

No. 13,566. Improvements on Axle Boxes for Railway and Other Waggons. (*Perfectionnements aux boîtes d'essieux pour les wagons des chemins de fer et autres.*)

Louis H. Tourville, St. Henri, Que., 19th October, 1881: for 5 years.

Claim.—1st. Le rouleau B en combinaison avec les rainures G G, le support K K', C et les ressorts M M. 2d. La planchette O O composée du collet P, des ressorts Q T, des tiges R R, des montants O O et de la couverture S. 3d. Le collet P, les tiges R R et le ressort Q, en combinaison avec le rouleau B.

No. 13,567. Improvements in Horse Shoe Nail Forging Machines. (*Perfectionnements aux machines à forger le clou à cheval.*)

Charles R. Ellacott, Montreal, Que., 19th October, 1881: for 10 years.

Claim.—1st. The supplementary cam K mounted on shaft E and operating through rock shaft A to keep roller on arm C always in close contact with periphery of cam D. 2nd. In combination with the supplementary cam K and rock shaft A, the arm H provided with roller h. 3rd. In combination with the cutter shaft M, the supplementary cam K having mounted on its side segment or cam K₁.

No. 13,568. Improvements on Gate Hangings. (*Perfectionnements dans la pose des barrières.*)

John C. Baumgartner, Fraser, Mich., U. S., 19th October, 1881: for 5 years.

Claim.—In combination with a gate adapted to be half opened longitudinally, and then swung laterally in either direction, the posts B B, cross bar h, block C having the longitudinal recess h, ears m m' and pin c, and the cap D provided with the jaws a a', recess d, central orifice S and roller E journaled in said jaws.

No. 13,569. Improvements in Casting Wheels with Wrought Iron Spokes. (*Perfectionnements dans le coulage des roues avec des rais en fer forgé.*)

James Burns, Hamilton, Ont., 19th October, 1881: for 5 years.

Claim.—1st. The shouldering screwing and riveting of the arms in rim previous to casting hub. 2nd. The casting of hub in metal moulds in such a manner that the inner ends of arms will be firmly embedded in hub.

No. 13,570. Improvements in Water Engines. (*Perfectionnements aux machines hydrauliques.*)

John Laurie, (Assignee of George Wells,) Montreal, Que., 19th October, 1881: for 5 years.

Claim.—1st. In combination with the cock having ports d₂ e₂ f₂, and stopper g₂ having ports h₂ i₂, pipes k₂ l₂, tank m₂, discharge pipe n₂ connecting the passage k₂ and tank m₂. 2nd. The reversing cock e₂ with pipes k₂ l₂, tank m₂ and pipe n₂, in combination with gear wheel e₂, shaft r₂, drum s₂, cable u₂ and cage v₂. 3rd. The water engine provided with reversing cock e₂ and air vessel k₃. 4th. In the cock e₂, the combination of the shell a₃, stopper g₂, washer d₃, cover h₃, gland f₃ and washer g₃.

No. 13,571. Roll. (*Rouleau.*)

George H. P. Flagg, (Assignee of Frederick W. Coy,) Boston, Mass., U. S., 19th October, 1881: for 15 years.

Claim.—The improved roll composed of the series of felt disks C C and the series of toothed clamping disks B B' B₂, and means for clamping the disks combined together.

No. 13,572. Abrasive Wheel (*Tambour rubéfiant.*)

George H. P. Flagg, (Assignee of George A. Fullerton and Frederick W. Coy,) Boston, Mass., U. S., 19th October, 1881: for 5 years.

Claim.—1st. The combination, with the heel or roll, of a flexible supporting band over which the abrasive strip is stretched, and between which and the wheel one end of the abrasive strip is secured. 2nd. In combination with wheel A and band B, the eccentric button a₁, its shaft a₂ and means for turning and lowering the shaft a₂, in order to strain the band around the wheel and to force the end of the band close against the wheel.

No. 13,573. Improvements on Pianofortes. (*Perfectionnements aux fortes-pianos.*)

Albert K. Hebard, Cambridge, Mass., U. S., 19th October, 1881: for 5 years.

Claim.—1st. A double strand piano string tension device consisting of the block c with side projections l l' formed with holes m to receive the ends of the strings, which are passed through the said holes and wound round the projections, and a screw bolt passed through the block and through the vertical flange upon the frame covering the wrest block. 2nd. The method of bringing the strands of a double stand piano string to union, the same consisting in looping the bend of the string at the junction of the two strands around its hitch pin and turning said pin as required.

No. 13,574. Improvements on Railway Brakes. (*Perfectionnements au frein des railroads.*)

Watson P. Widdifield and Anson T. Button, Uxbridge, Ont., 19th October, 1881: for 5 years.

