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CONTENTS.

Notice of Acceptance of Complete Specifications.

Patent Office,
Wellington, 28th May, 1902.

COMPLETE specifications relating to the undermentioned applications for Letters Patent have been accepted, and are open to public inspection at this office. Any person may, at any time within two months from the date of this *Gazette*, give me notice in writing of opposition to the grant of any such patent. Such notice must set forth the particular grounds of objection, and be in duplicate. A fee of 10s. is payable thereon.

No. 13847.—25th July, 1901.—JAMES CHARLES NEWELL, of Palmerston North, New Zealand, Pianoforte-tuner. An improved music-leaf turner, with *da capo* movement.

Claims.—(1.) In music-leaf turners, a number of spring lever-arms A pivoted upon a spindle B, each one being attached to a pulley C, two springs E being connected at one end with each pulley C, and fixed at the other end to a sliding frame G. Each pulley C is secured to one of the lever-arms A by a vertical steel rod D, by which means the lever-arms A can be turned upon their pivot to the right or left at the will of the operator. Each lever-arm A is provided with means for gripping the leaves of music, and with means whereby the lever-arms A may be released one by one and allowed to turn upon their pivot as specified. (2.) In music-leaf turners, a number of spring lever-arms A, provided with means for gripping the leaves of music, in combination with escapements M, such escapements M consisting of vertical rods N sliding in fixed frame H, the bottom ends being provided with forked horizontal arms with upper projecting pins O that release and retain the spring lever-arms A one by one as the vertical rods N are moved up and down, as specified. (3.) In music-leaf turners, a number of spring lever-arms A, pivoted, and with pulleys C and sliding frame G, in combination with escapements M such as referred to in claim 2, and with cords Q or wires running over pulley R and secured at one end to the bar connecting the vertical rods N of the escapements M, and at the other end to the slide G; the back levers L (whose attachment is shown in Drawing No. 2), also the cords V which are attached to the ends of the back levers L, and which when pulled downward by the knee lever cause the slide G to move and the escapements M to be raised. (4.) In music-leaf turners, escapements M (such as referred to in claim 2), in combination with two compression-springs S, which are secured to the vertical sliding rods N by pins T, so that the escapements M are returned to and kept in their normal low position by the compression-springs S after the strain on the wire Q is removed, as set forth. (5.) In music-leaf turners, escapements M (such as referred to in claim 2) having upper projecting pins O, by which the lever-arms A are held within the escapements, and having also lower spring pivoted pins P standing back from the upper pins O the exact thickness of the lever-arm A, and which allow the latter to pass within the escapements M. (6.) The general arrangement and construction and combination of parts in my improved music-leaf turner (with *da capo* movement) as described and explained, and as illustrated in the drawings, and for the several purposes set forth.

(Specification, 3s.; drawings, 3s.)

No. 13869.—31st July, 1901.—JAMES MACKAY SIMPSON, of Ahaura, New Zealand, Engineer. Improvements in dredges.*

Claims.—(1.) In gold-saving appliances, a screening-frame suspended in an inclined position above a sluice-box, and provided with means whereby it may be moved in a reciprocatory manner, a series of screening-plates supported upon the bottom of such frame, and means whereby the material passing over the screening-plates may be carried away therefrom, as specified. (2.) In gold-saving appliances, a sluice-box mounted beneath a screening-frame provided with means whereby it may be moved in a reciprocatory manner, and with screening-plates in the bottom thereof, such sluice-box

being formed with an inclined bottom the upper end of which is composed of a number of removable sections covered with matting or other material, while the lower end is formed with a perforated portion, as set forth. (3.) In gold-saving appliances, an inclined screening-frame adapted to be moved in a reciprocatory manner, and formed with screening-plates in the bottom thereof, and with means for delivering the material passing over such plates, and a sluice-box mounted beneath such screening-frame, in combination with an inclined conveyer provided with means whereby it may be moved in a reciprocatory manner, the top end of such conveyer underlying the bottom end of the sluice-box, and being provided with a perforated portion, while its bottom part is formed with ripples arranged alternately at right angles to and longitudinally with the conveyer, as set forth. (4.) In gold-saving appliances, a cauldron or chamber provided with means for conducting auriferous material thereto, a number of midriffs or baffle-plates for causing such material to be kept in a state of ebullition placed within the cauldron, and outlets leading from both sides thereof to gold-saving tables, as specified. (5.) In gold-saving appliances, a cauldron or chamber provided with means for leading auriferous material thereto, a number of midriffs or baffle-plates secured therein, and a number of conduits leading from two sides thereof, each of such conduits leading to the top end of one of two series of gold-saving tables placed upon the other sides of the cauldron, as specified. (6.) In gold-saving appliances, in combination, an inclined screening-frame provided with screens in the bottom thereof, and with means for moving it in a reciprocatory manner; an inclined sluice-box mounted beneath the screening-frame, the bottom of which is formed with removable portions covered with matting or other material and with a perforated portion; an inclined conveyer placed continuously with but at a lower level than the sluice-box, such conveyer having its bottom formed with a perforated portion and with ripples, a hopper placed beneath the perforated portions of the sluice-box and the conveyer; a cauldron into which the hopper enters, such cauldron being provided with a number of midriffs or baffle-plates, gold-saving tables mounted upon two sides of the cauldron, and conduits leading from the other sides of the cauldron to each of the tables; all as and for the purposes set forth.

(Specification, 7s. 6d.; drawings, 1s.)

No. 13910.—13th August, 1901.—THOMAS HAWKE, of Auckland, New Zealand, Farmer. Improved under-attachments to horse-covers.*

Claims.—(1.) Two deep laps or flaps sewn or otherwise secured to the inside of a horse-cover at about half-way down, adapted to meet together under the centre of the belly of the animal, to be there suitably fastened, for the purpose set forth, substantially as described and illustrated. (2.) Laps or flaps sewn or otherwise secured to the inside of a horse-cover, each having an arch-formation therein made by strong stitching or other suitable means, adapted to carry ropes for securing cover in front and behind to animal wearing it, for the purpose set forth, substantially as described and illustrated. (3.) In combination, two deep laps or flaps sewn or otherwise secured to the inside of a horse-cover at about half-way down, straps and buckles or other suitable means for fastening said flaps together under centre of belly of animal wearing cover, arch-formation in said flaps made by strong stitching or other suitable means adapted to carry ropes for securing cover in front and behind to animal, and said ropes passed through said flaps over said arch-formations, all for the purposes set forth, substantially as described and illustrated.

(Specification, 2s. 6d.; drawings, 1s.)

No. 14247.—21st November, 1901.—DUGALD DRUMMOND, of South Bank Lodge, Surbiton, Surrey, England, Engineer. Spark-arrester for locomotive and other engines.

Claims.—(1.) A spark-arrester for locomotive and other engines, comprising, in combination with the engine-funnel, a tube fitted therein and closed at its lower end and embracing the exhaust-pipe, said tube having openings in its sides, and wings or baffles attached to said tube along the vertical sides of said openings transversely of the smoke-box, to prevent the direct passage of the fire-gases from the smoke-tubes to the chimney. (2.) A spark-arrester for locomotive and other engines, comprising, in combination with the engine-funnel, a tube fitted therein and closed at its lower end and embracing the exhaust-pipe, said tube having openings in its sides, and funnel-shaped baffles in the shape of open-ended boxes surrounding said openings and extending transversely of the smoke-box to prevent the direct passage of the fire-gases from the smoke-tubes to the chimney. (3.) A spark-arrester for locomotive and other engines, comprising, in combination with the engine-funnel, a tube fitted therein and closed at its lower end and embracing the exhaust-pipe, said tube having openings in its sides, and a hinged open box attached to baffle-plates secured along the vertical sides of said openings transversely of the smoke-box, to prevent the direct passage of the fire-gases from the smoke-tubes to the chimney.

(Specification, 2s. 9d.; drawings, 3s.)

No. 14296.—29th November, 1901.—P. AND D. DUNCAN (LIMITED), of Tuam Street, Christchurch, New Zealand, Agricultural Engineers. An improved discharge for agricultural drills and sowers.*

Claims.—(1.) In any drill or sower, a disc working at an angle with holes at or near its periphery, as and for the purposes described. (2.) In any drill or sower, a box or hopper, one side having a flat surface provided with a discharging-hole near its highest point, a screw at its lowest point for emptying, and a disc with holes for lifting the seed to the discharging-hole, as and for the purposes described, and illustrated in the drawings. (3.) In any drill or sower, a disc or plate with holes placed at an angle, and rotated against a flat surface, in combination with a hopper, as and for the purposes described.

(Specification, 2s. 3d.; drawings, 1s.)

