

No. 13,936. Improvement on the Method of Producing Rotary Motion. (*Perfectionnement dans la méthode de produire le mouvement rotatoire.*)

John J. Read, Dublin, Ireland, 2nd January 1882; for 5 years.

Claim.—The method of converting reciprocating and alternating rectilinear motion into continuous rotary motion by the arrangement of cog wheels, pulleys or drums combined with ratchet wheels, pawls, springs and rack frames.

No. 13,937. Improvement on Toe Calks for Horse Shoes. (*Perfectionnement aux pinces des fers à cheval.*)

Peter Routledge, King, Ont., 2nd January, 1882; for 5 years.

Claim.—The addition of a piece of iron at the inner angle formed by the intersection of the calk and shoe, and the welding of the same to the calk and shoe.

No. 13,938. Improvements on the Process of Manufacturing Food or Beverages Containing, or Formed in Part of Coffee. (*Perfectionnements dans le procédé pour préparer des aliments ou breuvages contenant du café, ou composés en partie de café.*)

Arthur Conroy and Michael Conroy, Liverpool, Eng., 2nd January, 1882; for 5 years.

Claim.—1st. The process of manufacturing a coffee mixture consisting in taking malt and coffee, roasting them, grinding them and mixing them one with another before, during or after the roasting or grinding. 2nd. As a new article of manufacture, a combination of coffee and of malt roasted in a similar manner and extent to that in which coffee is roasted.

No. 13,939. Improvements on Injectors.

(*Perfectionnements aux injecteurs.*)

Wallace E. McDonald, Sandy Lake, Pa., U.S., 2nd January, 1882; for 5 years.

Claim.—1st. The combination, with the steam and water tubes, of regulating or grading valve. 2nd. The stem valve *d* combined with the steam and water tubes *a b*.

No. 13,940. Improvements on Means of, and Apparatus for Increasing the Illuminating Power of Coal Gas. (*Perfectionnements aux moyens d'augmenter la puissance d'éclairage du gaz de houille, et aux appareils pour cet objet.*)

John McDonald, London, Eng., 2nd January 1882; for 5 years.

Claim.—1st. Constructing a carburetter in such a way that only a small proportion of the carburetting material contained therein shall be exposed at one time to the action of the gas. 2nd. In combination with the carburetter, a heating coil of equivalent means for heating the carburetted gas. 3rd. Heating the coal gas before being carburetted, and causing it to enter the carburetter hot, in combination with the retort for heating the carburetted gas. 4th. Passing carburetted coal gas through an absorbent material.

No. 13,941. Improvements on Wire Staples.

(*Perfectionnements aux crampes en fil métallique.*)

Patrick Dunn and Thomas Harris, Cote-St. Paul, Que., 2nd January, 1882; for 5 years.

Claim.—1st. As an improved article of manufacture a wire staple having the crown or head depressed or indented. 2nd. A wire staple formed by bending the wire rectangularly, depressing the head or crown and pointing the ends by a bevelled cut, one of which points its end inwardly.

No. 13,942. Improvements in Fire proof Compositions. (*Perfectionnements dans les composés réfractaires.*)

Charles C. Gilman, Hardin County, Iowa, U.S., 2nd January, 1882; for 5 years.

Claim.—A composition of matter to be used for fire-proofing and other purposes, consisting of kaoline clay, free from sand or sandy-clay, and resinous saw-dust prepared with water, machine pressed, dried, burned, and subsequent to firing, sawed or wrought with edge tools.

No. 13,943. Improvements on Cancelling Stamps. (*Perfectionnements aux timbres à maculer.*)

Leonard Tilton, Brooklyn, N. Y., U.S., 2nd January 1882; for 5 years.

Claim.—The means for sustaining and obtaining universal movement consisting of the stamp carrying arm *l* provided with rollers *n*, the hub *a* provided with the arms *h i* and rollers *i i*, and the swivelling standard *c* carrying the hub.

No. 13,944. Improvements in Gas Motor Engines. (*Perfectionnements aux machines à gaz.*)

Augustin Fiddes, Bristol, Eng., 2nd January, 1882; for 5 years.

Claim.—1st. The use of the slide or piston valve *F* made to work in the cylinder *A* in such a manner as to fully compress the charge, by travelling in the same direction as the piston *B*, and to maintain the charge so compressed up to time of firing. 2nd. The arrangement of parts in the cylinder *A*, in combination with the slide or piston valve *F* working therein, whereby the said slide or piston valve is made to admit the gas and air at the proper time for acting on the piston *B*, so that the engine may be worked without a separate external slide valve. 3rd. The admission and employment of a small quantity of water in the cylinder *A* at the time of firing, so as to be converted into steam and act expansively. 4th. The combination of parts shewn and employed for firing the charge. 5th. The respective combination of parts constituting improvements in the gas motor engine.