Claim.—1st. In an apparatus for applying the brakes of railroad cars in which the power is derived from a friction pulley applied to

one of the revolving axles, a cranked lever pivoted at a point near the axle and supporting on its crank the axle of the friction pulley, to which axle the brake chain is attached, in combination with a spindle passing through and attached to the lever, and provided with a pulley around which the continuous chain passes, after passing over stationary pulleys situated above it, so that the tightening of the continuous chain will raise the spindle a given height, but no higher. 2nd. A cranked lever carrying, at one end, the shaft of the adjustable friction pulley and having, at its other end, the vertical spindle G supported by the continuous chain I, in combination with the spring K arranged to form a flexible connection between the spindle and lever. 3rd. The pivoted lever J carrying the adjustable friction pulley and operated by the continuous chain I, in combination with the spring M arranged to assist in throwing down the lever E. 4th. An unadjustable friction pulley operating against the revolving axle of the car for tightening the ordinary brake chain, a shaft formed in two parts C and C₁, each part carried in independent bearings, the former having keyed to it the friction pulley B and the latter part the brace chain O, in combination with the flexible joint N arranged to connect the two parts together. 5th. A friction pulley A composed of compressed paper and made in segments to fit the car axle, which is provided with a fixed ring R, in combination with an adjustable ring S operated by the screws P screwed through the ring U. 6th. In combination with the chain I the arms or bars P pivoted on the ends of the cars and so arranged that the end of one bar fits into a hole in the other. 7th. In combination with the chain I, the link b arranged to connect the said chain with a fixed bar W.

No. 13,575. Illuminating Gas Apparatus. (*Appareil à gaz d'éclairage.*)

Arthur Wittamer, Antwerp, Belgium, 19th October, 1881: for 5 years.

Claim.—1st. The apparatus, for automatically producing illuminating gas, consisting of the pump and carburetter, with or without the purifier, and regulating apparatus. 2nd. The apparatus E for purifying the air prior to its admission into the carburetter. 3rd. The carburetter, consisting of the cylinders A B C and provided with the tubes h from which the air escapes in the form of exceedingly small or fine jets. 4th. The combination, with the said carburetter, of the perforated plates f for arresting or obstructing the flow of the air through the liquid contained in the said carburetter, and consequently causing a prolonged contact of the air with such liquid. 5th. The combination, with the cylinder C, of the horizontal plates P and the metal bands or strips interposed between the said plates. 6th. The pump so constructed as to dispense with the necessity of employing counterweights, and adapted to be readily started, and to force air into the purifier and carburetter under high pressure. 7th. The regulating apparatus or thermometer applied to the bath or vessel containing the carburetting liquid, for automatically regulating the temperature of the latter.

No. 13,576. Improvements on Feed Water Heaters for Locomotives. (*Perfectionnements aux chauffeurs de l'eau d'alimentation des locomotives.*)

George S. Strong, Philadelphia, Penn., U. S., 19th October, 1881: for 5 years.

Claim.—1st. The combination of the body or barrel of a locomotive boiler, with the saddle-shaped feed water heater having internal pipes or tubes, for the conveyance of steam through the heater. 2nd. The saddle-shaped casing, its boxes G G and curved tubes with inlets and outlets for exhaust steam and feed water. 3rd. The combination of the heater, its tubes H and boxes G G, with the nozzle E having a chamber m communicating with one box, and a chamber m' communicating with the other box. 4th. The nozzle E having a chamber m for the direct passage of a portion of the exhaust steam to the smoke box, a chamber m' for the passage of another portion of the exhaust steam to the heater, and a third passage m₂ for receiving the spent exhaust steam from the heater and directing it to the smoke box. 5th. The combination of the heater and the two receivers f f', one for each leg of the heater, with the waste pipes h h' and discharge cock t. 6th. The combination of the saddle-shaped heater with the chamber I, steam heating coil J and filter K. 7th. The combination of the feed pipes k k', the valve chest L, the nozzle r and chamber s, with the steam heating coil J and the waste pipe S communicating with the said chamber s. 8th. The combination of the heater, the feed pipe M, the discharge pipes k k', the live steam pipe K and the check valve x.

No. 13,577. Improvements on Telegraphs. (*Perfectionnements aux télégraphes.*)

Thomas A. Edison, Menlo Park, N. J., and Patrick Keuny, New York, U. S., 19th October, 1881: for 5 years.

Claim.—1st. The method of producing fac-similes by electricity, consisting in controlling an electric current by the depressions formed by marking upon paper or other suitable material. 2nd. A fac-simile telegraph having transmitting and receiving instruments, the transmitting circuit being controlled by the depressions produced by marking upon paper or other suitable material. 3rd. In fac-simile telegraphs, the combination of the transmitting and receiving instruments, of a transmitting style having circuit connections, and contact in circuit controlled by the uneven surface of the prepared message. 4th. The synchronously revolving cylinders, one carrying the message prepared by depressed lines, and the other a chemically prepared recording paper, in combination with the transmitting and receiving styles having a movement at right angles to the cylinder, the said transmitting style having contacts in circuit controlled by the uneven surface of the message. 5th. The combination, with the synchronously revolving cylinder of movable contacts, operated by the machines, for breaking the circuit when the styles are passing the secured edges of the paper. 6th. The two revolving cylinders, one of which has a slightly greater speed than the other, in combination with a device for checking the cylinder having the faster movement. 7th. The two cylinders having slightly different speeds of revolution, in combination with a latch, operated by an electro-magnet for checking the cylinder having the faster move-