

tubing with smooth bore combined with a front part E of rifled steel, the rifling bands being made to project inwards from the base of the copper tube.

No. 13,586. Improvements on Telephones.

(*Perfectionnements aux téléphones.*)

Webster (Gillett, Ypsilanti, Mich., U. S., 20th October, 1881: for 5 years.

Claim.—1st. A vibrating plate D, or magnetic cylinder J having a helix M and a core H having a helix O, arranged within the said cylinder J, whereby a large amount of magnetic surface is presented to the vibratory plate. 2nd. The combination, with the central core H, having helix O, and exterior cylinder J having helix M, of the connecting pin K, the vibrating plate D and the adjustable case A B. 3rd. The case constructed as described, formed in two parts B A screwed the one upon the other and provided with a jam nut G, whereby the said case can be lengthened and shortened. 4th. The combination, with the adjustable case A B having jam nut G, cap C and mouth piece P, of the vibrating plate D, the cylinder J having helix M, the central core H having helix O and connecting pin K, and the binding posts Q R.

No. 13,587. Improvements in Sewing Machines. (*Perfectionnements dans les machines à coudre.*)

Alfred A. Choquette, Milwaukee, Wis., U. S., 20th October, 1881: for 5 years.

Claim.—1st. In that class of sewing machines provided with a reciprocating shuttle, a needle plate provided with two slots for the reception of two full series of feed teeth and a triangular-shaped intermediate bar connected at its respective ends with the needle plate, at the centre of which bar is formed an eyelet. 2nd. The combination of the shank N, angular brackets O and series of feed teeth M L, said series L being supported at its respective ends, by angular brackets O, and adapted to be operated upon the right hand or inward side of the needle. 3rd. The combination of the feed device consisting in shank N, brackets O, series of feed teeth M and L, with the needle plate E provided with slots I and J, and angular-shaped intermediate bar H connected at its respective ends with the needle plate and provided with eyelet K.

No. 13,588. Improvements in Bedsteads. (*Perfectionnements aux bois des lits.*)

Edward Julien and Benjamin Baker, Montreal, Que., 20th October, 1881: for 5 years.

Claim.—1st. The combination of the base A, back B, bedstead L, springs O, counter of balance S, cornice F, casing G, doors D and sub-doors E. 2nd. The combination of the base A, back B, hinged bedstead L having doors O, cornice F, and doors D having sub-doors E. 3rd. The combination of the base H, back B, hinged bedstead L having door O, cornice F, doors D having cupboard A and pocket D, towel rack E, looking glass F, clothes pins V and curtain W, sub-doors E having clothes pins T and curtain-holders S.

No. 13,589. Improvements on Plaiting Machines. (*Perfectionnements aux machines à plisser.*)

William H. Brumhall, Brooklyn, N. Y., (Assignee of Leonard B. Berrien, Galesbury, Ill., U. S., 20th October, 1881: for 5 years.

Claim.—1st. The combination of two feed rollers D D, two plaiting blades G G and two levers, one for operating each blade independently of the other, in combination with mechanism whereby the feed rollers shall be actuated by either lever when vibrated. 2nd. The combination of a pair of feed rolls, a plaiting blade free to reciprocate in respect thereto, a hand lever connected to said blade, so as to reciprocate the same without passing it upon the fabric, a supplementary hand lever connected to the blade so as to reciprocate it and cause it to press upon the fabric, and means whereby the movement of either lever is caused to operate the feed rolls. 3rd. The combination of a pair of feed rolls, a plaiting blade hung to a crank shaft free to vibrate, a hand lever connected to said crank shaft and serving to vibrate the same, and a supplementary lever hung to the main lever and having an arm connected to an arm on the plaiting blade. 4th. The combination of the upper roller D having journals adapted to bearings in plates a a, secured to the standards B B of the base of the machine, with the lower roller D, the elastic arms E E pivoted to the frame of the machine, and the adjusting screws h h. 5th. The combination of the feed roller D and its two ratchet wheels K K, and the lower roller D geared to the upper roller, with the two crank shafts F F, one carrying a pawl adapted to the other ratchet wheel.

No. 13,590. Improvements on Screw-jacks. (*Perfectionnements aux crics.*)

Godfroid Chapeau, Montreal, and Joseph Desantels, St. Vincent de Paul, Que., 20th October 1881: for 5 years.

Claim.—1st. Le bâti B avec les coulisses C C, les projections G O Q. 2nd. La crémallière A avec les projections P P en combinaison avec la pièce L, le ressort, N et le levier D R. 3rd. La combinaison de la crémallière A avec le bâti B, les pièces F F et le levier D R.

No. 13,591. Improvements on Railway Cars. (*Perfectionnements aux chars des chemins de fer.*)

James W. Chisholm, (Assignee of William H. H. Sisum,) Brooklyn, N. Y., U. S., 20th October, 1881: for 5 years.