No. 14385.—30th December, 1901.—SAMUEL COLIN HARWOOD, of Midland Junction, Western Australia, Engineer, and DAVID WILLIAM HARWOOD, of Perth, Western Australia, Maltster. An improved spark-arrester.*

Claims.—(1.) In locomotive or other engines, the hollow deflector D having a feather edge and long-faced cone in combination with the rings, substantially as shown in the drawings and for the purpose described. (2.) In locomotive or other engines, the perforated plates E, F, G, and J, in combination with the deflector D and the deflector-ring H, substantially as shown and described, for the purpose of arresting and destroying any sparks escaping with the steam. (3.) In locomotive or other engines, the perforated cylinder I, in combination with the other parts mentioned in our preceding claims, for use in engines whose smoke-boxes may not be in good order. (4.) In locomotive or other engines, the combination and arrangement of the various parts and appliances as described for effectually arresting and destroying sparks without diminishing the effective power of the engine or interfering with its steaming abilities.

(Specification, 4s. 3d.; drawings, 1s.)

No. 14443.—15th January, 1902.—WILLIAM BORLASE, of Mander's Road, North-east Valley, Dunedin, New Zealand, Cycle Mechanic. An improved wire-strainer.*

Claims.—(1.) The improved wire-strainer consisting of the parts combined, arranged, and operating substantially as and for the purpose specified and illustrated. (2.) A wire-strainer comprising, in combination, a frame within which a drum is revolvably mounted upon a spindle having a sided end, a ratchet wheel fixed to said drum, a pawl engaging the ratchet wheel, a nose-piece at the opposite end of said frame having a claw, substantially as and for the purposes specified and illustrated. (3.) In apparatus for the purpose indicated, provided with means for straining the wires of a fence, the employment at one end of said apparatus of a nose-piece formed in the shape of a claw, substantially as and for the purposes described and illustrated.

(Specification, 2s.; drawings, 1s.)

No. 14562.—27th February, 1902.—GEORGE PERCIVAL, of Merilga Street, Narromine, New South Wales, Engineer. Improvements to cranks of bicycles and other machines.

Claims.—(1.) The guide which is described, shown, and illustrated in specifications and drawings as being novel and my invention. (2.) The combination of sliding crank and guide which is shown, described, and illustrated in specifications and drawings as being novel and my invention.

(Specification, 2s. 3d.; drawings, 1s.)

No. 14767.—15th April, 1902.—ARCHIBALD JAMES ESPIE, of Stuart Street, Dunedin, New Zealand, Accountant. An improved automatic animal-trap.

Claims.—(1.) In traps for catching animals, the combination of an alarum-clock timed to go off, and in doing so to allow a gate or all the gates to close, thus enclosing any animals in a proof enclosure furnished with bait, all substantially as described and explained, and as illustrated in the

drawing. (2.) In combination, an enclosure with a bay for driving to, said enclosure furnished with a man's gate and doors automatically closing from the energy of an alarum-clock, which either closes one, it closing the next, or else closing the whole, all substantially as set forth, and as shown on the drawing.

(Specification, 2s. 6d.; drawings, 1s.)

No. 14798.—24th April, 1902.—JEREMIAH CAMPBELL, of Newton, Massachusetts, United States of America, Gentleman. An improvement in lighters or barges for handling coal or other material.

Extract from Specification.—The invention is adapted to be used in delivering the load of the lighter or barge in a similar way—that is, to deliver it to other lighters, barges, or any type of vessel, and at either side of the barge desired, or alternately to vessels on both sides of the barge, or to vessels separated from the barge by other vessels, or to stations on land or wharf at either side of the barge. The invention is further adapted to transfer material from one point more or less removed from one side of the barge or lighter to a point more or less removed on the other side, and without handling or unloading on the lighter or barge. The invention further relates to means for weighing the material while it is being loaded or unloaded, and while in the transferring grab, shovel, or bucket. I will now describe the invention in connection with the drawings, wherein Fig. 1 is a view in vertical cross-section of a barge or lighter, and in elevation of the material-handling apparatus mounted thereon; Fig. 2 is a view in side elevation of a portion of the barge or lighter and of the apparatus; Fig. 3 is a view in plan of a portion of the barge or lighter and of the apparatus; Figs. 4 and 5 are views in detail, enlarged, representing devices for weighing material which is being transported; Figs. 6, 7, and 8 are detail views of one of the trolly-booms, and of a trolly mounted upon it, and of means for adjusting the trolly-actuating rope and rope-blocks, to which reference will be hereafter made; Fig. 9 is a view in elevation of the complete barge and handling-apparatus; Fig. 10 is a view in plan of the parts represented in Fig. 9. The invention comprises a vessel for transporting material, such as a lighter or barge, having a hatch of very nearly the length of the vessel, or of that portion which carries the cargo, and having mounted upon its deck or other support, upon each side of the hatch, tracks or rails upon which the material-handling devices may be moved lengthwise the vessel.

[NOTE.—The number and length of the claims in this case preclude them from being printed, and the foregoing extract from the specification is inserted instead.]

(Specification, £1 19s.; drawings, 7s.)

No. 14802.—28th April, 1902.—JAMES CLEGG, of 169, High Street, Christchurch, New Zealand, Perambulator-maker. An improvement in umbrellas and the like.*

Claims.—(1.) In an umbrella or the like, a sheet of transparent material secured by cement and a rim to the covering of the umbrella, substantially as and for the purposes set forth and illustrated. (2.) In an umbrella or the like, a sheet of transparent material fastened by cement over a hole in the covering of the umbrella and secured by a metal rim and screws, substantially as and for the purposes set forth and illustrated. (3.) The combination and arrangement of parts comprising my improvement in umbrellas and the like, substantially as and for the purposes set forth and illustrated.

(Specification, 2s.; drawings, 1s.)

No. 14804.—29th April, 1902.—AMERICAN MINERAL-WATER MACHINE COMPANY, a corporation duly organized and existing under the laws of the State of Rhode Island, and having a place of business at 305–309, East 43rd Street, New York City, New York, United States of America (assignees of Peter Engelbrecht Malmstrom, of 305–309, East 43rd Street, New York City aforesaid, Foreman). Improvements in apparatus for making aerated beverages, and automatically and electrically controlling the gas-pressure therein.

Extract from Specification.—The invention relates to improved means for commingling liquids with gas, and it has especial reference to an apparatus designed for the purpose of producing aerated beverages or carbonating liquids by mixing carbonic-acid gas with water or other liquid. The invention also relates to improvements in an apparatus whereby liquids and gas may be properly commingled and immediately used, or a supply kept on hand to be used as desired; and the further object of the invention is to provide improvements for automatically and electrically regulating and controlling the mixture of the gas and liquid through the medium of the pressure of the carbonated gas. The invention has for its object a thorough commingling and mixing of the liquid and the gas, whereby a less amount of gas is required to charge the liquid than is ordinarily employed, or with the same amount of gas the liquid is charged therewith to a greater extent, and to provide a simple and compact process of carbonating, and with which the water or other liquid can be carbonated at will and as wanted. The form of the embodiment of the invention consists of an apparatus in which there is a gas-holder and a pump, each of which is connected to a carbonator or a receptacle to be charged. The pump is operated by an electric motor, the current of which is controlled by electrically operated devices caused to act by a circuit-controller operated by gas commingled with water forced into said receptacle by said pump. In this connection a switch is used in the circuit of the motor, and magnets are used to actuate the switch, and a circuit for each magnet is controlled by a circuit-closer, which is closed and opened by a device responsive to changes in the pressure of the gas to which it is connected, the arrangement being such that when the gas-pressure reaches a predetermined point the circuit-controlling device will operate the switch to close the circuit of the motor, and when the gas-pressure rises above or falls below a certain point the switch will be thrown to stop the motor and stop the pumping.

[NOTE.—The number and length of the claims in this case preclude them from being printed, and the foregoing extract from the specification is inserted instead.]

(Specification, £1 5s.; drawings, 5s.)

No. 14807.—26th April, 1902.—EDWARD WATERS, Jun., a member of the firm of Edward Waters and Son, Patent Agents, of 414–418, Collins Street, Melbourne, Victoria (nominee of C. B. Cottrell and Sons Company, a corporation organized under the laws of the State of New Jersey, and engaged in business at Stonington, Connecticut, and No. 41, Park Row, New York, United States of America, Manufacturers of Printing-machines—the assignees of Milton Abbott McKee, care of the said C. B. Cottrell and Sons Company). Improvements in printing-plates, and in processes of and matrices for preparing the same.

