conductor discharging into the same from the flues with a dam at or near the wall of said tank, rising above the base of the smoke-arch and above the lower flues. 5th. The combination, with a spark-arrester, with a spark-extinguishing chamber or water-box, and a spark-conductor or deflector discharging into the same, of overhanging splash guards projecting from the sides of the water-box above the water level. 6th. The combination, with a water-box or extinguishing chamber and a spark-conductor discharging into the same, of overhanging splash guards projecting from the sides of the water-box above the water, and with the mouth of the spark conductor discharging directly down between said guards. 7th. The combination of an extinguishing chamber or water-box, depending from the front of the smoke-arch and provided at its base with a discharging mouth, and a movable dumping door arranged to cover or uncover the same and hinged at or near the back edge of the mouth and arranged to swing downwardly and backwardly therefrom with a motive device for operating the same. 8th. In combination with a water chamber provided with a discharging orifice at its base, a movable dumping door arranged to cover and uncover the same and pivotally connected at or near its middle to its hinging or operating supports. 9th. The combination, with an extinguishing chamber or water-box open at the base and terminating with narrow edges, of a dumping door arranged to cover and uncover said open base, and provided with elastic margins to seat directly against the narrow edges of the open base. 10th. The combination of an extinguishing chamber or water-box open at the base, and a movable dumping door arranged to cover and uncover said base, with the perimeter or margins of said open base bevelled to a cutting edge, to seat against the face of the dumping door. 11th. The combination, with a spark receiving and extinguishing water-box having a dumping door at the base, of a water supply pipe extending into said box around the sides thereof and provided with a series of jets discharging downwardly around the sides of the box. 12th. The combination, with a locomotive engine or boiler, of a spark-arrester provided with a spark-extinguishing water box having a dumping door at the base, a steam motor operatively connected with said door, and valves and connections controlling a supply of steam from the boiler to said motor, whereby the said dumping door may be opened or closed by manipulating the steam valve of said motor. 13th. The combination, with a locomotive boiler or engine, of a spark arrester provided with an extinguishing water chamber having a dumping door at the base, a cylinder having a movable piston operatively connected with said dumping door and connections from each end of said cylinder to a supply of motive fluid, and a valve for controlling the flow of the same, whereby the manipulation of said valve will admit the pressure of the motive fluid on either side of said piston, and thus forcibly close or open the dumping door. 14th. The combination, in a locomotive engine, with a spark-arrester on the front end provided with a spark-extinguishing water-box, of a movable arm or sound, movable from the water line down in the water of the box, with a manipulating device extending therefrom to the cab. 15th. The combination, in a locomotive engine, with a spark extinguishing water-chamber, of a float movable up or down in said water chamber and a manipulating device extending therefrom to the cab. 16th. The combination, with a spark arrester, with a spark receiving water-chamber and a dumping door at the base of the same, of a raking or poking device attached to said door and rising through the water-box, whereby the dumping motion of the door will move said raking device and break up and discharge compacted coals or cinders. 17th. The combination, with a spark-extinguishing water-box and means to recharge the same with water, of an overflow valve opening from the interior of the box at, or somewhat above its normal water line and arranged to yield and open freely to pressure from within, but to close to pressure from without, whereby the overflow of excessive water is permitted but inflow of air prevented.

No. 16,448. Improvements on Ice Floors for Cold Storage Houses. (*Perfectionnements aux plafonds à glace pour les bâtiments d'emmagasinage.*)

Homer C. Cain, Cleveland, Ohio, U.S., 7th March, 1883; for 5 years.

Claim.—1st. An ice-floor for cold storage-houses consisting of plates of metal secured at one edge, at or near the lower edge of one joist, and extending diagonally across to the top of the next joist to which its opposite edge is secured. 2nd. An ice floor for cold storage houses consisting of plates of metal secured at one edge, at or near the lower edge of one joist, and then extending diagonally up and over the top of the next one, and then downwardly and secured at or near the lower edge of the latter. 3rd. An ice floor for cold storage-houses consisting of plates of metal secured at or near the lower edge of one joist, and then extending diagonally up and over the next one, and down again till at or near the lower edge of this joist, where they are turned up to form a trough. 4th. The combination of the joist provided with metal bars on the upper edge, and the metal plates.

No. 16,449. Improvement on Wire Barbing Machines. (*Perfectionnement des machines à barbeler le fil de fer.*)

David G. Wells, Joliet, Ill., U.S., 7th March, 1883; for 5 years.

