

as set forth. 2nd. The combination of the transmitter E, having the compound wheel H, and rubber seat and casting Z, and the wires F, G, and C, substantially as set forth. 3rd. The combination of the transmitter E, the power wire F, lateral wire G, the frame carried by the car truck and having pendent arms connected by cross bars, the carrier bar formed of sections having lateral and vertical movement arms depending from said carrier bar, and having clamps wheels carried by the end ones of the lateral arms, springs connecting said end of said arms to pendent guards of the carrier, and the conductor wire engaged by said clamps and having connection with the transmitter, substantially as specified.

No. 36,944. Horse Power. (*Mandé à un cheval.*)

Arthur F. Clement, Hastings Centre, New York, U.S.A., 9th July, 1891; 5 years.

Claim.—1st. The combination, with the jack provided with suitable guide pulleys and rollers, of a frame work located in front of the same and at one side thereof, a shaft journaled in the frame work, a series of arms radiating from the shaft and provided with flared plates secured to their upper and lower sides and at their front sides with notched cable-receiving plates 17, and a cable mounted in the arms and passing over the guide rollers to the jack, substantially as specified. 2nd. The combination, with a horse power, of a jack frame located in rear and at one side of the first mentioned frame, a power shaft journaled in the jack frame, a belt pulley mounted thereon, a star wheel mounted on the shaft and having notched arms provided with plates having V-shaped recesses, a horizontal and a vertical guide pulley located in front of the star wheel, a second horizontal pulley located in front of the first horizontal pulley, guide rollers mounted in front of the vertical and the horizontal pulleys and in the plane with the arms of the reel, and a cable passing around the arms about the guide rollers, the guide pulley, and to the star wheel, over the same, under the horizontal guide pulley, over the front horizontal guide pulley, and back to the cable arms of the reel, substantially as specified.

No. 36,945. Device for Closing Tin Cans, etc. (*Appareil à fermer les boîtes métalliques.*)

Richard Kirsch, Zantkan, Russia, 10th July, 1891; 5 years.

Claim.—1st. A closing device for tins, boxes and similar receptacles, consisting of a wire or tube a, a', a^{11}, a^{111} , of convenient cross section so inserted and soldered between the rim of the closing plate or cover and the rim or side or sides of the receptacle as to be removable for disconnecting the latter from its cover, substantially as and for the purpose set forth. 2nd. A closing device for boxes, tins and cans and such like, serving to render the opening wire independent of the solder in cases where the contents of the receptacles necessitates very strong soldering, and to produce simultaneously a closing as free as possible from lead, said closing having as principal feature that the opening wire a , is so embedded as to cut the tin when the receptacle is opened, whereas the soldering remains intact, it being applied to such places in the bulging l , or between box side B, and cover rim D, as to prevent as far as possible all contact with the contents of the receptacles.

No. 36,946. Separable Pulley. (*Poulie divisible.*)

Vantyle W. Coddington, Kansas City, U.S.A., 10th July, 1891; 5 years.

Claim.—1st. In a separable pulley having radial spokes, and a separable hub having end bearings for said spokes in the separable parts thereof, the combination of the tie rods arranged in the line of direction concentric to the periphery of said pulley, the meeting ends of said rods being adjustably clamped together and adapted to draw the ends of said spokes toward the centre of said pulley, as described. 2nd. In a separable pulley having spokes, and slots in said spokes in the line of direction concentric to the periphery of said pulley, the combination of tie rods also in the line of direction concentric to the said periphery having right hand screw threads at one end, and left hand screw threads at the other end, and swivel clamps connected with the opposing ends of said rods, for the purpose described. 3rd. In a separable pulley having suitable tie rods in the line of direction concentric to the said periphery, adjustably clamped together upon the separable parts of said pulley, and a separable hub provided with recesses extending in a transverse relation to said hub, the combination of spokes having tenons fitting in said recesses in separate parts of said hub, and said recesses adapted to permit the lateral adjustment of the separate parts of the hub, as described.

No. 36,947. Tonic for Hair.

(*Préparation pour les cheveux.*)

Minnie McGillary, Vancouver, British Columbia, Canada, 10th July, 1891; 5 years.

Claim.—The herein described composition of matter for use as a hair restorer and invigorator, composed of oil of onions, oil of cabbage, oil of parsley, borax, sulphur, sugar of lead, aqua-ammonia, salt, alcohol, and bay-rum, combined in, substantially the proportions specified.

No. 36,948. Machine for Holding and Sharpening Insertable Saw Teeth. (*Appareil pour tenir et affûter les dents de scies ajustables.*)

George M. Beach, (assignee of Herman Bergstrom), both of Big Wausaukee, Wisconsin, U.S.A., 10th July, 1891; 5 years.