Extract from Specification.—In the manufacture of relief printing-plates, such as electrotypes and stereotypes, it is not possible to produce by the electrotype or stereotype process a plate with a perfect face, or even with a face so nearly perfect as that the printers may work directly therefrom, and in consequence it is the universal practice, when fine printing is to be done from such plates, to resort to certain manipulations of the plate and the press technically known as "making ready," and which consists in "underlaying" the plate and "overlaying" on the impression-cylinder, so as to compensate for the irregularities of the plate and obtain therefrom impressions of the exact character required. This work of "underlaying" is exceedingly slow and time-consuming, and in the case of artistic printing it requires great skill and the employment of high-priced labour. The main object of this invention is to dispense entirely with the work of "making ready" by "underlaying" and "overlaying." This is accomplished by taking the plate as it comes from the electrotyper or stereotyper and subjecting it to a course of treatment whereby not only will all of the original defects in the plate be corrected, but its printing-face will be brought into such condition that the exact character of impression desired from such plate may be obtained at once: for example, all those portions of the plate which are to yield heavy impressions and all those portions which are to yield lighter impressions are so treated locally that when the plate is put upon the press it will produce impressions exactly in accordance with those predetermined, all of the work being put into the plate instead of into "underlaying" and "overlaying."

[NOTE.—The number and length of the claims in this case preclude them from being printed, and the foregoing extract from the specification is inserted instead.]

(Specification, £1 3s.; drawings, 3s.)

No. 14810.—1st May, 1902.—FREDERICK JOHN KING, of 17, South Park Hill Road, Croydon, Surrey, England, Mining Engineer. Improvements in and relating to magnetic ore-separators.

Claims.—(1.) In a magnetic separator, the arrangement for splitting up the field of a powerful electro-magnet into a large number of subsidiary magnetic fields, substantially as described. (2.) In a magnetic separator, the employment of a magnetic plane or table comprising a number of bars magnetized uniformly, or practically so, throughout their length, and connected alternately to the opposite poles of one or more electro-magnets, substantially as described. (3.) In a magnetic separator, the combination of a magnetic plane or

table composed of transverse parallel bars of alternate polarity, for effecting a preliminary separation of the material into layers, and a separator magnet or magnets having pole-pieces provided with correspondingly arranged bars for removing the upper magnetic layer from the material, and having a belt travelling over its face to carry the magnetic material away from the magnetic plane and so produce a wide space between the two streams of separated material, substantially as described. (4.) The arrangement for supporting the magnetic plane, the tray, and the feed-hopper on a single pair of blocks or bearings, by raising or lowering which the tray can be inclined at different angles without disturbing the relative arrangement of the parts. (5.) A magnetic separator constructed and operating substantially as described with reference to the drawings.

(Specification, 7s. 6d.; drawings, 2s.)

No. 14811.—1st May, 1902.—Louis Bernhard Baron, of 4 to 6, St. James Place, London, England, Engineer. Improvements in apparatus for manufacturing cigarettes.

Claims.—(1.) In apparatus for manufacturing cigarettes, and in combination, feed-mechanism for supplying the tobacco in a shredded condition, compressing-mechanism for forming such tobacco into a continuous rod, and means for retaining it in its compressed condition and for wrapping the paper around same, substantially as set forth. (2.) In apparatus for manufacturing cigarettes, and in combination, an open-topped trough, an endless feed-belt forming the bottom thereof, a compression-wheel working in said trough, a trough plate or cover taking the partially compressed tobacco from said wheel, guide-surfaces in said cover for directing the travel of the partially compressed tobacco, further compression-wheels for completing the compression, a second cover-plate for directing the travel of the compressed tobacco to the finishing and wrapping mechanism, substantially as set forth. (3.) In apparatus for manufacturing cigarettes, and in combination, a pressure-wheel for partially compressing the loose tobacco, a trough plate or cover for removing the tobacco from said wheel, guide-surfaces in said cover for further reducing the bulk of the tobacco and guiding same, and further compression-wheels the external peripheries of which are in contact for completing the compression, substantially as set forth. (4.) In apparatus for manufacturing cigarettes, and in combination, a pair of compression-wheels, a trough plate or cover for removing the tobacco from said wheels, guide-surfaces in said cover permitting slight expansion with subsequent recompression of the formed rod, a travelling band of wrapping-paper upon which the formed rod is fed and recompressed, and means for wrapping said paper around the tobacco-rod and for pasting and securing same, substantially as set forth.

(Specification, 4s.; drawings, 2s.)

No. 14821.—2nd May, 1902.—Pierre Claude Louat, of "Mimosa," Merrylands, near Sydney, New South Wales, Engineer. Improvements in the generation of steam, and in its utilisation for motive-power purposes.

Claims.—(1.) Generating steam by bringing water into contact, either directly or by conduction, within a closed vessel, with a suitable liquid, or solid which easily liquefies, heated to between above 212° Fahr. and its boiling-point. (2.) Generating steam by bringing water (preferably in a heated condition) in direct contact within a closed vessel or the initial cylinder of an engine with an animal or vegetable oil or fat (preferably olive or cotton-seed oil) heated to between above 212° Fahr. and its boiling-point, substantially as described. (3.) Generating steam by bringing water, preferably in a heated condition, into contact, within a closed vessel, with a series of coils or pipes through which is circulating an animal or vegetable oil or fat, preferably olive or cotton-seed oil, heated to between above 212° Fahr. and its boiling-point, substantially as described. (4.) In a steam-generator, an oil-heater such as 1 having a series of enclosed troughs such as 4 subjected to heat from oil or other burners, the oil-outlet having suitable connection with a generator such as 15 having shallow trays such as 18, and having provision for the injection of water and outlet of the steam, substantially as described and explained, and as illustrated. (5.) In a steam-generator, an oil-heater such as 1 having a series of enclosed trays such as 4 subjected to heat from oil or other burners, the oil-outlet being in suitable connection with the initial cylinder such as 25 of a series, into which cylinder the heated oil is drawn or forced, and pump such as 59 with suitable valves for injecting water into the cylinder, substantially as described and explained, and as illustrated. (6.) In a series of single-acting expansion-cylinders for utilising high-pressure steam, a valve-spindle such as 44 having recesses such as 45 within a loose sleeve such as 46 and fixed sleeve such as 47, the said spindle being actuated from the main shaft to open and close the ports of the cylinders in rotation to permit of the expansion of the steam therethrough, and the said loose sleeve being provided with a hand-lever to reverse the admission and emission of steam in the cylinders, substantially as described and explained, and as illustrated. (7.) The improvements in generating steam consisting of the combination and arrangement of parts substantially as described and explained, and as illustrated in Figs. 1, 2, 3, and 4, and 18. (8.) In the utilisation of high steam-pressures in a series of single-acting expansion-engines, the employment of an arrangement of valves such as that described, and as illustrated in Figs. 5 and 6 and 8 to 18 of the drawings.

(Specification, 6s.; drawings, 5s.)

No. 14831.—2nd May, 1902.—Henry Thomas, of 10, Eye Street, Invercargill, New Zealand, Fitter, and Archibald Charles Mitchell, of Liddel Street, Invercargill aforesaid, Engineer. Improved feed-water heater for boilers.

Claims.—(1.) In a feed-water heater comprising an exhaust-pipe terminating within the upper of two compartments, a baffle-plate in said compartment adapted to disperse and direct downwards steam issuing from said exhaust-pipe, substantially as described. (2.) In a feed-water heater comprising an exhaust-pipe terminating within the upper of two compartments, a baffle-plate in said upper compartment adapted to disperse and direct downwards steam issuing from said exhaust-pipe, and an exit-pipe adapted for the slow escape of portion of said steam from said compartment, substantially as described. (3.) A feed-water heater comprising an exhaust-pipe terminating within the upper of two compartments, a baffle-plate therein adapted in conjunction with the sides and top of said upper compartment to disperse and direct downwards steam issuing therefrom, an exit-pipe situated for the slow escape of portion of said steam from said compartment, and means for automatically sprinkling cold water from a supply-pipe entering said compartment, substantially as and for the purposes set forth. (4.) A feed-water heater comprising an exhaust-pipe terminating within the upper of two compartments, a baffle-plate therein adapted to disperse and direct downwards steam issuing therefrom, an exit-pipe adapted for the slow escape of portion of said steam from said compartment, means for automatically sprinkling cold water from a supply-pipe entering said compartment, a perforated partition between said compartments, and rounded stones loosely placed on said partition, substantially as and for the purposes set forth. (5.) The general construction, arrangement, and combination of parts composing our improved feed-water heater for boilers, all substantially as and for the purposes described with reference to the drawings.

(Specification, 3s. 6d.; drawings, 1s.)