Claim.—1st. The combination, with the means for advancing the fence wires, means for guiding the fence wires to the coiler and barb

wire feeding mechanism, of a barb coiler constructed and arranged to let the barb pass through it after being coiled. 2nd. The combination, with mechanisms for feeding and guiding the fence wires and barb wires, and means for twisting the fence wires after being barbed, of the barb coiler provided with coiling-pins *b* and a central aperture *b* of size to allow the barb to pass through the same, and a tube *b* provided with interior guides *b* to receive the barb points from the coiling-pins. 3rd. The combination, with the reciprocating carriage and a barb coiler mounted thereon, of grooved stationary arms *C*, bars *C* pivoted to the carriage, levers *C* pivoted to the said bars and engage with the arms *C*, and means for gripping the barb wires by the vibratory movement of the levers *C*, whereby the barb wires are fed inward.

No. 16,450. Improvement in Rivetting.

(*Perfectionnement dans la rivure.*)

James H. Clinch, Pittsburgh, Penn., U. S., 7th March, 1883; for 15 years.

Claim.—1st. In combination with a holding-on sledge for rivetting purposes, a movable carriage having an adjustable rest for supporting the sledge. 2nd. The combination, with a holding-on sledge for rivetting purposes, of a movable carriage having a rest for supporting the sledge. 3rd. The combination, with a movable carriage, a holding-on sledge having a cavity in the face thereof.

No. 16,451. Improvements on Cultivators.

(*Perfectionnements aux cultivateurs.*)

Arthur S. Core, Rochester, N. Y., U.S., 7th March, 1883; for 5 years.

Claim.—A cultivator tooth formed with a point *d* and lateral blades *c* extending obliquely at each side and back of a central ridge *g* of the tooth, the lower or cutting edges of said blades being inclined obliquely outward and upward, for the purpose of giving a shearing cut to the same, and the plane of either blade passing in rear of the next blade above.

No. 16,452. Improvements on Marine Boilers.

(*Perfectionnements aux chaudières marines.*)

Ferdinand Funke, Evansville, Ind., U.S., 7th March, 1883; for 5 years.

Claim.—1st. A set or series of boilers *A B C* and *D* connected on top by a common steam drum *E* placed transversely across the boilers, and each boiler provided with a separate mud drum or sediment collector *f* arranged below, and parallel to its appropriate boiler connected thereto by short pipes *g g*. 2nd. The combination of a series of boilers, each provided with its separate mud drum *G* having blow-off valve *h* and connected with a common steam drum *E*, by pipes *e*, provided with cut-off valves *f*, with shutters *K* adapted to shut off the draft from each boiler separately.

No. 16,453. Improvements on Garment Clasps.

(*Perfectionnements aux agrafes des vêtements.*)

Lyman D. Minor, New York, N.Y., U.S., 7th March, 1883; for 5 years.

Claim.—A garment clasp comprising two clamping jaws pivoted together, each jaw having a rear edge to be engaged by the retaining fabric, one jaw being formed with a hinge joint in rear of its pivot.

No. 16,454. Improvements on Clothes Dryers.

(*Perfectionnements aux séchoirs à linge.*)

Wilson Vanderlip, Liberty, Ill., U.S., 7th March, 1883; for 5 years.

Claim.—A folding clothes drier composed of the supporting standards *A A*, the secondary frames *C D D* and the top frames *H H*, the latter having the extra rounds *g h i j k* and *l*.

No. 16,455. Improvements on Dynamo-Electric Machines. (*Perfectionnements aux machines électro-dynamiques.*)

George W. Fuller, Norwich, Ct., U.S., 7th March, 1883; for 15 years.

Claim.—1st. A dynamo-electric machine in which the field magnets are rotated and the armature coils are stationary, a suitable supported and centralized armature core independent of the armature coils, and one or more driving wheels having a prescribed speed of rotation relatively to the speed of rotation of the field magnets, for mechanically rotating the armature core. 2nd. A dynamo-electric machine employing a floating armature core independent of the armature coils, two or more adjustable rollers for supporting the floating core and centralizing it relatively to the spaces within the armature coils. 3rd. Mechanism for driving the armature core consisting of one or more suitably supported shafts, such shafts or each of such shafts, if there be more than one, being provided with two wheels, the one engaging the periphery of one of the rotating magnet disks and being driven thereby, and the other engaging the periphery of the armature core and imparting motion thereto. 4th. The mechanism for adjusting the rollers which support and centralize the armature core, consisting of the cradles *SS* provided with adjustable fulcrum upon which they respectively rock, and acting upon one side of the fulcrum respectively through the push bars *r* upon the arms *r* and also acting upon the other sides of their fulcrum respectively upon the feet *Q* *Q* *Q* affixed to the boxes *Q* *Q* *Q*. 5th. The mechanism for equalizing the work of the rollers which support or drive the armature core, consisting of the cradles *SS* provided with adjustable fulcrum upon which they respectively rock each cradle upon the inner side of its fulcrum, giving support to the box *R* of the central roller *R*, the two cradles acting respectively upon the outer sides of their fulcrum to support the boxes *Q* *Q* of the side rollers *Q* *Q*, and the guides for guiding the movements of the boxes *Q* *R* and *Q* in paths converging towards the centre of the armature.