

**Claim.**—1st. The improvement in the art of converting heat energy into electrical energy, as hereinbefore described, which consists in imparting heat energy to a liquid containing conducting bodies, and thereby causing a development of chemical and electrical energy. 2nd. The improvement in the art of converting heat energy into electrical energy, which consists in imparting heat energy to a liquid containing conducting bodies, and thereby causing a development of chemical energy and electrical energy, the said electrical energy being substantially coextensive with the heat energy imparted. 3rd. The improvement in the art of converting heat energy into electrical energy, which consists in imparting heat energy to a liquid containing two separate conducting bodies, and thereby causing a development of chemical energy between said liquid and one of said conducting bodies corresponding to the heat energy so imparted. 4th. The improvement in the art of converting heat energy into electrical energy, which consists first in combining a liquid, and unimposed therein separate conducting bodies, the chemical affinities of the elements of which liquid are mutually satisfied at or below a certain temperature, at which temperature the liquid is substantially without action on the conducting bodies, and, second, applying heat to said liquid, whereby the same is decomposed and an element thereof liberated, which element chemically reacts on one conducting body, and so generates an electrical current in a circuit including said conducting bodies and a liquid. 5th. The process of regenerating a spent or exhausted galvanic cell, in which electricity has been generated by the action of heat on the contents of said cell, which consists in abstracting heat from the liquid in said cell. 6th. An apparatus for converting heat energy into electrical energy, containing the combination of a vessel, two bodies of conducting material and a liquid, the said bodies and liquid being in said vessel, and a means of heating said liquid, the said liquid at normal temperature being substantially without action on either of said bodies, but when heated capable of chemically reacting on one of said bodies, and so generating an electrical current in a circuit including said bodies and liquid, substantially as described. 7th. An apparatus for converting heat energy into electrical energy containing the combination of a hermetically closed vessel, two bodies of conducting material and a liquid, the said liquid and bodies being in said vessel, and a means of heating said liquid, the said liquid at normal temperature being substantially without chemical action upon either of said bodies, but when heated capable of chemically reacting upon one of said bodies, and so generating an electrical current in a circuit including said bodies and liquid, substantially as described. 8th. An apparatus for converting heat energy into electrical energy, containing the combination of a vessel, a solid body of conducting material, a body of conducting material in comminuted form, and a liquid, the said bodies and liquid being in said vessel, and a means of heating said liquid, the said liquid at normal temperature being substantially without chemical action on either of said bodies, but which liquid, on being heated, chemically reacts on said comminuted body, so generating an electrical current in a circuit including said bodies and liquid, substantially as described. 9th. An apparatus for converting heat energy into electrical energy, containing the combination of a vessel, a solid body of conducting material, a body of conducting material in comminuted form, a body of conducting material in comminuted form, and with one circuit terminal and a liquid, the said bodies and liquid being in said vessel, and a means of heating said liquid, the said liquid on being heated chemically reacts on said comminuted body, so generating an electrical current in a circuit including said bodies and liquid, substantially as described. 10th. An apparatus for converting heat energy into electrical energy, containing the combination of a vessel, a solid body of conducting material, a body of conducting material in comminuted form, a means for preventing contact between said bodies and a liquid, the said bodies and liquid being in said vessel, and a means of heating said liquid, the said liquid at normal temperature being substantially without action on either of said bodies, but which liquid, on being heated, chemically reacts on said comminuted body, so generating an electrical current in a circuit including said bodies and liquid, substantially as described. 11th. In an apparatus for converting heat energy into electrical energy, the combination of a vessel A, carbon body G, plate C of conducting material, a mass of pulverized metallic tin in contact with said plate, circuit connections and a liquid consisting of a solution of chromic chloride, the said liquid and tin being contained in said vessel, and a means of heating said liquid, substantially as described. 12th. In an apparatus for converting heat energy into electrical energy, the combination of a vessel A, carbon plate G having a porous envelope H, carbon plate C, a mass of pulverized metallic tin in contact with said plate, circuit connections and a liquid consisting of a solution of chromic chloride, the said liquid and tin being contained in said vessel, and a means of heating said liquid, substantially as described. 13th. In combination with an apparatus for converting heat energy into chemical and electrical energy, a receptacle adapted to receive said apparatus containing a substance having a boiling point not exceeding 212 degrees Fahrenheit (under ordinary conditions), and a means of heating said substance, substantially as described. 14th. In combination with an apparatus for converting heat energy into electrical and chemical energy, an open receptacle adapted to receive said apparatus and containing water, and a means of heating said water, substantially as described. 15th. In an apparatus for converting heat energy into electrical energy, substantially as set forth, a metal element in comminuted form combined with mercury. 16th. In an apparatus for converting heat energy into electrical energy, substantially as set forth, a liquid from which metal is precipitated and mercury placed to receive said precipitate. 17th. In an apparatus for converting heat energy into electrical energy, substantially as set forth, the combination of the vessel A, containing chromic chloride liquid and supported therein, the tray E containing mercury, and tin amalgam, carbon plate G and circuit connections.

**No. 24,862. Railway Car-Coupler.***(Attelage de Chars de Chemin de Fer.)*

William H. Whiteside, Sandwich East, Ont., 3rd September, 1886; 5 years.

