

inclined sides, and the wedge shaped block E, formed along its inner edge or face with a recess to embrace the shaft and upon its other or outer face with a longitudinal wedge shaped recess, and the double dovetailed holding piece G, substantially as and for the purpose specified.

No. 34,479. Lemon Squeezer.

(*Pressoir à citron.*)

Cornelius Chambers, Birmingham, Eng., 7th June, 1890; 5 years.

Claim.—1st. The improvements in lemon squeezers hereinbefore described and illustrated by the accompanying drawings, which consist in the employment of a roll or sector mounted so as to be capable of angular movement, in combination with a curved or flat surface fixed a short distance therefrom, and with or without a spring or springs for pressing the roll or sector towards the said flat or curved surface, these parts being so arranged that, when a lemon is inserted between the roll or sector and the flat or curved surface and the roll or sector is turned the lemon will be rolled around and squeezed between the said surface of the roll or sector, substantially as and for the purpose set forth. 2nd. The combination and arrangement of parts constituting the improved lemon squeezer hereinbefore described. 3rd. The combination and arrangement of parts constituting the improved lemon squeezer hereinbefore described.

No. 34,480. Tubular Lantern.

(*Lanterne tubulaire.*)

Alfred L. Baron, Findlay, Ohio, U.S., 7th June, 1890; 5 years.

Claim.—1st. A new article of manufacture consisting of a tubular lantern provided with a pivoting grip and with a globe supporting frame hinged to said guard, substantially as and for the purposes set forth. 2nd. A tubular lantern provided with a guard secured to pivoting arms, and a globe supporting frame hinged to said guard substantially as described and for the purposes set forth. 3rd. A tubular lantern provided with a guard pivoted within side tubes, and a globe supporting frame hinged to said guard provided with shoulders *j*, adapted to engage with said guard, for the purpose set forth and described. 4th. A tubular lantern provided with a guard pivoted within side tubes, and a globe supporting frame hinged to said guard provided with shoulders *j*, adapted to engage with said guard and with the thumb piece *k*, for the purpose set forth substantially as described.

No. 34,481. Journal for Vehicles.

(*Fusée d'essieu de voiture.*)

Pierre Dansereau, Montreal, Que., 7th June, 1890; 5 years.

Claim.—1st. In combination, a vehicle axle *B* having grooves *a*¹, *b*, *c*, collars *G* and *H* having grooves *h* and *h*¹, collar *H* having aperture *m*, of sand band *F* having flanges *g*² and *f*, of washers *g*¹ and *g*², and of means for securing the sand band to the hub, substantially as and for the purpose hereinbefore set forth. 2nd. In combination, sand band *F* formed as described of nipple and plug *i*, *i*¹, substantially as set forth. 3rd. In combination half spiral headed pin *d*¹ passing through spiral spring *d*², fitting into a cavity *d* in the end of the axle at *D*, of the end head nut or cap *E* and of axle box *C*, substantially as and for the purposes hereinbefore set forth.

No. 34,482. Potato Digger. (*Arrache-patates.*)

Hiram D. Binkley, Dundas, Ont., 7th June, 1890; 5 years.

Claim.—1st. In a machine for digging potatoes, the share *H* formed flat or slightly hollow for the purpose of better feeding and preventing the earth from spreading under the wheels, substantially as specified. 2nd. In a machine for digging potatoes, the pickers *K* formed with webbed fingers, as shown at *a*¹ Fig. 4, to prevent potato stalks from winding substantially as described. 3rd. In a machine for digging potatoes, the projecting tubes, hubs *a* formed on the centre of the pickers, and with clutch devices by which they can all be clutched together to revolve, substantially as described. 4th. In a machine for digging potatoes and in combination with the picker shafts *I*, *J*, of the solid wheels *L* placed on the said shafts with the pickers, substantially as and for the purpose described. 5th. In a machine for digging potatoes, the arrangement of a pronged hook *V* driven by a crank or otherwise, and made to operate over the pickers for pulling potato tops and weeds over said pickers, substantially as described. 6th. In a machine for digging potatoes, in combination with the share of the bars *e*, having their inner ends bent at right angles and laid in a corresponding hollow of the projection *g* at the rear end of the share, for greater convenience in removing and replacing them when broken, substantially as described. 7th. In a machine for digging potatoes, the vibrator *W* in combination with the pickers and share, substantially as specified.

No. 34,483. Method of Making Burial Caskets. (*Mode de fabrication des cercueils.*)

Louis Dupont, Pont Rouge, Que., 7th June, 1890; 5 years.

Claim.—The method herein described, which consists in pressing the wood pulp in a suitable mold, the said mold being provided with a core having numerous perforations on its surface, and these perforations being connected by means of an interior chamber having an outlet, substantially as and for the purpose set forth.

No. 34,484. Journal Bearing.

(*Coussinet de tourillon.*)

Marion A. Andrews, Syracuse, N.Y., U.S., 7th June, 1890; 5 years.

