[HIGH COURT OF AUSTRALIA.]

GRIFFITH . . . . . APPELLANT;
OPPONENT,

AND

NEILSON . . . . . RESPONDENT.
APPLICANT,

ON APPEAL FROM THE COMMISSIONER OF PATENTS.

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MELBOURNE, *Aug.* 29, 30, 31.

Griffith C.J. and O'Connor J.

Patent—Application for patent—Want of novelty—Amendment of specification—Form of order—Extending time for sealing.

An application for a patent for an invention entitled "Non-Septic treatment of sewage and other organic liquid" was opposed on the ground of want of novelty, and the opposition was dismissed by the Commissioner. On appeal to the High Court,

Held, that as to certain of the claims a patent should not be granted, and as to others that a patent should not be granted, unless the applicant within one month should apply for and should obtain leave to amend the specification with regard to them respectively.

The time for sealing the patent was extended until one week after the expiration of the time for appealing from the final decision of the Commissioner in respect of the application to amend or on the final application for a patent or after the determination of any such appeal, as the case might be.

APPEAL from the Commissioner of Patents.

Mathew Montgomerie Neilson applied for a patent for an invention entitled "Non-septic treatment of sewage and other organic liquid."

The complete specification was as follows:—

"This invention relates to the treatment of sewage and other foul waters, organic liquids or liquids containing organic matter, for the purpose of converting the same into innocuous liquid capable of ready disposal. The object of my invention is to provide a thoroughly practical and efficient process for this purpose capable of producing a clear inodorous and harmless effluent, without the production of undue offensive and toxic gases, and

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which system may advantageously replace the present 'septic' tank process.

"According to the non-septic process I am introducing, the sewage is first allowed to ferment or in other words it is exposed to anaerobic action, in order to disintegrate the solids and render the whole amenable to the subsequent treatment, but the fermentation is not, as in the septic treatment, permitted to pass into putrefaction. Subsequently the sewage, before leaving the 'non-septic' tank, is subject to the action of aerobic micro-organisms, by which it is converted into the desired effluent. These aerobic micro-organisms may be permitted to grow naturally under suitable conditions (as *e.g.* a regular supply of oxygen in the treatment chambers or chamber), and, when desirable, suitable artificial cultures of same may be inoculated.

"The great advantage of the 'non-septic' tank system is—1, entire absence of smell even when uncovered; 2, very limited formation of sludge; 3, suitableness of its effluent for direct treatment through filter; 4, its smaller cost.

"While in the 'septic' tank system—1, there is invariably a smell from the tank and its putrid effluent; 2, there is an undue formation of secondary deposits; 3, the effluent is not prepared for the filter and, as nature can only work by evolution and not by leaps, the effluent is unsuitable until its foul gas is liberated at the expense of a portion of the filter; 4, extra cost in larger filter required.

"Various forms of apparatus for carrying out the non-septic process may be adopted but the most practical constructions are illustrated in the accompanying drawings, but only in explanation to further describe my discovery as the shape and the dimensions of the appliances, tanks or filters, as their position, can be changed in various manners without much altering the principle and good results of the process.

"Fig. 1 is a section (vertical section) of a complete 'non-septic' installation.

"Fig. 2 is a plan (horizontal section) of same.

"Fig. 3 is a detail of a section of **D** the sludge and scum disposal plant.

"Fig. 4 is a detail in section **B** and its automatic apparatus.

"Fig. 5 is a detail in plan of same.

"Fig. 6 is a detail in section of the compartments **E** and **G** and their fittings by which with the aid of compartment **F** and its fittings the filters are retained full for a determined period and then automatically discharged.

"Fig. 7 is a detail in section of **F**.

"Fig. 8 is a detail in section of the liberating seal **H** opened by drum **Q** in compartment **F**.

"Figs. 9, 10, 11, are details of various forms of locks **m** either of which, or the like, may be used as automatic intermittent locks and passages for the effluent from tank **A** to filter **B**.

"Fig. 12 is an enlarged drawing of a section of **C** filter.

