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Note.—Throughout this Gazette the names in Italics within parentheses are those of Communicators of Inventions.

Complete Specifications.

Patent Office, Perth,
31st January, 1902.

NOTICE is hereby given that the undermentioned Applications for the Grant of Letters Patent, and the complete Specifications annexed thereto, have been accepted, and are now open to public inspection at this Office.

Any person or persons intending to oppose any of such applications must leave particulars, in writing, in duplicate (on Form D), of his or their objections thereto, within two calendar months from the first appearance of this advertisement in the Western Australian Government Gazette. A fee of Ten shillings (10s.) is payable with such notice.

Application No. 3699.—EDWARD WATERS, junior, of 414-418 Collins Street, Melbourne, Victoria (*Raoul Pierre Piclet*), "*Improvements in the method of an apparatus for the Preparation of Gases from their mixture.*"—Dated 31st December, 1901.

Claims:—

1. The hereinbefore described improvement in a process of the specified type, which consists in so conducting the operation that the gas produced at each stage of the evaporation is led off separately and made to abstract heat from a distinct and separate portion of the gaseous mixture to be liquefied substantially as hereinbefore described.
2. In an apparatus for carrying out a process of the specified type the use of one or more dehydrators, each consisting in a chamber containing a casing with partitions and a tubular coil, through which passes liquid cooled by means of any suitable refrigerating apparatus as and for the purposes hereinbefore described.
3. In an apparatus for carrying out a process of the specified type the use of two or more dehydrators, arranged to work in successive stages, and each consisting in a chamber containing a casing with partitions and a tubular coil, through which passes a liquid cooled by means of any suitable refrigerating apparatus as and for the purposes hereinbefore described.
4. In an apparatus for carrying out a process of the specified type the combination of an exchanger and a liquefier containing respectively corresponding numbers of sections and trays or troughs (varying as to number according to the degree of purity desired in the gases to be separated after evaporation), the gas produced in each trough or tray of the liquefier being led through the whole length of the channel of the corresponding section of the exchanger, so as to abstract heat from the gaseous mixture to be cooled and liquefied substantially as and for the purposes hereinbefore described.
5. In an apparatus for carrying out a process of the specified type a liquefier consisting essentially in a number of trays or troughs (varying in number according to the degree of purity desired in the gases to be separated and collected after evaporation) so arranged that the gas produced in each tray or trough is led out therefrom through a separate passage, while the liquefied gaseous mixture is made to pass from tray to tray in order to be gradually evaporated and fractionally distributed substantially as hereinbefore described.
6. In an apparatus for carrying out a process of the specified type the combination with an exchanger such as is hereinbefore described of valves or sluices in connection with the outlets at which gases issue from the exchanger, enabling the collection in varying degrees of purity of the gases separated in the evaporation of the liquefied gaseous mixture and the discharge of gases which it is not desired to collect to be effected without interference with the flow of the liquefied gaseous mixture from one trough or tray of the liquefier to the next substantially as hereinbefore described.
7. In an apparatus for carrying out a process of the specified type the combination with an exchanger fitted with valves or sluices such as claimed in the last preceding claim of a collector, the opening com-

municating with which is regulated by a piston arranged to be moved in one direction by the pressure of gas in the gas-collector substantially as hereinbefore described.

8. In an apparatus for carrying out a process of the specified type the combination with the liquefier or liquefier and exchanger of windows each arranged in conjunction with an escape of cold dry gas from the interior of the liquefier, which by means of internal illumination or by means of arrangements permitting the apparatus to be seen through from side to side enable the flow of liquefied gaseous mixture from one trough or tray of the liquefier to the next and the intensity of the evaporation of the liquefied gaseous mixture in the several troughs or trays to be inspected substantially as hereinbefore described.

9. In an apparatus for carrying out a process of the specified type the combination with the liquefier of arrangements permitting the working of each trough or tray of the liquefier to be regulated separately by means of a cock with a handle or key extending to the exterior substantially as hereinbefore described.

10. In an apparatus for carrying out a process of the specified type the combination with the liquefier of one or more filters, each consisting of a chamber containing partitions with cotton-wool or filter-paper or other filtering material interposed and arranged substantially as hereinbefore described, so as to form a filtering chamber which receives the liquefied mixture of gases to be filtered and retains the solidified carbonic acid, whereby the filtration of the liquefied gaseous mixture from solidified carbonic acid and the removal of such solidified carbonic acid can be effected during the working of the process and without interrupting it.

11. In an apparatus for carrying out a process of the specified type the combination with the lowest trough or tray of the liquefier of a float to indicate the need for adjustment of or to automatically adjust the working of the whole apparatus substantially as hereinbefore described.

12. An apparatus for carrying out a process of the specified type constructed substantially as hereinbefore described.

Specification, £2 ls. Drawings on application.

Application No. 3710.—RICHARD SPARROW, of Perth, Western Australia, Licensed Patents Agent (*John Sedwick Peck*), "*Improvements in systems of Electrical Distribution.*"—Dated 7th January, 1902.

Claim:—

System of electrical distribution arranged and operating, substantially as described with reference to the accompanying drawings for the purpose specified.

Specification, 2s. 6d. Drawings on application.

Application No. 3712.—GEORGE WESTINGHOUSE, of Pittsburgh, Pennsylvania, U.S.A., Manufacturer, "*Improvements in Internal Combustion Engines.*"—Dated 10th January, 1902.

Claims:—

1. An internal combustion engine with a plurality of co-axial explosion cylinders, the pistons of which are connected in tandem, explosive charges being supplied to each end of one cylinder and to one end of the other cylinder, so that three impulses may be given to the piston during every two revolutions of the engine crank.
 2. In a gas engine having a plurality of co-axial explosion cylinders, inlet and exhaust valves for admitting explosive mixture to the adjacent ends of the cylinders and exhausting the products of combustion therefrom, said valves being all located in a casing between the adjacent ends of the cylinders, and being arranged to move at right angles to the line of movement of the pistons substantially as described.
 3. In an internal combustion engine having a plurality of explosion cylinders or a double-acting cylinder, the provision of valves for cutting off the supply of explosive mixture from either or both ends of the double-acting cylinder or from any of the cylinders at will, so as to effect economy in operation.
 4. Internal combustion engines with two or more co-axial cylinders constructed and operating substantially as described with reference to the accompanying drawings.
- Specifications, 4s. Drawings on application.



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Applications for the Grant of Letters Patent