No. 14832.—1st May, 1902.—Sherard Cowper-Coles and Co. (Limited), of 82, Victoria Street, Westminster, London, England, Engineer Manufacturers (assignees of Sherard Cowper-Coles, of 46, Morpeth Mansions, Morpeth Terrace, Westminster, London, England, Electro-metallurgist). Improvements in or relating to the deposition of metals or compounds.

Claims.—(1.) The process of depositing zinc on metals, which process consists in packing the metal to be coated in or covering it with "zinc-dust" or powdered zinc partially oxidized, with or without the addition of carbon, and in submitting the same to heat, substantially as described. (2.) Coating metals with zinc by packing the metal to be coated in or covering it with "zinc-dust" or powdered zinc partially oxidized, with or without carbon, and heating the same in a closed vessel, substantially as described. (3.) The process of depositing zinc on metals, which process consists in inserting the metal to be coated in a vessel containing "zinc-dust" or powdered zinc partially oxidized, with or without the addition of carbon, and in submitting the same to heat, and at the same time agitating, rocking, or rolling the vessel to insure intimate contact of "zinc-dust" with the article, substantially as described.

(Specification, 5s.; drawings, 1s.)

No. 14833.—1st May, 1902.—James Leslie Dewar, of 23, Cotham Road, Bristol, England, Brewer, and Edward John Tripp, of 18, Somerville Road, Bishopston, Bristol aforesaid, Engineer. Improvements in treating beer for bottling.

Claim.—The described method of treating beer preparatory to bottling it or charging it into jars, flagons, or other vessels, which consists in forcing or passing beer through a refrigerator, thence into and through a carbonating-apparatus, and thereafter through a filter or filters, all substantially as set forth.

(Specification, 3s. 3d.; drawings, 1s.)

No. 14862.—9th May, 1902.—ANDREW CHARLES JOSEPH CHARLIER, of 108A, West Regent Street, Glasgow, Scotland, Chemist. Improvements in the manufacture of lead pigments and lead or other metallic compounds, and in apparatus therefor, also suitable for aerating or saturating liquids with gases.

Claims.—(1.) Means for the production of white-lead from oxide of lead or litharge, said means comprising in combination therewith a vessel or vat mounted on trunnions and capable of rotation, oscillation, or reciprocation, carbon-dioxide gas under pressure admitted to said cylinder, and acidified water in contact with the litharge and acting as a carrier for the gas, substantially as described. (2.) Means for the production of chemical compounds in the manufacture of which oxygen, nitrogen, or ammonia gas constitutes a part of the reaction, said means comprising, in combination with the metals or their oxides, a vessel or vat mounted on trunnions and capable of rotation, oscillation, or reciprocation, suitable gas under pressure admitted to said cylinder, and acidified water in contact with the metal or metallic oxide, and acting as a carrier for the gas, substantially as described. (3.) For use in the manufacture of chemical compounds in the manufacture of which gas under pressure constitutes a part of the reaction, a vessel or vat provided with an inlet and outlet orifice, said vessel being capable of rotation, oscillation, or reciprocation, in order to spray or break up the fluid acting as a carrier to the gas and thereby hasten the chemical reaction, substantially as described.

(Specification, 4s. 3d.; drawings, 1s.)

No. 14864.—9th May, 1902.—ALFRED GEORGE FLOYED, of Gladstone, Tasmania, Mechanic. Improvements in apparatus for playing games adapted to cultivate the observation and memory.

Claims.—(1.) In an apparatus of the class indicated, the combination with a casing having central pits, of surrounding cells, inclined passages or openings for the movement of marbles or the like from cell to pit or the reverse, and means as set forth for exhibiting the pit-contents, substantially as described. (2.) In an apparatus of the class indicated, the combination with a casing having central pits, of surrounding cells, inclined passages or openings for the movement of marbles or the like from cell to pit or the reverse, a pit centre-piece as set forth, partitions as *h* located near the cell ends of the passages, and a lid for exhibiting the pit-contents, substantially as described. (3.) In an apparatus of the class indicated, the combination with a casing having a central aperture, of an opaque lid movable for the exhibiting of marbles through said aperture, dividing walls as *c* forming parts of a pit or pits, and a removable or adjustable pit centre-piece, substantially as described. (4.) In an apparatus of the class indicated, the combination with a casing having a central aperture, of a lid and one or more central pits, inclined passages, partitions, and surrounding cells as set forth, together with numbered score-holes in the casing-top, substantially as described.

(Specification, 5s.; drawings, 1s.)

No. 14865.—9th May, 1902.—GEORGE PORTER PIERCE, of 28, Adderley Street, West Melbourne, Victoria, Carpenter. Improvements in calculating-apparatus.

Claims.—(1.) In calculating-apparatus, the combination with a casing of parts as *d* to *l*, with or without parts *m*, arranged substantially as and for the purposes set forth. (2.) In calculating-apparatus, the combination with a casing of parts as *d* to *h* and *n* to *p*, arranged substantially as and for the purposes set forth. (3.) In calculating-apparatus, the combination with a casing of a dial or dials having slits and a stop or stops therefor, arranged substantially as and for the purposes set forth. (4.) In calculating-apparatus, the combination with a casing of a dial or dials having slits, a stop or stops, and parts as *n* to *p*, arranged substantially as and for the purposes set forth. (5.) In calculating-apparatus, the combination with a casing of one or more adjustable dials and dial-wheels, compartments for storage thereof, partitions having recesses each with an indicating-hand and scaled disc, and adjustable actuating pointers, all arranged substantially as and for the purposes set forth.

(Specification, 6s.; drawings, 1s.)

No. 14868.—7th May, 1902.—THE SMETHURST FURNACE AND ORE-TREATMENT SYNDICATE, LIMITED, of 3, Great Winchester Street, London, E.C., England, Manufacturers (assignees of William Smethurst, of Brynmair, Dolgelly, North Wales, Engineer). Improvements in the treatment of substances with nascent carbon-dioxide to produce a chemical reaction.

Claims.—(1.) A process for the treatment of substances with nascent carbon-dioxide, consisting in producing the carbon-dioxide in a nascent condition by combustion under water in the presence of the substance to be acted upon in solution or suspension in the surrounding water. (2.) In a process for the treatment of substances with nascent carbon-dioxide, mixing a carbonaceous combustible gas with its chemical equivalent of air for perfect combustion, introducing same to a burner, lighting the said combustible gas, lowering it into a solution, and suspending or dissolving in said covering solution the required substance to be acted upon. (3.) In a process for the treatment of substances with nascent carbon-dioxide, mixing a carbonaceous combustible gas with a chemical equivalent of air for perfect combustion, introducing same under pressure to a burner under water, lighting said combustible gas, mixing in said water calcium-borate, and the recovery of boracic acid in solution by prompt decanting whilst warm.

(Specification, 3s.; drawings, 1s.)

No. 14871.—10th May, 1902.—ALFRED HEDLEY COTTON, of Omanaia, Hokianga, Auckland, New Zealand, Teacher. An improved combination mustard-pot.

Claim.—The combination and arrangement in a mustard-pot as specified of the cylinder, cap on cylinder, nozzle in cap or upper part of cylinder, inwardly projecting circular flange at lower end of cylinder, said flange being screwed threaded or grooved, ejector, flange on upper end of said ejector, said ejector screwed threaded or grooved to fit on or in flange on said cylinder, and said flanges suitably packed, all for the purpose substantially as described and illustrated.

(Specification, 2s. 3d.; drawings, 1s.)

No. 14873.—8th May, 1902.—JAMES HENRY GRATTAN, of Avondale, Auckland, New Zealand, Machinist. An improved combination saw stripper and regulator.

Claim.—In a combination saw stripper and regulator of the kind specified, the combination and arrangement of the plates, files fitted into grooves in said plates, closing-bolts, short bolts, slotted upright pieces screwed into plates, set-screws and fittings holding said files in said plates, all for the purpose set forth, substantially as described.

(Specification, 2s. 3d.; drawings, 1s.)

No. 14879.—15th May, 1902.—JAMES THOMAS HUNTER, of Queen's Chambers, Wellington, New Zealand, Engineer (nominee of William Chapman, of 2, Norfolk Street, Strand, London, England, Electrical Engineer). Improvements in track-construction for electric railways operated on the conduit system.