"The sewage, foul water, organic liquid or liquid containing organic matter, is delivered into the 'non-septic' tank or tanks, **A** preferably below the level of liquid in compartment **a1** (Fig. 1) either direct from the sewage pipe or through a distributing channel or, when advisable, after passing through an intercepting grit and rag trap.

"In the arrangement shown Fig. 2 the tank is divided into two longitudinal compartments **1** and **2** each of which is divided transversely into four compartments Fig. 1, **a1**, **a2**, **a3**, **a4**. The first compartment of each **a1** is built of sufficient size to allow the sewage to ferment, but not to putrify, and here, by fermentation, the organic matter is broken up into finely divided particles. During this process, the lighter particles float to the surface and are held back to disintegrate by the baffle (dip board) **b1** while the effluent, rich in finely divided organic matter rises on the further side of **b1**. Here it is at once brought into contact with the air and passes in a thin sheet over a divisional wall, or weir **c1** in order that it may liberate itself of CO_2 and take up as much oxygen as possible from the air. From this point onwards the anaerobic microbe life rapidly gives way to its more powerful enemies, the aerobic micro-organisms. Passing over the weir **c1** the effluent, entering compartment **a2** descends under the translating board (dip-board) **b2** and again rises to the surface to pass over the weir **c2** where again it takes up further oxygen and so by similar translation the process may be repeated as shown in compartments **a3** and **a4** and further if necessary. The weirs **c1**, **c2**, **c3**, are shown—**c1** level with the water's surface, **c2** slightly below, **c3** again level with the water with a pro-

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jecting level sill on top weather grooved under the lip. Over this sill the effluent spreads in a thin sheet and falls into the following chamber. The object of these weirs is to raise the effluent, and its finely divided matter, into contact with the air during its treatment, and either the one or the other, either in conjunction or separately, I claim as part of my invention.

"The trays, or tray, **e**, under the sill on weir **c3** may be applied to one or all the weirs. It is filled with stones or other non-friable medium (material) of a suitable size, and serves to further induce the aerobic action in the tank. It assists a more rapid decomposition in the tank of the organic matter.

"The principle of my tank is in no way connected with the Stoddart tank, or the like, which have walls submerged 'one foot from the surface' or more, and baffles which serve to retain the organic matter (in suspension) which otherwise would be carried forward arriving on and silting up the Stoddart patent trays, or the apertures in the various forms of sprinklers and fine filters.

"My tank is built so as to assist the aerobic action at the right period, my dip-boards and weirs, with exception to the baffle **b1** in compartment **a1**, are not for to intercept organic matter but to carry it forward and to repeatedly supply the effluent, by translation, with as much oxygen from the air as it can take up, in order that the aerobic life may subsist and do its work in the depths of the aerobic compartments **a2**, **a3**, **a4**, or compartment **a2** if one alone.

"The tank **A** may be entirely open, or preferably covered partially, as shown Fig. 1 **f**. If entirely covered and closed in, it must have a suitable air passage, from an air inlet to through the sewer to a suitable outlet or direct up a short shaft from the roof of the tank or any other such simple arrangement. The floors of the compartments **a1** and **a2** are preferably inclined or scooped and from the lowest point a pipe **g** is placed for removing such matter as collects at the bottom. The pipe may be laid horizontally if there is sufficient fall in the land, or vertically as shown in drawing **g**. The sludge may be removed by pumping but I have invented the simple arrangement Fig. 3 **D**, which started, if sluggish from long neglect, by a plunger **h**, will itself

automatically remove the sludge by the head pressure of the sewage. The surplus scum, in certain cases requires removal, and this is done through the opening j, and when there is no convenient site for its treatment, it is collected in a small tank or casks and from thence when dry hygenically disposed of as manure or otherwise.

"The filter B Figs. 4 and 5, is carefully packed with non-friable medium and well drained at the bottom. The filter is automatically filled with the effluent and after a determined period of contact, automatically emptied, as hereafter described, by means of a simple arrangement of locks and syphons. The sewage passes from the tank A through an inverted U (return bend) S pipe, or other form of lock, as shown in the drawings Figs. 9, 10, 11, or the like to each section of the filter B in unfailing rotation. When there is more than one longitudinal tank, from a trough k as shown in drawing, which allows one or more of the tanks to work alone.