No. 13,945. Improvements in Chain Belts.

(*Perfectionnements aux courroies chaînes.*)

James M. Dodge, Chicago, Ill., U. S., 2nd January 1882; for 5 years.

Claim.—A drive belt adapted to engage with a wheel having metallic or other rigid tapering peripheral bearing surfaces, said belt having tapering lugs which form bearing surfaces corresponding in taper to the taper of the peripheral bearing surfaces of the wheel, for which the belt may be designed, and each made of such a width (or extent in the direction of the length of the belt) relatively to the wheel as to practically come in contact, throughout the whole extent of its bearing surfaces with the peripheral bearing surfaces, of said wheel.

No. 13,946. Improvements on Nut Locks.

(*Perfectionnements aux arrête-écrous.*)

James A. Soley, Winnipeg, Man., 2nd January, 1882; for 5 years.

Claim.—1st. The combination of the two straight locking plates *B B* fitted with the oblong holes *E* to admit of expansion, and contraction of the rails and provided with the transverse bars *H H H H* on the inner sides. 2nd. The combination of two locking bolts similar to *C* that passes through the holes *D D* in the outer fish-plate, which bolts have heads that countersink flush with the inner side of the plate and pass through the plates *B B*, securing them with the collar *G* and the spring or other key *F*.

No. 13,947. Improvements in the Construction of Rolling Stock for Railways. (*Perfectionnements dans la construction du matériel roulant des chemins de fer.*)

Auguste Estrade, Perpignan, France, 2nd January, 1882; for 5 years.

Claim.—1st. In the rolling stock of railways, a frame within which the body of the vehicle, engine or tender is suspended by springs or their equivalents, and which in its turn is supported by other springs upon the wheels. 2nd. A locomotive engine having its body suspended by springs within a frame that is carried by other springs upon the wheels, the rollers *f* carried by the said frame and bearing against rails or ribs *e* on the body. 3rd. A locomotive engine having its body suspended by springs within a frame that is carried by other springs upon the wheels, the connection of the cylinders *A* with the body *A* by means of the plate *E* and frame *F*.

No. 13,948. Improvement on Lighting Apparatus. (*Perfectionnement des appareils d'éclairage.*)

William Wheeler, Concord, Mass., U. S., 2nd January, 1882; for 5 years.

Claim.—1st. The holophote consisting of the prolate ellipsoidal reflector *B*, convex levers *F* and concave lens *G*. 2nd. The combination of the hemispherical reflector *K* with the reflector *B* and the lenses *F G*. 3rd. The combination of the ring *H* provided with glass disks, the spaces between said disks being filled with an athermanous liquid, or the latter and a fluorescent liquid arranged between such disks with the holophote consisting of the reflector *B* and the lenses *F G*. 4th. The holophote *B* and reflector *K* provided with the interchangeable connecting hinges *d e* and pin *f*, such admitting of the reflector being removed from the holophote in order for the latter to be connected with another holophote. 5th. The combination of the holophote constructed of the reflector *B* and lenses *F G*, with tubes having inner reflecting surfaces. 6th. The combination of a holophote constructed of the reflector *B* and lenses *F G*, with one or more tubes having inner light reflecting surfaces, and with one or more reflecting prisms arranged in such tube or tubes and to reflect light into or through such as explained. 7th. The combination of the hemispherical reflector *K* provided with the sight hole *g*, with the holophote consisting of the reflector *B* and the lenses *F G*. 8th. A light transmitting tube consisting of a tube of glass, a metallic reflecting coating encompassing its outer surface and a circumscribing coating of asphalt or varnish, and an additional metallic coating surrounding the asphalt or varnish coating. 9th. The combination of the covered tubular couplings *L* with a series of prisms bevelled on their ends and with a compression block and binding screws arranged with such couplings and prisms. 10th. The combination of a covered tube *L* provided with openings on its sides with one or more reflecting prisms arranged in such openings. 11th. In two light reflecting prisms or sets of such, arranged and provided with a passage in or between them for the transmission of light. 12th. The combination of the adjustable tube *U* provided with one or more lateral openings and means of adjusting it, and with one or more reflectors or prisms with an encompassing tube *T* and one or two lateral passages or branch tubes *M* *M* leading from such tube *T*. 13th. The combination of a series of reflecting prisms arranged above a common axis, with a main tube having its axis in prolongation, with the axis of the prisms and with a series of branch tubes extending from the prisms. 14th. The combination of a light dispenser *Y* with a tube *z*, for transmitting light in a pencil or beam of rays to such dispenser. 15th. The combination, with a light transmitting tube, of a series of curved light reflecting branches arranged with such light transmitting