Claim.—1st. In a machine for holding and sharpening insertable saw teeth, the combination of a single rotating shaft S, mounted upon the supporting standard O, two emery wheels or grinding surfaces D, D, and driving pulley T, affixed to said shaft supporting lever B, secured at one end to said supporting standard O, swinging tooth holding lever A, adjustably secured to the free or outer end of said arm B, upon the supporting pivot C, supporting pivot C, adjustably secured to the outer end of said arm B, said lever A, being provided with a tooth retaining clamp or mechanism lever, supporting arm G, affixed to said swinging arm B, at an intermediate point between the lever, supporting pivot C, and the standard O, and adjustable stops F, affixed to the respective ends of said arms G, and adapted to limit the movement of said swinging lever A, as the respective sides of the thereby supported tooth are brought against the respective grinding surfaces D, D, substantially as and for the purpose specified. 2nd. The combination of the supporting standard O, rotating shaft S, emery wheels or grinding surfaces D, D, rigidly affixed to the respective ends of said rotating shaft S, and pulley T, secured to said shaft arm B, secured at one end to the supporting standards of said grinding wheels, tooth supporting lever A, secured to said arm B, by a supporting pivot C, tooth retaining jaws a , and b , located at the swinging end of said lever A, adjustable stops F, located upon the respective sides of said swinging arm A, and adapted to adjust and limit the movement of said arm and stop supporting arms G, secured centrally to said supporting arm B, all substantially as and for the purpose specified.

No. 36,949. Rake. (*Râteau.*)

Adam Dunn, Selena Dietrich and Fred Douglas Palmer, all of Galt, Ontario, Canada, 10th July, 1891; 5 years.

Claim.—As a new article of manufacture, a rake having its head stamped out of one piece of sheet metal, which is concaved throughout its length, and has saw shaped teeth which are beveled on the under side to form a cutting edge, substantially as and for the purpose specified.

No. 36,950. Subaqueous Viaduct.

(*Viaduc sous l'eau.*)

Frederik Erik Strom, John Alvin Hilliker and Frank Theodore Lindman, all of Minneapolis, Minnesota, U.S.A., 10th July, 1891; 5 years.

Claim.—1st. A submarine way, comprising a series of piers, and a submerged viaduct secured upon said piers at a uniform depth below the surface of the water. 2nd. A submarine way having the series of supporting piers, and consisting of a sectional conduit made up of segments of cylinders parallel with each other, and joined together at their adjacent edges, and the ends of the sections meeting upon said piers, substantially as described. 3rd. In a submarine way, a series of piers, a sectional viaduct consisting of a series of arcades, the ends supported in and enclosed by said piers, and means for securing the sections together, substantially as described. 4th. In a submarine way, the combination, with a series of permanent piers, of a sectional viaduct supported in and secured by said piers arcades or arched road ways composing said viaduct, a series of struts and tie-bars connecting the upper and lower members at the intersection of the arches, and a series of guides and clamps for guiding and securing the sections together when introduced into the pier, substantially as described. 5th. A submarine viaduct, comprising an inner shell or wall in which the road ways are formed, an exterior casing or wall forming a space between it and the inner wall, a filling in said space, a covering to said exterior wall, a non-corroding covering plate thereto, and a protecting covering to said plate, substantially as described. 6th. A viaduct composed of sections provided at their meeting ends with a clamp operating automatically to lock the sections to each other, when brought together, substantially as described. 7th. A pier, formed with an aperture or opening for the reception of the sections of a viaduct, and provided with rollers or guides in the bottom of said aperture for the purpose of guiding and supporting said sections, substantially as described. 8th. In combination, with a submerged pier, a viaduct composed of sections having the contiguous ends thereof lying inside of an opening formed in said pier for said viaduct, substantially as described. 9th. A pier, comprising the upper and lower sections having an aperture or opening for the sections of the viaduct, and a series of rollers in said aperture revolving in suitable bearings in said roller sections, substantially as described. 10th. In a submerged pier, a lower or foundation section, an upper or retaining section, said sections formed with an opening for the passage of the viaduct in said opening and resting on said rollers, substantially as described. 11th. In a pier, the combination, with a suitable foundation, of a lower hollow pier section or caisson, a cap or upper section resting on said caisson, a viaduct in an aperture in said pier section, and a concrete filling within said pier and around said viaduct, substantially as described. 12th. In a pier, the combination, with a lower or hollow pier section and a foundation upon which said section rests, of a coffer dam or removable shell secured to the walls of said section, substantially as described. 13th. A pier having an opening or aperture for the passage of a viaduct, sections of a viaduct having their contiguous ends lying in said openings, a recess formed in said pier around the contiguous ends of said sections, and an opening communicating with said recess from the exterior of said pier for the purpose of introducing a filling to protect the joint at the said contiguous ends of the viaduct sections, substantially as described. 14th. A submerged pier formed of a lower section having ways formed therein at its upper end, in combination with an upper section adapted to slide into said ways, the two sections forming an aperture or opening for the reception of a viaduct, substantially as described. 15th. A submarine way comprising a series of piers provided with apertures arranged below the surface of the water, and a viaduct composed of a series of sections joined together end to end and apertures in said piers, substantially as described. 16th. The method of forming a subaqueous way, which consists in constructing a series of piers with apertures