COMMONWEALTH OF AUSTRALIA

Patents Act 1952-1969

COMPLETE AFTER PROVISIONAL SPECIFICATION No. 42777/72

APPLICATION FOR A PATENT

I, CHARLES EDWARD LIM KEE

(Use BLOCK letters)

of 3/16 DUNDONALD AVENUE, EAST MALVERN, MELBOURNE, 3145

hereby apply for the grant of a Patent for an invention entitled

"A SELF-CONTAINED WATER TREATMENT UNIT"

which is described in the accompanying provisional specification.

My address for service is 3/16 DUNDONALD AVENUE, EAST MALVERN, VICTORIA, 3145

RECEIVED 25-5-71

Date

22nd day of May 1971

To:

THE COMMISSIONER OF PATENTS

Charles Edward Lim Kee

(Signature)

The form must be accompanied by either a provisional specification (Form 9 and true copy) or by a complete specification (Form 16 and true copy).

Cheque to value of $4.00

Attached.

Mail Officer
APPLICATION FOR A PATENT

CHARLES EDWARD LIM KEE
(Use BLOCK letters)

of

Unit 3, 16 Dundonald Avenue, East Malvern.

hereby apply for the grant of a Patent for an invention entitled

Water Treatment Unit.

ADDRESS FOR SERVICE

which is described in the accompanying

provisional

specification.

My address for service is

Unit 3, 16 Dundonald Avenue, East Malvern.

Dated this twenty second day of May 1972

To:

THE COMMISSIONER OF PATENTS

This form must be accompanied by either a provisional specification (Form 9 and true copy) with fee of $4, or by a complete specification (Form 10 and true copy) with fee of $24.

Section 34. "34.—(1) Any of the following persons, whether a British subject or not, may make an application for a patent:

(a) the actual inventor;

(b) the assignee of the actual inventor;

(c) the legal representative of a deceased actual inventor;

(d) the legal representative of a deceased assignee of the actual inventor;

(e) a person to whom the invention has been communicated by the actual inventor, his legal representative or assignee (if the actual inventor, his legal representative or assignee is not resident in Australia); and

(f) the assignee of such a legal representative as is specified in paragraph (c) or (d) of this sub-section;

(2) Two or more persons may make a joint application for a patent and a patent may be granted to them jointly.

(3) An assignee of a part interest in an invention may make a joint application for a patent with any of the persons referred to in sub-section (1) of this section and a patent may be granted to them jointly."

Address for Service.—An address for service in Australia at which documents may be served on him personally or on a person specified in the form on his behalf must be stated in the application by the person completing the form.

A person may, by notice in writing lodged at the Patent Office, change his address for service to an address specified in the notice.

Notes.—A declaration must be lodged before acceptance of the application.
DECLARATION IN SUPPORT OF AN APPLICATION FOR A PATENT OR PATENT OF ADDITION.

In support of the Application made by CHARLES EDWARD LIM KEE for a patent for an invention entitled A SELF-CONTAINED WATER TREATMENT UNIT.

I, CHARLES EDWARD LIM KEE of 3/16 DUNDONALD AVENUE, EAST MALVERN, VICTORIA 3145 do solemnly and sincerely declare as follows:

1. I am the applicant for the patent.
2. I am the actual inventor of the invention.

Declared at Melbourne this 22nd day of May 1971.

To: THE COMMISSIONER OF PATENTS.

(Signature of Declarant.)
COMPLETE SPECIFICATION
(ORIGINAL)

Application Number: 42777/72
Lodged: 25/3/72

Complete Specification—Lodged: 25/3/72
Accepted: Deposed acc 4/7 D (1)
Published: 29/11/72

Priority:

Related Art: 228135  34664/58  19698/56

TO BE COMPLETED BY APPLICANT

Name of Applicant: CHARLES EDWARD LIM KEE

Address of Applicant: Unit 3, 16 Dundonald Avenue,
East Malvern, Victoria, 3145.

Actual Inventor: CHARLES EDWARD LIM KEE

Address for Service: Unit 3, 16 Dundonald Avenue,
East Malvern, Victoria, 3145.

Complete Specification for the invention entitled:

A SELF-CONTAINED WATER TREATMENT UNIT

The following statement is a full description of this invention, including the best method of performing it known to me:—

"Note: The description is to be typed in double spacing, pica type face, in an area not exceeding 9½" in depth and 6½" in width, on tough white paper of good quality and it is to be inserted inside this form.

W. G. Murray, Government Printer, Canberra
The invention is described in the following statement............
This invention relates to the use of an electrical apparatus based on the principle of the electrophoresis cell to coagulate and flocculate impurities from aqueous solutions, such as turbid and/or coloured raw water, or wastewater.

The water to be treated is passed through openings between a set of parallel metal plates and when a direct current is impressed, the charges on the colloidal matter are neutralised by the oppositely charged metal electrode and at the same time a hydroxide floc is formed which agglomerates the neutral particles of colour and turbidity as well as the suspended matter.

The metals used will generally be aluminium or iron, but other metals may be used depending on the nature and kind of colloidal matter as well as suspended matter in the water.

As the speed of coagulation and floc formation is much greater than that achieved by chemical dosing, the electrolytic unit can be coupled directly to a backwash filter (Pat. No. 59864 - C. B. Lim Kee) or to a solid-liquid separator. The combined units would then be one self-contained water treatment unit, inasmuch as a continuous flow of clarified water could be supplied from a stream while a small percentage containing the flocculated material is routed back to the original source, and because unlike chemical dosing no acid is formed, no polluting effect on the stream would ensue.

In the case of waste water from manufactories, the cell or unit could process the waste water, as it will also coagulate oil and some kinds of organic colloidal matter, and the clarified water is discharged into the stream, while the sullage is routed back to small holding reservoirs.
The claims defining the invention are as follows:

1) The combining of the electrophoresis cell with a back-wash filter (Pat. No. 59864, C.E. Lim Kee) in one constructional unit to form a complete water treatment plant.

2) The combining of the electrophoresis cell with a solid-liquid separator system in one constructional unit to form a complete water treatment plant.

3) The construction of the electrophoresis cell of such metal electrodes that will provide a flocculant while the colloidal and suspended matter is also coagulated.

Dated this 22nd day of May, 1972.

CHARLES EDWARD LIM KEE

NAME OF APPLICANT

*Note: If there is insufficient space above to type the statement of claim, do not use this sheet, but use separate sheets of paper beginning with the words "The claims defining the invention are as follows:" and ending with the date and the name of the applicant in block letters.*