Claims.—(1.) In an electric railway operated on the conduit system, a road-box for permitting the plough to be inserted in and withdrawn from the conduit, the flaps forming the cover of the box being pivoted on supports which are located at the ends of the box whereby they can be brought near to the centre line of the slot. (2.) The arrangements for supporting the flaps of a road-box to prevent them from opening when subjected to downward pressure, substantially as described with reference to Fig. 3 of the drawings. (3.) For permitting the plough to be inserted in and withdrawn from the conduit of electric railways, a road-box having flaps and operating-means constructed substantially as described and illustrated in Figs. 1 to 3 of the drawings. (4.) In an electric railway operated on the conduit system, spring slots for use at a branch or turnout having tongues with bevelled ends vertically pivoted beneath the upper surface of the slot rails, and each provided with a spring which can be arranged to normally force the tongue across the slot or to withdraw it and leave the slot normally open. (5.) The construction of spring slot points substantially as described with reference to Figs. 4 to 7 of the drawings. (6.) For electric railways operated on the conduit system, the arrangement for operating the points substantially as described with reference to Figs. 8, 9, and 10 of the drawings. (7.) In an electric railway operated on the conduit system, the construction of the track at crossings in which the track rails are supported on yokes with bevelled ends secured together to form a box or casing enclosing a pit, the junctions of the slot rails being supported by a pillar, the upper part of which is provided with upwardly projecting arms bolted to the undersides of the slot rails, the inner surfaces of said arms being shaped to the form of the intersecting conduits. (8.) For electric railways operated on the conduit system, arrangements for supporting the track constructed substantially as described with reference to Figs. 11 to 16 of the drawings.

(Specification, 8s.; drawings, 5s.)

No. 14883.—12th May, 1902.—FREDERICK CAPILL BROWN, of Komata, Auckland, New Zealand, Superintendent of the Komata Reefs Gold-mining Company, Limited, and SAMUEL DOUGLAS MCMIKEN, of Komata aforesaid, Battery-manager. An improved form of vessel for treating ores containing gold and other metals which can be extracted therefrom by means of solvents.

Claims.—(1.) In a vessel for treating ores as specified, the vessel having a comparatively great depth and a small diameter in proportion to its depth, for the purpose set forth, substantially as described and illustrated. (2.) In a vessel for treating ores as specified, the inverted cone-shaped underpart of the vessel, for the purpose set forth, substantially as described and illustrated. (3.) In a vessel for treating ores as specified, in combination, the upper portion of the vessel having a small diameter in proportion to its depth, the inverted cone-shaped underpart of the vessel having within it rings supporting wire gauze and filter-cloth, pipe leading from space between inner surface of said cone and said filter-cloth, and casting at apex of cone with supply and discharge pipes therein, all for the purpose set forth, substantially as described and illustrated.

(Specification, 4s.; drawings, 1s.)

No. 14886.—20th May, 1902.—UNIVERSAL SEAL AND STOPPER COMPANY, a corporation organized under the laws of the State of New Jersey, and doing business at Camden, New Jersey, United States of America (assignees of Edward Daniel Schmitt, of 2444, Woodbrook Avenue, Baltimore, Maryland, United States of America, Constructing Engineer). Improvements in and relating to tools for forming the necks of bottles, jars, and the like.

Claims.—(1.) In a tool for forming bottle-necks, the combination of movable jaws with a central core and compound forming-devices carried thereby and connected with said jaws, whereby said forming-device will be projected into operative position and retracted therefrom by the movement of said jaws. (2.) In a tool for forming bottle-necks, the combination with a central core, of jaws connected to said core, levers rockably secured to the core and having connection with the jaws, said levers having ends constituting a part of the forming-means, links pivoted to the core and to the ends of said levers and constituting the other part of the forming-means, as set forth. (3.) In a tool for forming bottle-necks, the combination with a central core, of jaws connected to said core by links, levers pivoted to the core and to the jaws, whereby the jaws in their opening and closing movements are maintained parallel to the core and to each other, said levers having ends constituting a part of the forming-device, links pivoted to the core and to the ends of said levers and constituting the other part of the forming-device, as set forth. (4.) In a tool for forming bottle-necks, the combination with a central core having a slot therein, of jaws connected with said core by links, levers pivoted in said slot and to the jaws, the ends of said levers constituting a part of the forming-means, links pivoted in said slot in advance of the ends of said levers and pivoted to the ends thereof and constituting the other part of the forming-means, as set forth. (5.) In a bottle-neck-forming tool, the combination with a central core having a slot therein near its forward end, jaws connected with said core and means for holding them normally separated, a stop on the core having a forward extension, levers pivoted in the slot and to the jaws, the ends of said levers constituting a part of the forming-means, links pivoted in the slot in advance of the lever ends and pivoted thereto and constituting the other part of the forming-means, as set forth. (6.) In a tool for forming bottle-necks, the combination with a slotted central core, of jaws connected with said core, means for normally separating said jaws, a stop on said core having a forward extension adapted to enter the bottle-neck, levers pivoted to the core and to the jaws and having their ends shaped to constitute part of the forming-device and working in said extension, links pivoted in the slot and having elongated slots in their rear ends, pins passing through the levers and the slots in the links, whereby when the jaws are closed the forming-means will be projected beyond the forward extension both laterally and longitudinally, as set forth. (7.) In a tool for forming bottle-necks, the combination with a central core having an enlargement near its forward end, jaws connected with said core, of a forming-device mounted in the core and having connection with the jaws, said forming-devices being adapted to rest normally in the enlargement of the core but to be projected beyond said enlargement both laterally and longitudinally when the jaws are moved towards each other, as set forth. (8.) In a tool for forming bottle-necks, the combination with a central core having an enlargement near its forward end and a stop or shoulder 6, of jaws connected with said core, a forming-device mounted in said core formed in part by levers pivoted to the core and having connection with the jaws and links pivoted in the core and having connection with the lever ends, said forming-devices being adapted to rest normally in the enlargement of the core, but to be projected beyond said enlargement both laterally and longitudinally, as set forth. (9.) In a tool for forming bottle-necks, the combination with a central core having links 3 pivoted to its rear end, jaws pivotably connected to said links and provided with forming-surfaces at their forward ends, an enlargement near the forward end of said core, a forming-device mounted in said core and formed in part by levers pivoted to the core and having connection with the jaws, and links pivoted in the core in advance of the enlargement and having connection with the lever ends, said forming-device being adapted to rest normally in the enlargement of the core, but to be projected beyond said enlargement both laterally and longitudinally when the jaws are moved towards each other, as set forth.

(Specification, 8s.; drawings, 1s.)

No. 14887.—20th May, 1902.—JAMES PALMER CAMPBELL, of Wellington, New Zealand, Solicitor (nominee of Edwin Musser Herr, of 136, Pithridge Street, Pittsburg, Pennsylvania, United States of America, Electrical Engineer). Improvements relating to brake-shoes.

Claims.—(1.) A magnetic brake-shoe, provided with means for automatically adjusting its distance from its support to compensate for wear of the shoe. (2.) A rail or wheel brake-shoe connected to a support through a connection the length of which is automatically adjusted by a dragging or longitudinal movement of the shoe when the brakes are applied. (3.) Rail or wheel brake-shoes provided with automatically adjusted supporting-means, substantially as described with reference to the drawings.

(Specification, 2s. 9d.; drawings, 1s.)

No. 14888.—20th May, 1902.—FRANK KLEPETKO, of Anaconda, Deer Lodge County, Montana, United States of America, Mining and Metallurgical Engineer, and WILLIAM JOHN EVANS, of Great Falls, Cascade County, Montana aforesaid, Mechanical Engineer. Improvements in roasting-furnaces.

Claims.—(1.) In a furnace of the class described, a hearth, a roof therefor, a hopper thereabove having a constricted opening, means for agitating the material to be treated in the opening of said hopper consisting of a rotary stirrer, arms projected from the upper outer edge of said hopper to the discharge-opening thereof, and separate means for feeding the material from said hopper to said hearth, substantially as set forth. (2.) A roasting-furnace having a hearth and roof, a central vertical stirring-shaft therein, a stirring-arm arranged on said shaft beneath and near said roof and extending over the hearth, and an upward projection on said arm in position to remove accretions from the roof, substantially as set forth. (3.) In a furnace having a plurality of hearths, a rotatable hollow shaft passing through the hearth, a series of hollow arms radiating from said shaft and extending into the several hearths, an inner water-feed pipe located within and rotatable with the shaft, a series of branches or distributing-pipes leading from said pipe and communicating with the interior of the hollow arms for returning the water of circulation through the hollow shaft to a point adjacent to the feed end of the feed-pipe, substantially as set forth. (4.) In a furnace having a plurality of hearths, a rotatable hollow shaft passing through the hearths, a series of hollow arms radiating from said shaft and extending into the several hearths, an inner water-feed pipe closed at the bottom located within the shaft and rotatable therewith, a series of branches or distributing-pipes leading from said feed-pipe and communicating at their outer ends with the interior of the hollow arms, for returning the water of circulation through the hollow shaft to a point adjacent to the feed end of the feed-pipe, substantially as set forth. (5.) In a roasting-furnace, a rotatable shaft, one or more arms carried thereby, flanges formed on either side of said arms, and a series of removable stirring-teeth embracing said flanges, substantially as set forth. (6.) In a rotating furnace, a rotatable shaft, one or more hollow arms carried thereby, said arms having a substantially plane bottom and flaring peripheral walls, an inner water-feed pipe within the shaft, a series of branches or distributing-pipes leading from said feed-pipe and communicating with the interior of the hollow arms for returning the water of circulation through the arms and through the shaft to a point adjacent to the feed end of the feed-pipe, and causing the ascending currents of the water to follow the flaring walls of said hollow arms, substantially as set forth. (7.) In a roasting-furnace, a rotatable shaft, one or more arms carried thereby, said arms having a flat bottom and peripheral upwardly flaring walls, lateral flanges forming extensions of said bottom, and a series of

stirring-teeth embracing said flanges, substantially as set forth. (8.) In a roasting-furnace having a plurality of hearths, a rotatable shaft passing through the hearths, arms radiating from said shaft, a series of stirring-teeth carried by said arms, a feed-hopper for the upper hearth, and a plurality of discharge flues or passages leading from said upper hearth whereby uniform drying results are ensured, substantially as set forth.

