

mechanical connection with the air pump, an oil reservoir connected to the feed pumps, a supplementary air pump connected into the top of said reservoir, and a dissoluble drive connection between said pump, and the winding mechanism of the motor, substantially as described. 6th. In an apparatus for carbureting air, the combination of an air pump and actuating motor automatically controlled by the pressure of the air in the carburetor, a carburetor from which the carbureted air is directly supplied to the burners, and an oil feeding device consisting of a suitable pump actuated by the motor under the control of the air pump, inlet and outlet connections from said pump communicating respectively with a supply tank and with the carburetor, induction and eduction valves in said pump connections also actuated by the motor under the control of the air pump, and a supply tank from which the oil is automatically supplied to the feed pump by compressed air on top of the oil in the supply tank, substantially as described. 7th. In an apparatus for carbureting air, the combination with a carburetor, of compressed air and oil feeding devices connecting into the bottom and top of said carburetor respectively, of a motor adapted to intermittently operate said device under the control of the pressure of air in the carburetor, and a supply tank for such feeding device in which the oil is maintained under an air pressure by an independent air compressing device, substantially as described. 8th. In an apparatus for carbureting air, a carburetor consisting of a cylindrical casing, a vertical series of perforated conical disks fitted within said casing alternately reversed, and alternately perforated in the center and near the edge, and of an aperture or raised flange formed around the edge of such disks having their perforations near the edge, substantially as described. 9th. In an apparatus for carbureting air, the combination with the carburetor, of the rotary air compressor and its motor, the winding drum of said motor journaled in line with the shaft of said air compressor and having a ratchet and pawl connection therewith, the winding crank on the shaft of the winding drum, the two single acting pumps, an induction and eduction chamber communicating with a supply tank and with the carburetor respectively and also communicating with the induction and eduction ports of the pumps through intermediate connections controlled by induction and eduction valves, a shaft driven by intermediate gearing with the shaft of the winding drum and provided with two adjustable cranks for actuating the pumps and with cams or their equivalents for actuating the valves of said pumps, and a supply tank provided with an independent air compressor for forcing air into the top of the tank all arranged to operate, substantially as described.

No. 36,034. Accumulator for Electricity.

(*Accumulateur électrique.*)

Gustave Adolphe Drolet, Montreal, Quebec, Canada, 23rd February, 1891; 5 years.

Résumé.—10. Une batterie accumulatrice dont les cadres des éléments sont composés de charbon ou plomb, tel que décrit pour les fins sus-mentionnées et disposées horizontalement. 20. Dans une batterie accumulatrice avec cadres de charbon une pâte de matière active de sels organiques de plomb ou leur équivalent et d'huile siccatrice végétale ou son équivalent dans les proportions et tel que décrit pour les fins sus-mentionnées et perforées. 30. Dans une batterie accumulatrice un bain de formation composé de solution saturée de sulfate alcalin 1 partie acide-sulfurique au soufre F parties eau douce 13 parties dans les proportions décrites pour les fins sus-mentionnées. 40. Dans une batterie accumulatrice le remplissage du bain de sulfates alcalins par de l'eau acidulée dans les proportions décrites et l'action du courant tel et pour les fins sus-mentionnées. 50. Dans une batterie accumulatrice le procédé d'éviter l'alteration tel que décrit et pour les fins sus-mentionnées.

No. 36,035. Method of Burning Liquid Fuel.

(*Foyer à combustible liquide.*)

Harvey Klapp Frazier and Warren Mar Abbott, both of Boston, Massachusetts, U.S.A., 23rd February, 1891; 5 years.

Claim.—1st. The improved method of utilizing liquid fuel, the same consisting in mingling therewith a chemical solution consisting of nitrate of soda, sal nitre, salt, and water in the proportion hereinbefore stated, and burning the mixture either in the form of spray in the presence of air or in the form of gas or vapor produced by the disintegration of said materials in an externally heated retort, as set forth. 2nd. The compound, consisting of hydro-carbon oil, nitrate of soda, sal nitre, salt, and water, commingled substantially in the proportions, in the manner, and for the purpose set forth.

No. 36,036. Trap for Rats. (*Ratière.*)

George James Frost and George Dickson, both of Toronto, Ontario, Canada, 23rd February, 1891; 5 years.

Claim.—A wire rat-trap, with only one movable or hinged jaw, operated by a spiral spring, wound round the cross-pieces of the frame-work, as described in the specification.

No. 36,037. Ladder. (*Echelle.*)

David L. Osborn, David G. Blair and Emerson S. Northup, all of Kansas City, Missouri, U.S.A., 23rd February, 1891; 5 years.