Claim.—1st. A sectional journal casing, an endless trackway within it, a central ring having endless trackways upon its inner and

outer faces, and groove rollers travelling upon the trackway within the casing and upon the outer face of the ring, in combination with an axle grooved to fit over the trackway within the ring and passing loosely through the ring as set forth. 2nd. A friction ring having an endless trackway within it, an endless trackway around its exterior, an axle grooved to fit upon the trackway within the ring, an exterior casing, and an endless trackway within it, grooved rollers fitting over the external trackway upon the ring and the internal trackway of the said casing, and annular rings carrying separate arbors for the grooved rollers, in combination, as set forth. 3rd. A journal bearing comprising an external casing having an internal trackway, grooved rollers mounted upon separate arbors, rings supporting said arbors, antifriction washers upon said arbors, the grooved shaft and the central ring having internal and external trackways, and a bore of larger diameter than the axle, as set forth.

No. 34,485. Gas or Gaseous Mixture usable as an Explosive and in the Production of Light, Heat and Power. (*Gaz ou mélange gazeux propre à produire un explosif, la lumière, la chaleur et la force.*)

Edwin Tatham, Balmain near Sydney, N.S.W., 7th June, 1890; 5 years.

Claim.—1st. An improved explosive gas manufactured by charging oxygen with hydrogen and carbon preferably by passing oxygen through or over liquid hydro-carbon or by mixing hydro-carbon gas and oxygen, substantially as herein described and explained. 2nd. Improved gas or gaseous mixtures for use in the production of light, heat and power, manufactured by mixing my carburated oxygen with hydro-genous or hydrocarbon gas or gases, or with carburated water gas, or for heating purposes alone with hydrogen or water gas, substantially as herein described and explained. 3rd. Improved gas or gaseous mixtures for use in the production of light, heat and power, consisting of oxygen and hydrogen, either or both of which before admixture are carburated or charged with hydro-carbon or consisting of oxygen and hydrogen mixed and the product carburated, substantially as herein described and explained.

No. 34,486. Hydrogenous and Hydro Carbon Gas or Gases, and Gaseous Mixture, and the Manufacture Thereof. (*Gaz hydrogène et l'hydro-carbone, et mélange gazeux, et leur fabrication.*)

Edwin Tatham, Balmain near Sydney, N.S.W., 7th June, 1890; 5 years.

Claim.—1st. The improvement, in hydrogenous or hydro-carbon gas or gases, or gaseous mixtures, consisting in the admixture therewith during or after manufacture of oxygen or carburated oxygen, substantially as herein described and explained. 2nd. The improvement, in the manufacture of hydrogenous or hydro-carbon gas or gases, and specially in coal gas, consisting in the admixture therewith during manufacture, and preferably as the said gases issue from the carbonizers or retorts, of oxygen or carburated oxygen, substantially as herein described and explained. 3rd. The improvement, in the manufacture of hydrogenous or hydro-carbon gas or gases, and specially in coal gas, consisting in first producing a dense gas or gas rich in carbon by retorting or carbonizing at a comparatively low temperature, and then adding oxygen or carburated oxygen to the same, preferably while said gas is still hot, substantially as herein described and explained. 4th. The improvement, in the manufacture of hydrogenous or hydro-carbon gas or gases, and specially of coal gas, consisting in converting tar and other similar residual hydro-carbons produced or deposited in said manufacture into gas or vapour, and adding to said gas or vapor while still hot oxygen or carburated oxygen, substantially as herein described and explained.

No. 34,487. Internal Combustion Thermo-motor. (*Thermo-moteur à combustion interne.*)

James Hargreaves, Farnworth, Eng., 7th June, 1890; 5 years.

Claim.—1st. In internal combustion thermo-motors, the combination of a working cylinder fitted with a metallic liner, a combustion chamber cast in one piece with such cylinder and having its sides lined with fire brick, a jacket surrounding said cylinder and chamber, a regenerator partially outside of and partially within said jacket, a passage between said combustion chamber and regenerator, an injector adapted to force liquid fuel into said passage, a piston faced with steel plates and adapted to work in said cylinder, one or more lubricators carried by said piston and adapted to lubricate same, means for scraping the side surfaces of said piston in its movement, an air pump cylinder and piston, connection between said pistons, suitable crank shaft, bearings for same, and connecting rod, communicating ways between said air pump and jacket and between this latter and the regenerator, admission and exhaust valves with means for operating same, suitable outlet or uptake from exhaust valve for products of combustion, passing through air supply way, and a suitable governor adapted to operate a throttle valve in said air supply way, all as shown and described. 2nd. In thermomotors, the combination of a regenerator and water jacket, substantially in the manner and for the purpose set forth. 3rd. In thermomotors having a combustion chamber and a regenerator possessing a main charging door, a supplementary charging hole to said regenerator through which loose pieces of refractory material may be passed to avoid opening the said main charging door of same, all constructed as shown and described. 4th. In thermomotors having a combustion chamber and a regenerator with a communicating passage, the combination therewith of an injector adapted to force