(Specification, 10s.; drawings, 5s.)

No. 14890.—20th May, 1902.—ALEXANDER TAYLOR, of Waikari, Dunedin, New Zealand, Attendant. An improved insole for boots and shoes and the like.

Claims.—(1.) An improved insole for boots and shoes and the like, consisting of two sheets of material, rubber tubes placed side by side between them, and shaped to correspond with the outsole, substantially as described. (2.) An improved insole for boots, shoes, and the like, consisting of two sheets of material divided into longitudinal compartments, and rubber tubes placed in said compartments, and shaped to correspond with the outsole, substantially as described. (3.) An improved insole for boots, shoes, and the like, consisting of two sheets of material, rubber tubes placed between them, and perforations in the upper sheet communicating with the tubes, substantially as and for the purposes set forth. (4.) The general construction, arrangement, and combination of parts composing my improved insole for boots, shoes, and the like, all substantially as and for the purposes described with reference to the drawings.

(Specification, 2s.; drawings, 1s.)

No. 14892.—21st May, 1902.—SARAH HUTCHINS, of Dillon Street, Blenheim, New Zealand, Dressmaker. An improved skirt, and means for fastening the same upon the body of the wearer.

Claims.—(1.) In the construction of dress-skirts, forming the top-end opening of the skirt of a size sufficient to pass over the head and bust of the wearer, and adapted to be gathered and secured upon a belt surrounding the waist, as specified. (2.) In means for securing dress-skirts upon the body of the wearer, a belt adapted to fit and be secured upon the wearer's waist, such belt being permanently attached to part of the top opening of the skirt, which is adapted to be gathered and secured around the belt, as set forth.

(Specification, 2s.; drawings, 1s.)

No. 14895.—19th May, 1902.—FRANK WATSON, of Christchurch, New Zealand, Tinsmith. An improved pump for pumping liquids such as kerosene.

Claims.—(1.) In pumps of the class described, the combination with a pump barrel and receptacle as B of a tube or duct C that is integral with said barrel and receptacle, and whose interior is in communication with each by means of vent-holes a, a^1, for the purposes set forth. (2.) In pumps of the class described, in combination, a pump-barrel, a plunger working within, a spout upon and a receptacle surmounting the same, a duct upon said barrel integral therewith, a hook upon the duct, and vent-holes a, a^1, as described, and for the purposes set forth. (3.) The general arrangement, construction, and combination of parts comprising my improved pump for pumping liquids such as kerosene, substantially as described and set forth.

(Specification, 2s.; drawings, 1s.)

No. 14900.—22nd May, 1902.—WILLIAM JULIUS BALTZER, of 82, Pitt Street, Sydney, New South Wales, Civil Engineer. Improvements in reinforcement of plastic materials.

Claims.—(1.) Improvements in the reinforcement of plastic materials, when used in the construction of portable articles, by employing, in combination, a plastic material capable of being moulded to any required form, and fibrous vegetable matter imbedded therein, in positions suitable for taking up tensile stresses, substantially as described and explained. (2.) The use, for reinforcement of manufactures of a portable nature made of plastic materials, of vegetable fibres, such as bamboo, cane, reeds, and the like, of any required cross-section, employed singly or in one or more layers, and imbedded in the plastic mass in such positions as will enable such fibres to take up the tensile stresses, substantially as described and explained.

(Specification, 2s.; drawings, 2s.)

No. 14903.—23rd May, 1902.—WALTER ELSWOOD COLEMAN, of New Dorp, Richmond County, New York, United States of America, Merchant. Improvements in or relating to electric fans.

Claims.—(1.) The combination with an electric motor M and fan f of the guard G, the series of deflectors H pivotally supported in said guard G, and means for automatically moving said deflectors H by direct action of the motor, as set forth. (2.) The combination of the electric motor M, the fan f, the guard G, a series of pivoted deflectors H, the mechanism for transmitting motion from the motor-shaft m to said deflectors H, substantially in the manner described. (3.) The combination of the fan f, the electric motor M mounted upon the vertical spindle S, said spindle S supported in the base B by means which admit it to turn axially said base B, the standard c rigidly secured to said base, the lever-arm d pivotally connected to the crank d, and the motor-shaft formed with the screw worm $m2$ engaging with the wheel $d2$, substantially in the manner described. (4.) The combination of the fan f, electric motor M mounted upon the vertical spindle S, said spindle S supported in the base by means which admit it to turn axially said base B, means for turning the motor horizontally on said base, the guard-frame G supported upon the motor-casing, the deflectors H pivotally supported in the frame G, the links h coupling the deflectors H together, the connecting-rod $i2$ pivotally connecting the deflectors with the crank i, the gear i, and the screw worm $m4$ upon the motor-shaft, arranged and operating substantially as set forth. (5.) The combination of an electric fan and motor, a guard-frame, deflectors mounted pivotally in said guard-frame, pivotally connected links coupling said deflectors together, a worm gear on the motor-shaft in front of the fan, a gear-wheel engaging said worm, a crank attached to and actuating said gear-wheel, and a connection-rod pivotally connecting said crank with the deflectors for the purpose of imparting a vibrating motion to the same, as set forth.

(Specification, 2s. 9d.; drawings, 2s.)

An asterisk (*) denotes the complete specification of an invention for which a provisional specification has been already lodged.

NOTE.—The cost of copying the specification and drawings has been inserted after the notice of each application. An order for a copy or copies should be accompanied by a post-office order or postal note for the cost of copying.

The date of acceptance of each application is given, and the number.

F. WALDEGRAVE,
Registrar.

Provisional Specifications.

Patent Office,
Wellington, 28th May, 1902.

APPLICATIONS for Letters Patent, with provisional specifications, have been accepted as under:—

No. 14737.—9th April, 1902.—ALFRED BUCKLAND, of Newmarket, Auckland, New Zealand, Commission Agent. An improved door-fastener.

No. 14796.—25th April, 1902.—ANDREW MCLEOD, of Arch Hill, Auckland, New Zealand, Commission Agent. An improvement in marking or branding appliances.

No. 14806.—28th April, 1902.—JANE CAMPBELL CORBETT, of Manukau Road, Epsom, Auckland, New Zealand. A new mode of decorating picture, photograph, and other frames.

No. 14822.—30th April, 1902.—ARTHUR OSCAR BRIDGMAN, of Dunedin, New Zealand, Brassfinisher. Improved mat-fastener.

No. 14836.—5th May, 1902.—AUGUSTUS THOMPSON, of 52, Daniel Street, Wellington, New Zealand, Carpenter, and JOHN ROUSSELL, of 6, Rintoul Street, Wellington aforesaid, Saddler. Improvements in draught and dust preventing attachments to doors.

No. 14841.—5th May, 1902.—CHARLES TANDY, of Taranaki Street, Wellington, New Zealand, Coachbuilder. Improvement in lifting trigger or lock for iron telescope ladders.

No. 14853.—3rd May, 1902.—STEPHEN PERRIN, of Market Road, Remuera, Auckland, New Zealand, Warehouseman. An improved air and gas carburetter.

No. 14854.—7th May, 1902.—JAMES NEAGLE, of Dannevirke, Hawke's Bay, New Zealand, Saddler. Improvements in or relating to strapping or fastenings for covers for horses, cows, or other animals.

No. 14855.—6th May, 1902.—AUSTIN EDWARD WARRINGTON, of Southbridge, New Zealand, Farmer. Improved means of displaying and circulating advertising matter.