**Claim.**—A car-coupling having spring I, pin D, spring barrel C,

cap G, latch bar or slide B, bolt R, which passes through the slot in it, springs F, F all arranged and combined substantially as described for the purpose hereinbefore set forth.

**No. 24,863. Cast Metal Pulley or Wheel for Harvesting Machines, etc. (Poulie ou Roue en Fonte pour Moissonneuses, &c.)**

The Massey Manufacturing Company, Toronto, Ont., (assignee of William N. Whitely, Springfield, Ohio, U. S.), 3rd September, 1886; 5 years.

**Claim.**—1st. A wheel for harvestors and other purposes, constructed of cast metal, having the rim divided in one or more places, with the ends diverging from the circle of the wheel, and under permanent stress by being forcibly bent and held in position coincident with said circle, substantially as described and for the purposes specified. 2nd. A pulley or other wheel having a plain face and constructed of cast metal, having the rim divided in one or more places, with one end of greater, and the other end of less radius than the circle of the wheel, and under permanent stress by being forcibly brought together and secured, substantially as described and for the purposes set forth.

**No. 24,864. Sliding Door Latch.***(Loquet de Porte en Coulisse.)*

James T. Gordon, John H. Hamilton and Samuel Barrett, Concord, N. H., U. S., 3rd September, 1886; 5 years.

**Claim.**—1st. In a sliding door-fastening, the combination, with an eye plate secured to the door, of a swivelled latch having a perforated finger adapted to automatically enter the eye in said eye plate, while said door is sliding shut, and a rotary dog pivoted to the latch-housing and adapted to automatically fall against a shoulder formed upon said swivelled latch, and secure said locking mechanism, substantially as and in the manner set forth. 2nd. In a car door fastening, the combination, with the housing, of the cap-piece having perforated ears, the swivelled latch provided with a perforated ear adapted to be swung up by the latch between the ears of said cap-piece, to form a coincident opening for the seal-wire and the pivoted weighted dog for holding up said latch, as set forth. 3rd. A device for fastening car-doors consisting of the housing E, the pivoted weighted dog H, the swivelled latch F provided with shoulder J, perforated finger f and perforate ear j, the eye-plate D and the plate-piece E, having ears e, c, perforated to form a coincident opening with that in the ear j of the latch F, or the ear h of the arm H, for receiving the seal-wire, as set forth.

**No. 24,865. Double-Acting Rotary Gig.***(Laineuse Rotatoire à Double Action.)*

John Shearer, Proton, and Hour, W. Karoh, Hespeler, Ont., 3rd September, 1886; 5 years.

**Claim.**—1st. A gig having a frame constructed so as to completely enclose the feasible-cylinder, substantially as and for the purpose specified. 2nd. A gig in which the feeding-rollers are driven from the main shaft of the machine by a system of bevel-gear, substantially as and for the purpose specified. 3rd. The spindle G, journaled in brackets on the frame A, and driven from the shaft G by the spur-pinions H, spur-wheel L and bevel-pinions N and U, in combination with the bevel-pinions P, situated at one end of the shaft G, and arranged to mesh with the bevel-pinions P, on the end of the spindle of the feed-roller a, substantially as and for the purpose specified. 4th. The spindle G journaled in brackets on the frame A, and driven from the shaft G by the spur-pinions H, spur-wheel L and bevel-pinions H and U, in combination with the bevel-pinion I, situated at the other end of the shaft G and arranged to mesh with the bevel-pinion a, on the end of the feed-roller C, substantially as and for the purpose specified. 5th. A lever P having a forked end q, arranged to fit into a recess in the collar r, substantially as and for the purpose specified. 6th. A friction strap R passing over the pulley Q, on the end of the roller a or b, and connected to the jaws of the lever S, in combination with the thumb-screw t, arranged to adjust the lever S on the quadrant T, substantially as and for the purpose specified.

**No. 24,866. Middlings Purifier.***(Epurateur des Gruaux.)*

James Huxtable, Horning's Mills, Ont., 3rd September, 1886; 5 years.

**Claim.**—1st. In a sieve provided with a brush or bar for cleaning its surface, the combination of a device arranged to withdraw the brush or bar from the surface at certain prearranged intervals, substantially as and for the purpose specified. 2nd. A pivoted knocker G, in combination with travelling brushes B, substantially as and for the purpose specified.

**No. 24,867. Bed Spring. (Resort de Sommier.)**

Samuel K. Butterfield, Swanton, Vt., U. S., 3rd September, 1886; 5 years.

**Claim.**—A connecting-link for bed-springs consisting of a single piece of wire, bent to form the three curves E, D E, overlapping and crossing one another, as shown, and having the corners of said overlapped and crossed parts turned down, to form the loops H in planes, at right angles to the horizontal oblong loops F, as and for the purpose herein shown and specified.

**No. 24,868. Shaving Apparatus.***(Appareil pour Raser.)*

Andrew Partridge and Dennis F. Sweeney, Springfield, Mass., U. S., 3rd September, 1886; 5 years.

**Claim.**—1st. The within-described improved shaving apparatus