"The effluent passing through the lock, Fig. 5, say m1 which we will start with, and rising in the filter B1 rises also in its compartment E which is open to the filter B in its side at bottom (Fig. 6, n). Arriving in compartment E at the top of the syphon pipe o1 it flows through this pipe till it is sealed and still rising it arrives at the top of pipe p, the effluent flows through this into compartment F Fig. 7 and rapidly rising in this compartment forces air along the pipes from the drums Q and R which are open at the bottom; the one closing its corresponding lock at m1 Fig. 5, the other releasing its corresponding seal H1 thus liberating the lock m2 to which it is connected. The effluent from the trough k now no longer runs into filter B1 from which it has been cut off but it is now running freely through m2 into filter B2. Meanwhile the effluent in compartment F Fig. 7 has risen to the top of syphon pipe S which is now flowing into compartment G Fig. 6, at a flow in proportion to the size of opening at its outlet s2 which is regulated by a nozzle or other reducer. The effluent in the filter is by this means retained for the necessary time. When sufficient effluent has passed into the chamber G to overcome the resistance of the water seal in the bend o2 the main syphon starts. The speed of its flow is regulated, when desired, either by a cock t1

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or cap t2, the upright pipe o3 taking the blow out at the start of the syphon; or by a like arrangement in the effluent channel. Immediately the main syphon starts the resistance to the head in compartment E at the top of its overhead pipe o1 is released and the filtered effluent flowing through this pipe o1, passes out through o2 and continues to flow till the filter B1, in connection with this compartment E is completely emptied. After the spyhon has emptied filter B1 and chamber E it empties its own chamber G Fig. 6 and air passing through its air supply pipe o4 into drum o the syphon is ready to repeat the process when in its turn again called into action. Compartment F has also emptied itself by its syphon pipe s. Filter and all appliances in this section are now resting, ready to repeat exactly the same process when in rotation they are again automatically called into action. The whole process is thus self-acting and tanks and filters can be left alone at their work for months and on inspection will be found to be working with the same splendid results and sureness as when last seen. Beyond the advantageous results claimed and demonstrated for this system and its small cost in construction, there is the evident economy in no labour being required to maintain it in efficient order.

"For a final treatment in special cases, the effluent may be led by a regulated flow on to a filter constructed as follows:—C Figs. 1 and 2. An open tank, the bottom of which has a suitable slope towards the outlet, has laid upon the bottom stones of a suitable size apart one from the other and in line so as to form alleys, large stones are laid over these in such a manner as to expose the undersides as much as possible. Over these are similarly placed smaller stones, then a layer of uniform size, again this size is reduced, till finally a layer of gravel is placed. The surface of the gravel is formed into a series of distributing channels u Fig. 12 lined with washed ashes, sand or the like.

"The filter C receives the filtered effluent by the channels u which are laid out according to the shape of the filter so as to give the most uniform distribution. The effluent rises over the sides of the u channels and percolates through the fine gravel of the ridges v and from thence it trickles till it finds itself at the bottom, from which it freely flows away. Openings w are left at

the higher end of the floor, through which openings the floor of the filter can be cleansed, when required by a rush through of water.

"A supplementary apparatus, more especially designed for the destruction of pathogenic germs, comprises a tank, or compartment, having a species of filter submerged in the liquid, which filter may be formed of a perforated platform, such as a plate, slab, or the like, covered with stones or other infrangible material, broken to a suitable size. The liquid to be treated is discharged into the bottom of the tank to pass upwards through the filter and with it there is injected by suitable means sufficient air, oxygen or oxygenated water to maintain the aerobic life within the filter.

"Having now fully described and ascertained my said invention and the manner in which it is to be performed, I declare that what I claim is:—

"1. In tanks for the treatment of sewage, or other liquid containing organic matter, the use of translating chambers to supply the effluent with oxygen from the air, substantially as described.