No. 14856.—8th May, 1902.—ALEXANDER HARRISON BROWNLEY, of Onehunga, New Zealand, Jeweller, and THEODORE BERNARD JACOBSEN, of Auckland, New Zealand, Architect. Improved means for securing buttons to garments.

No. 14857.—8th May, 1902.—CHARLES WILLIAM HAINES, of Remuera, Auckland, New Zealand, Engineer. Improved means for extinguishing the sparks given off from locomotive and other boilers.

No. 14858.—8th May, 1902.—JAMES EVANS WAYGOOD, of Waikumete, Auckland, New Zealand, Engineer. Improvements in or relating to gate and door hinges.

No. 14859.—6th May, 1902.—HUGH GUNN, of Auckland, New Zealand, Locomotive Engineer. An improved spark-stopper for use in locomotive smoke-stacks.

No. 14861.—9th May, 1902.—FREDERICK PRYCE EVANS and DUNCAN MCDOUGALL, both of Wellington, New Zealand, Ships' Officers. Improved apparatus for removing coal from holds of ships.

No. 14866.—7th May, 1902.—ERNEST JOSEPH PARROTT, of Christchurch, New Zealand, Merchant. Improved process of and apparatus for making lime, sand, bricks, and artificial stone.

No. 14867.—10th May, 1902.—ROBERT STUART REID, of Timaru, New Zealand, Surgeon. Improvements in or relating to windows.

No. 14869.—7th May, 1902.—ALFRED COUCILL, of 43, Mew Street, Ultimo, near Sydney, New South Wales, Labourer. An improved merry-go-round.

No. 14870.—9th May, 1902.—JOSEPH FORD, Hairdresser, and ALEXANDER COLIN MURRAY, Commission Agent, both of Cromwell, New Zealand. Improvements in permambulators.

No. 14872.—13th May, 1902.—GEORGE STAFFORD, of 25, Mulgrave Street, Wellington, New Zealand, Flaxmiller, and ANGUS CLYNE SUTHERLAND FRENCH, of Mitchelltown, Wellington aforesaid, Carpenter. Improvements in machines for dressing and washing *Phormium tenax* and other fibrous materials.

No. 14874.—8th May, 1902.—JAMES HENRY GRATTAN, of Avondale, Auckland, New Zealand, Machinist. Single and multi purchase attachable gear for controlling horses and other animals.

No. 14875.—10th May, 1902.—WILLIAM CRAIG, of Symonds Street, Auckland, New Zealand, Plumber. An improved ventilator.

No. 14876.—10th May, 1902.—WILLIAM BORLASE, of Mander's Road, North-east Valley, Dunedin, New Zealand, Cycle Mechanic. An improved wire-tightener.

No. 14877.—15th May, 1902.—BERTIE ISAAC HAYWARD, Dairyman, and ROBERT ANDREW GIBSON, Engineer, both of Wellington, New Zealand. An improved device for cleaning mud from the tires of cycles.

No. 14878.—15th May, 1902.—ALEXANDER HARRISON BROWNLEY, of Onehunga, Auckland, New Zealand, Watchmaker. Improved means for hanging pictures and the like.

No. 14880.—15th May, 1902.—JOSEPH COOK, of 14, Leeds Street, Wellington, New Zealand, Brass-finisher. Improvements in valves and apparatus for operating the valves of water-closet cisterns.

No. 14884.—14th May, 1902.—HENRY ISMAY MORALEE ROSS, of Dunedin, New Zealand, Engraver. Improved double-current ventilator.

No. 14885.—19th May, 1902.—RICHARD CHAMBERS, of New Plymouth, New Zealand, Commission Agent. Improved means for cooling and aerating milk and other liquids.

No. 14889.—20th May, 1902.—THOMAS STANLEY PHILPOTT, of Mein Street, Newtown, Wellington, New Zealand, Saddler, and ROBERT HUTCHINSON, of Waripori Street, Wellington aforesaid, Carpenter. An improved fire-alarm and fire-escape.

No. 14891.—19th May, 1902.—DANIEL MURPHY, of Tuamarina, New Zealand, Flaxmill-manager. Improved plummer-block for flax-stripper or other machinery.

No. 14897.—16th May, 1902.—HENRY HAMILTON TWEMLOW, of Riverton, New Zealand, Storekeeper. Improvements in drain-traps.

No. 14899.—22nd May, 1902.—SAMUEL SHAW, of 50, Chestnut Street, East Richmond, Victoria, Gasfitter. Improvements in self-lighting fittings for gas-burners.

No. 14901.—17th May, 1902.—CHARLES HENRY SHATTKY, of Hastings, Hawke's Bay, New Zealand, Settler. Improvement in fixing and securing sporting discs for canvas or paper targets.

No. 14902.—17th May, 1902.—CHARLES HENRY SHATTKY, of Hastings, Hawke's Bay, New Zealand, Settler. Improvements in revolving or stationary canvas or paper targets.

No. 14904.—23rd May, 1902.—GEORGE LUCAS PEARSON, of Lincoln, Canterbury, New Zealand, Farmer. Improvements in apparatus used in boring and artesian-well driving.

No. 14906.—19th May, 1902.—KATE RAYMOND, wife of Frank Victor Raymond, of Tweed Street, Invercargill, New Zealand, Solicitor. Improvements in laces for boots and the like.

No. 14908.—23rd May, 1902.—MARTIN JOHN LISTER, of Waikari, New Zealand, Farmer. Improvements in or relating to targets.

No. 14911.—21st May, 1902.—THOMAS USSHER, of Auckland, New Zealand, Land Agent. A table game of bowls.

No. 14912.—24th May, 1902.—ANDREW MILLER LEGGE, of 56, Tasman Street, Wellington, New Zealand, Plumber. Improved safety catch for brooch-pins.

No. 14914.—24th May, 1902.—NORMAN EDMUND JACKSON and KEITH CHARLES JACKSON, both of Wellington, New Zealand, Inventors. Improvements in targets.

No. 14915.—23rd May, 1902.—JOHN BURNS, of Christchurch, New Zealand, Engineer. An improved standard for use in the game of table tennis.

No. 14920.—26th May, 1902.—ALFRED COOPER, of Adelaide Road, Wellington, New Zealand, Dairyman. An improved wheel-lock.

F. WALDEGRAVE,
Registrar.

NOTE.—Provisional specifications cannot be inspected, or their contents made known by this office in any way, until the complete specifications in connection therewith have been accepted.

The date of acceptance of each application is given after the number.

Letters Patent sealed.

LIST of Letters Patent sealed from the 15th to the 28th May, 1902, inclusive:—

No. 13419.—J. T. Williams, sounding bells.
No. 13489.—E. Hale, appliance for castrating lambs.
No. 13522.—W. F. Dugins, check-roller for blinds.
No. 13688.—Z. T. French and W. C. Meyer, sewing-machines.
No. 13738.—J. Walker and R. F. Campbell, turnip-slicer.
No. 14155.—E. A. Bishop, sheet-music cabinet attachment to pianos.
No. 14326.—W. G. Williams and H. H. Edwards, target.
No. 14485.—W. G. Dodd, ore-concentrator.
No. 14486.—J. Dingwall, canister for butter, &c.
No. 14487.—I. A. Plummer, patterns for drafting garments.
No. 14519.—J. L. Ferrell, wood-preserving.
No. 14520.—I. M. Clark, safety attachment for child's chair.
No. 14525.—W. Stewart, copying-ink.
No. 14536.—O. B. H. Hanneborg, excavator.
No. 14545.—A. A. Francis, ore-concentrating apparatus.

F. WALDEGRAVE,
Registrar.

Letters Patent on which Fees have been paid.

[NOTE.—The dates are those of the payments.]

SECOND-TERM FEES.

NO. 10599.—J. W. Newall, cutting hair or wool. 22nd May, 1902.
No. 10600.—A. Storrie, manure-distributer. 19th May, 1902.
No. 10610.—J. S. Laurie and E. L. Clark, delivery table for brickmaking. 14th May, 1902.
No. 10613.—The Rain-water Filtration Company, Limited, filter (J. S. Allan). 19th May, 1902.
No. 10617.—J. H. Kellogg, producing an alimentary product. 23rd May, 1902.
No. 10646.—J. Hall, treating skins. 22nd May, 1902.
No. 10651.—W. F. Williams, tire. 20th May, 1902.
No. 10808.—J. and J. R. Temperley, transporting loads. 15th May, 1902.
No. 10848.—The Gold-extraction and Bromide-recovery Company, Limited, treating ores (H. Riecken). 20th May, 1902.

THIRD-TERM FEES.

No. 7629.—A. Billens, kerosene-pump. 21st May, 1902.
No. 7726.—A. D. Dobson, reversing-gear for hoists. 20th May, 1902.
No. 7772.—C. Hoepfner, extraction of metals. 22nd May, 1902.