Claim.—1st. The combination, with a pair of car wheels, an axle and its frame, of pairs of links by which the frame is suspended upon the axle boxes or other points fixed relatively to the length of the axle, and provision afforded for the transverse movement of said wheels and axle independently of said frame, and other pairs of links by which the car body is suspended from said frame and provision afforded for

the transverse movement of said frame, independently of said car body. 2nd. The combination, with a pair of car wheels, an axle and its frame, of a car or truck body, and connection between said body and frame, which permit the axle and frame in passing a curve to be moved in a direction lengthwise of the axle and latered to the car or truck body, and also radiated relatively to the track by the momentum and gravity of the car. 3rd. The combination, with a pair of car wheels, an axle and its frame, of a car or truck body having a fixed pivotal connection with said frame, upon one side of said axle, and suspended by links from said frame upon the opposite side of said axle. 4th. The combination, with a pair of car wheels, an axle and an axle frame, and link whereby said frame is suspended from the axle boxes or other points fixed relatively to the length of the axle, of a car or truck body having a fixed pivotal connection with said frame upon one side of said axle. 5th. The combination, with a pair of car wheels, an axle, an axle frame and pairs of links, whereby said frame is suspended from the axle boxes, or other points fixed relatively to the length of the axle, of a car or truck body having a fixed pivotal connection with said frame, upon one side of the axle, and suspended by links from said frame upon the other side of the axle. 6th. The combination, with a car or truck body, of three pairs of wheels, three axles, and three car frames, pairs of links whereby each frame is suspended from the axle box or other points fixed relatively to the length of the axle, pairs of links, whereby the said car or truck body is suspended from the frame of the middle axle upon each side of said axle, other links whereby said car or truck body is suspended from each end frame upon one side of its axle, and a fixed pivotal connection between the car or truck body and the opposite side of each end frame. 7th. The combination of the axle C, the laws d d, the yoke x, adjustable vertically between said laws, the axle box e and the links a, pivoted at their upper ends to the axle box, and at their lower ends to said yoke. 8th. The combination of the car body A, the two axle frames D D and their axles and wheels, and the connecting pivot F, the said pivot being fixed relatively to the car body, and forming the only pivotal connection between the said frames themselves, and between said frames and the car body.

No. 13,592. Improvements in Electric Lamps. (*Perfectionnements aux lampes électriques.*)

Joseph Best and Joshua A. Bell, Montreal, Que., 20th October, 1881: for 5 years.

Claim.—1st. The carbons carried on horizontal rock shafts connected so as to be worked simultaneously, in combination with a friction sector mounted upon one of said rock shafts and with means for actuating it. 2nd. The combination of an electro-magnet and an armature lever provided with a fulcrum support, with a friction sector or disc mounted on a rock shaft and connected so as to automatically separate the carbons. 3rd. The device for adjusting the armature lever H consisting of screwed pin or spindle M passing up through box A provided with jam nut L, forked lower end M and pin N. 4th. The carbon-holder made of angular section and provided with a loose angular plate.

No. 13,593. Improvements on Machines for Dressing Millstones. (*Perfectionnements aux machines à rabiller les meules.*)

Abram L. Teetor, Hagerstown, Ind., U. S., 24th October, 1881: for 5 years.

Claim.—1st. The combination, with a reciprocating rod, of a clamp connected therewith and adapted to be automatically moved to and fro on said rod. 2nd. The combination, with a reciprocating rod, of a friction clamp engaging therewith and adapted to be automatically moved to and fro on said rod. 3rd. The combination, with a reciprocating rod, of an adjustable friction clamp engaging therewith and adapted to be automatically moved in either direction on said rod. 4th. The combination, with a reciprocating cross head or carriage having a reciprocating rod mounted therein, of a clamp engaging said rod and adapted to be automatically moved thereon in either direction. 5th. The combination, with a reciprocating rod and a head for carrying a stone dressing tool or device, of a clamp connected with said head and engaging with the reciprocating rod and adapted to be automatically moved on said rod in either direction. 6th. The combination, with a reciprocating and tilting cross head or carriage having a reciprocating rod mounted thereon, of a head for carrying a stone dressing tool or device, and a clamp connecting said head with the reciprocating rod, said clamp being constructed and arranged to be automatically moved on said rod in either direction. 7th. The combination, with a reciprocating rod and a clamp engaging therewith, said clamps adapted to be automatically moved in either direction on said rod, of a device for regulating the extent of movement of said reciprocating rod. 8th. The combination, with a reciprocating cross head or carriage, a smooth rod mounted on said carriage, a head for carrying the stone dressing tool or device, and a clamp connecting the head and rod, of a double cam-shaped lever connected with said rod and a device for actuating said lever, and thereby reciprocating the rod. 9th. The combination of the cross head provided with the arcs or projections through which passes a smooth rod, a mechanism for reciprocating this rod backward and forward as the cross head is moved backward and forward in its frame, and a head carrying the stone dressing device or tool, which is connected to, and operated by the smooth rod. 10th. The head R provided with the friction clamps, which can be inclined from side to side, in combination with the adjusting lever provided with the spring V. 11th. The combination, with the rod and double cam-shaped lever, of the pivoted lever provided with a friction roller, the parts being arranged to impart greater or less motion to the rod, as may be desired.

No. 13,594. Improvements on Force Pumps. (*Perfectionnements aux pompes foulantes.*)

William A. Bickford, Hamilton, Ont., 24th October, 1881: for 5 years.

Claim.—1st. The lugs B on cylinder A, for securing the cylinder to the pump tube C by rods D with nutted ends. 2nd. The chamber D, formed in the top heading of the cylinder, and having a valve E hung therein vertically. 3rd. The stirrup casting K having screw L and an annular collar, to which the hose is connected and applied to the spout of the pump.