"2. In tanks for the treatment of sewage, or other liquid containing organic matter, the application of medium troughs or trays under the lip of the weir or weirs above the level of the liquid as specified Fig. 1, Sec. **A, e.**

"3. In tanks for the treatment described, the use of a sludge or scum removal system substantially as described with reference to drawings **D** Figs. 1 to 3.

"4. In tanks for the treatment described, the addition of micro-organic and certain grub life, when advisable, to facilitate the process.

"5. The application of a biological filter, with automatic appliances for its working substantially as described with reference to drawings Figs. 4 to 11.

"6. In percolating filters, the construction of a filter substantially as described, Figs. 1, 2, 12, **C** and **K.**

"7. In tanks or compartments, for special treatment of sewage tank effluent or other liquid containing organic matter, the application of a submerged aerobic filter supplied with oxygen, oxygenated water or air, as described."

MATHEW MONTGOMERIE NEILSON.

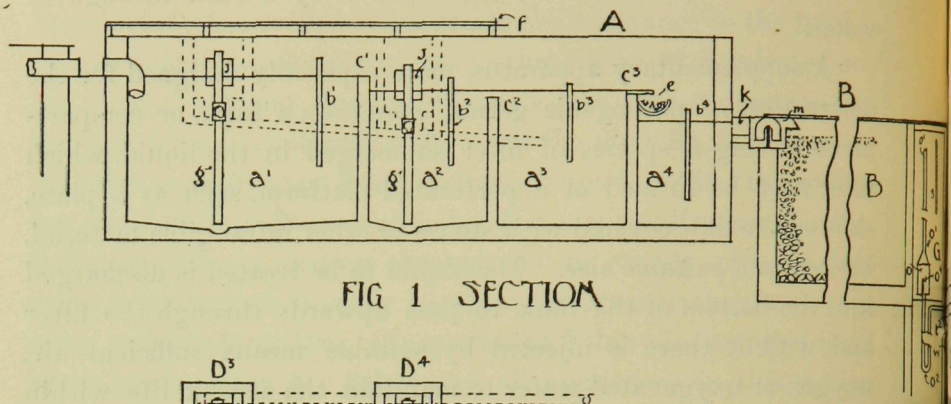