F. WALDEGRAVE,
Registrar.

Subsequent Proprietors, &c., of Letters Patent registered.

[NOTE.—The name of the patentee is given in brackets: the date is that of registration.]

NO. 13738.—James Walker, of Killinchy, Canterbury, in the Colony of New Zealand, Farmer. (Interest of R. F. Campbell.) Turnip and root slicer. [J. Walker and R. F. Campbell.] 22nd May, 1902.

No. 13738.—Robert Ferguson Campbell, of Brookside, Canterbury, New Zealand. Turnip and root slicer. *Licensee for the Colony of New Zealand.* [J. Walker and R. F. Campbell.]

F. WALDEGRAVE,
Registrar.

Applications for Letters Patent abandoned.

LIST of Applications for Letters Patent (with which provisional specifications only have been lodged) abandoned from the 15th to the 28th May, 1902, inclusive:—

No. 13815.—C. H. Gilby, siphon.
No. 13823.—T. Firth, tap.
No. 13827.—E. B. Sheeran, lock and key.
No. 13829.—T. Read, fire-escape.
No. 13833.—W. H. Beere, seed-sower.
No. 13834.—E. Smethurst, glove for cyclists.
No. 13835.—R. N. Saunders, fire-alarm.
No. 13836.—B. Hart, horse-cover.
No. 13837.—A. Storrie, turnip-ridger, &c.
No. 13840.—R. W. de Montalk, draining insulating-room floors.
No. 13848.—F. Castle, fire-alarm.
No. 13849.—J. Welsby and H. G. Bedell, lead-heading nails.
No. 13852.—F. V. Raymond, wool-scouring.
No. 13856.—W. J. Pierce, fire-escape.
No. 13857.—H. Gentles and J. I. Knight, cycle-tire.
No. 13858.—P. A. Vaile, golf-club.
No. 13859.—C. Rillstone, elevator.

F. WALDEGRAVE,
Registrar.

Applications for Letters Patent lapsed.

LIST of Applications for Letters Patent (with which complete specifications have been lodged) lapsed from the 15th to the 28th May, 1902, inclusive:—

Nil.

F. WALDEGRAVE,
Registrar.

Letters Patent void.

LIST of Letters Patent void through non-payment of fees from the 15th to the 28th May, 1902, inclusive:—

THROUGH NON-PAYMENT OF SECOND-TERM FEES.

No. 10373.—H. S. Cope, amalgamating-apparatus.
No. 10381.—S. Hemus, boot.
No. 10382.—C. H. Ensor, wire-strainer.
No. 10386.—The Dunlop Pneumatic Tire Company, Limited, clip for cycle-pumps (F. Sinclair and J. Gooding).
No. 10389.—W. H. Woodcock, roller bearings.
No. 10401.—W. A. Thompson, crate.

THROUGH NON-PAYMENT OF THIRD-TERM FEES.

No. 7432.—R. M. McDonald, totalisator.
No. 7437.—G. B. and H. P. Jones, rock-drill.
No. 7441.—L. Pelatan and F. Clerici, extracting gold.
No. 7453.—R. Bright and H. Morison, race-starter.
No. 7457.—J. T. Penny and W. H. Richardson, triturating and amalgamating.

F. WALDEGRAVE,
Registrar.

Applications for Registration of Trade Marks.

Patent Office,
Wellington, 28th May, 1902.

APPLICATIONS for registration of the following trade marks have been received. Notice of opposition to the registration of any of these applications may be lodged at this office within two months of the date of this *Gazette*. Such notice must be in duplicate, and accompanied by a fee of £1.

No. of application: 3759.
Date: 14th April, 1902.

TRADE MARK.

The essential particulars of this trade mark are the words "Each for all" and "All for each," and "Labour"; and any right to the exclusive use of the words "Co-operative" and "Trade Mark" is disclaimed.

NAME.

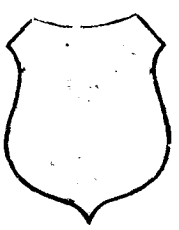
DUNEDIN OPERATIVE BOOTMAKERS' CO-OPERATIVE SOCIETY, of Trades Hall, Moray Place, Dunedin, New Zealand.

No. of class: 38.

Description of goods: Boots, shoes, slippers, leggings, sandals, and general footwear.

No. of application: 3782.
Date: 8th May, 1902.

TRADE MARK.



NAME.

THE UNION BAG AND PAPER COMPANY, a corporation organized and existing under the laws of the State of New Jersey, and having a place of business at Jersey City, in the said State of New Jersey, United States of America.

No. of class: 39.

Description of goods: Paper bags

No. of application: 3792.
Date: 22nd May, 1902.

TRADE MARK.

The applicants claim that the said trade mark has been in use by them in respect of the articles mentioned for twenty years.

The essential particular of this trade mark is the device; and any right to the exclusive use of the words "Trade Mark" is disclaimed.

NAME.

ROBERT INGHAM CLARK AND COMPANY, LIMITED, of West Ham Abbey, Stratford, London, England, and 280, George Street, Sydney, New South Wales, Varnish, Japan, and Paint Manufacturers.

No. of class: 1.

Description of goods: Varnishes, japans, lacquers, paint, colours, enamels, stains, polishes, and dryers.

No. of application: 3794.
Date: 23rd May, 1902.

TRADE MARK.

The words

KIA-ORA.

NAME.

DUNCAN MCLEAN, of Greymouth, New Zealand, Merchant.

No. of class: 42.

Description of goods: Tea.

No. of application: 3796.
Date: 27th May, 1902.

TRADE MARK.

The word

IMPERIAL.

NAME.

ADAMS STAR CYCLE COMPANY, of 70, Manchester Street, Christchurch, New Zealand.

No. of class: 40.

Description of goods: Cycle, motor, and carriage tires.

F. WALDEGRAVE,
Registrar.

Trade Marks registered.

LIST of Trade Marks registered from the 15th to the 28th May, 1902, inclusive:—

No. 2863; 3346.—W. Waltke and Co. Class 46. (*Gazette* No. 19, of the 6th March, 1902.)

No. 2864; 3632.—Manson and Barr. Class 6. (*Gazette* No. 16, of the 20th February, 1902.)

No. 2865; 3649.—S. Pettifer and Sons. Class 2. (*Gazette* No. 19, of the 6th March, 1902.)

No. 2866; 3656.—Lanson Père and Fils Class 43. (*Gazette* No. 16, of the 20th February, 1902.)

No. 2867; 3667.—Jenkinson and Co., Limited. Class 22. (*Gazette* No. 16, of the 20th February, 1902.)

No. 2868; 3669.—A. E. Little and Co. Class 40. (*Gazette* No. 16, of the 20th February, 1902.)

No. 2869; 3670.—A. E. Little and Co. Class 40. (*Gazette* No. 16, of the 20th February, 1902.)

No. 2870; 3671.—A. E. Little and Co. Class 50. (*Gazette* No. 16, of the 20th February, 1902.)

No. 2871; 3672.—A. E. Little and Co. Class 50. (*Gazette* No. 16, of the 20th February, 1902.)

No. 2872; 3673.—J. Crosfield and Sons, Limited. Class 1. (*Gazette* No. 19, of the 6th March, 1902.)

No. 2873; 3674.—P. Dawson. Class 43. (*Gazette* No. 16, of the 20th February, 1902.)

No. 2874; 3675.—The New South Wales Creamery Butter Company, Limited. Class 42. (*Gazette* No. 16, of the 20th February, 1902.)

No. 2875; 3676.—The Muralo Company. Class 17. (*Gazette* No. 16, of the 20th February, 1902.)

No. 2876; 3686.—Burgess, Fraser, and Co. Class 42. (*Gazette* No. 19, of the 6th March, 1902.)

No. 2877; 3683.—E. Davis and S. H. Jewell. Class 13. (*Gazette* No. 19, of the 6th March, 1902.)

No. 2878; 3707.—J. Tetlow. Class 48. (*Gazette* No. 24, of the 20th March, 1902.)

No. 2879; 3697.—J. Ballantyne and Co. Class 38. (*Gazette* No. 24, of the 20th March, 1902.)

No. 2880; 3689.—The Sydney Soap and Candle Company, Limited. Class 47. (*Gazette* No. 24, of the 20th March, 1902.)

No. 2881; 3690.—A. G. Bell. Class 42. (*Gazette* No. 19, of the 6th March, 1902.)

No. 2882; 3685.—J. Wilcock and Co. Class 50. (*Gazette* No. 19, of the 6th March, 1902.)

F. WALDEGRAVE,
Registrar.

By Authority: JOHN MACKAY, Government Printer, Wellington.