Claim.—1st. In an aerial ladder, a frame-work mounted upon a suitable wheeled truck, consisting of the fixed or stationary parallel side bars, the lateral extensions or ears *b*, *b'*, thereof and cylindrical bars journaled thereon, the hand wheel *M*, the said bar being provided with right and left-hand screw threads, substantially as described. 2nd. In an aerial ladder, the combination of the frame-work *B*, mounted on a suitably wheeled truck of a frame work *N*,

provided with the laterally-extending ears *n*, connected by the cylindrical bar *O*, through the medium of the frames *Q*, pivoted together at their middle, and pivotally engaging and enclosing at their upper and lower ends respectively the depending and upwardly extending ears *p* and *z*, of the collars *P* and *S*, engaging the rod *O* and the worm bar *L* respectively, substantially as described. 3rd. In an aerial ladder, the combination, with a frame *N*, connecting with a stationary frame *B*, through the medium of the pivotal frames *I*, engaging collars *P* and *S*, adapted to travel upon longitudinal side bars *h* and *n*, provided at its rear end with the transverse worm bar *T*, of a pivotal frame *A'*, substantially as described. 4th. In an aerial ladder, the combination of the frame *A'*, consisting of the ears *B'*, thereof, pivotally engaging and enclosing the forward ends of said bars, of frames *N*, the cross bar *Y* and the longitudinal slots *V'*, in the inner bars *Z*, substantially as described. 5th. In an aerial ladder, the combination, with the frame work carrying the extension ladder, and adapted to be inclined forwardly by means of frame *W*, constructed on the lazy tong principle through the impulse derived from the worm bar *T*, substantially as described. 6th. In an aerial ladder, the mechanism for throwing or inclining the ladder to either side desired by the pivotal frames *Q*, adapted, when operated by hand wheel *M*, to vertically expand on the lazy tong principle, substantially as and for the purpose set forth. 7th. In an aerial ladder, the mechanism for throwing or inclining the ladder, both vertically and to either side by the operation of the pivotal frame *W*, and the pivotal frame *Q*, on the opposite side to the direction the ladder is desired to assume, substantially as described. 8th. The combination of a series of frames pivoted together on the lazy tong principle, having pivotally engaged between their upper and lower ends the collars adapted to travel towards or from each other, according to the direction in which the actuating or worm bar revolves, substantially as described. 9th. In an aerial ladder, the combination with the stationary frame *B*, of the frame *N*, adjustable by means of the pivotal frame *Q*, the frames *A'*, connected at its forward end and carrying the ladder, constructed on the lazy tong principle, substantially as and for the purpose set forth. 10th. 10th. The combination, with a truck mounted upon wheels, with an aerial ladder, consisting of the frames forming the three parallel and adjacent ladders *K*, *L*, and *M*, the bars thereof composed of the bars joined together on the lazy tong principle and having the rounds or bars thereof connecting said frames, substantially as described. 11th. In an aerial ladder, the combination of the side frames composed of bars joined together on the lazy tong principle, having rounds or bars thereof connecting said frames with chair secured thereon, substantially as and for the purpose set forth. 12th. In an aerial ladder, the combination of a supporting frame and a worm bar actuated by a hand wheel, and meshing cogs with a cross-bar connecting the lower end of rear frame of ladders *L'*, substantially as described. 13th. In an aerial ladder, the combination with a cross-bar actuated by a worm bar and hand-wheel of a ladder constructed on the lazy tong principle, substantially as described. 14th. In an aerial ladder, the combination, with a chair having slots in the side bars, of the cross-bar or rear arm, of upper ladders *B'* and *M'* adapted to slide in said slot and the permanent pivotal cross-bar *Y*, connecting the forward lever arms in horizontal alignment with said slots, substantially as described. 15th. In an aerial ladder, the combination with a cross bar, having cylindrical ends, of a rear or actuating pair of curved arms, provided with slots, the direction of which is parallel with the direction of said curved arms, said slots engaging on cylindrical ends of cross-bar as the ladder is elevated or lowered, substantially as described. 16th. In an aerial ladder, the chair at the upper end, the platform thereof, the trap door hinged in the opening of said platform, and the railing or guard erected above said platform and provided with a hinged bar or gate, substantially as and for the purpose set forth.

No. 36,038. Combination Tool.

(*Outil à combinaison.*)

The Keystone Manufacturing Company, assignees of Charles Henry Myers, all of Buffalo, New York, U.S.A., 23rd February, 1891; 5 years.

Claim.—1st. A wrench, having an aperture in its head, and provided with sliding jaws, in combination with a tool-holder having flattened sides with which said jaws engage, and a cylindrical shank projecting through the head of the wrench. 2nd. A wrench, having an aperture in its head, and provided with sliding jaws, in combination with a tool-holder having flattened sides, and shoulders with which said jaws engage, a cylindrical shank projecting through the head of the wrench, and a sleeve engaging said shank. 3rd. A wrench, having an aperture in its head, and provided with sliding jaws, in combination with a tool-holder passing through the head of the wrench, and having flattened sides with which said jaws engage, a cylindrical screw-threaded shank, and an internally screw-threaded feed sleeve or nut.

No. 36,039. Wrench for Nuts and Pipes.

(*Clé à écrou et à tuyau.*)

William Bailey Townsend, Selina Jones and Solomon George McGill, all of Toronto, Ontario, Canada, assignees of James Harvey Craig, Denver, Colorado, U.S.A., 23rd February, 1891; 5 years.

Claim.—1st. A combined nut and pipe wrench, having a stationary upper jaw and an adjustable lower jaw, having a groove running on a tongue formed on the main portion, the said jaw being connected by a clevis to the main portion, which clevis is supported by a spring and has a dog within its upper end to engage with ratchet teeth formed on the back of the main portion of the wrench, substantially as and for the purpose specified. 2nd. A combined nut and pipe wrench, having a stationary upper jaw and a concave recess formed below the upper jaw, in combination with an adjustable lower jaw having the outer portion of the upper end extending slightly upwardly, and the inner portion of the upper end slightly concaved, substantially as and for the purpose specified. 3rd. A