FIG 1 SECTION

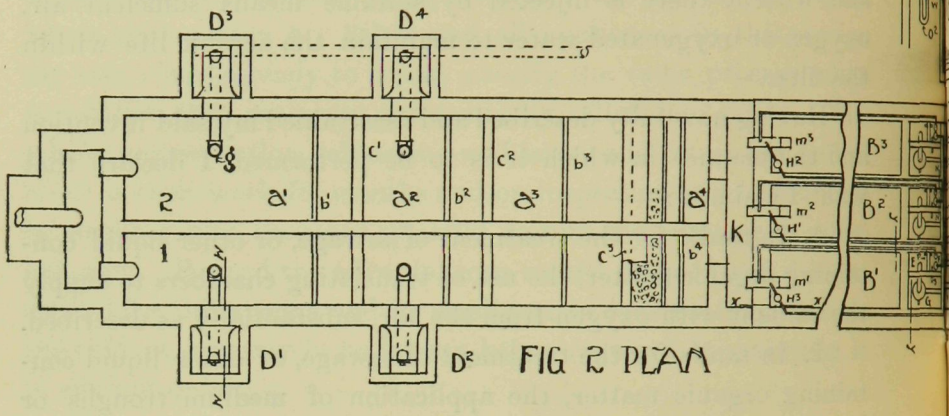


FIG 2 PLAN

FIG 9

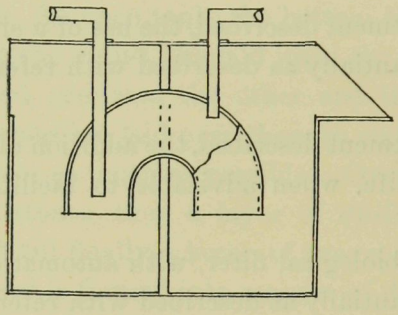


FIG 10

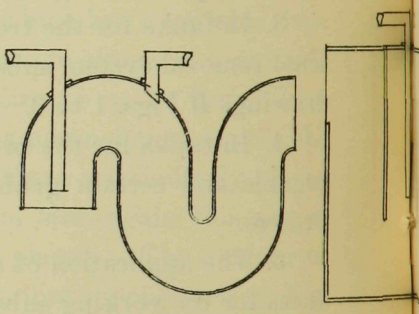
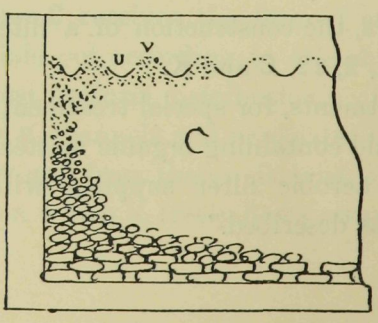
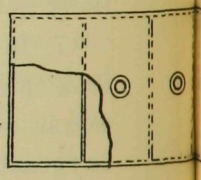


FIG 12



PLAN OF FIG 11 →



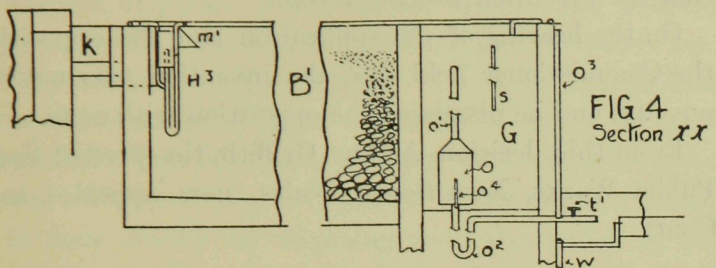
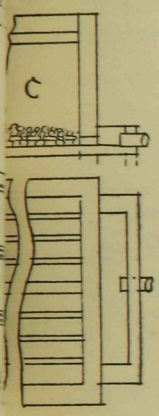


FIG 4
Section x x



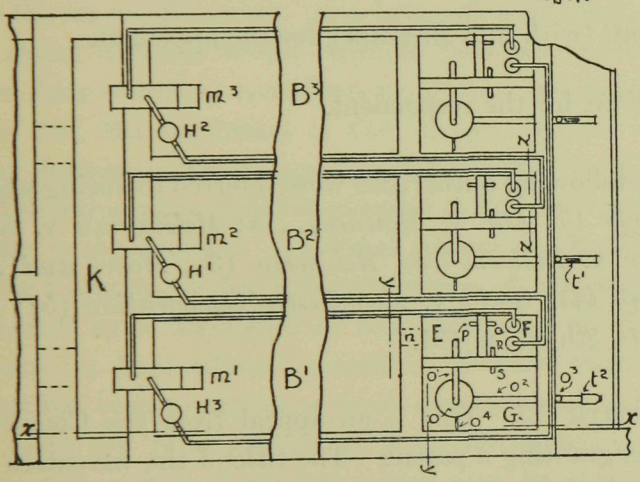


FIG 5
Plan

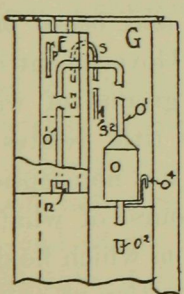


FIG 6
Section y y

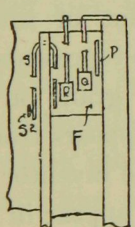
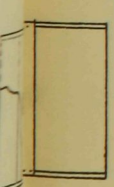


FIG 7
Section z z



— FIG 3 —
Section M N FIG 2

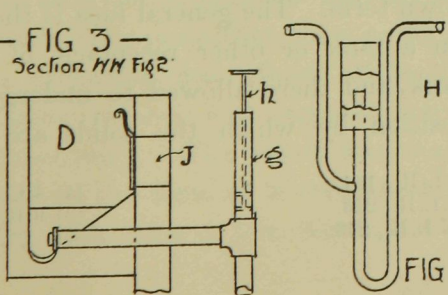


FIG 8

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The application was opposed by Charles A. Lee, the then Secretary for Public Works, New South Wales, on the ground that the invention was not novel.

On the hearing of the application and the opposition thereto the Commissioner held that the invention was not wanting in novelty, and he dismissed the opposition with costs.

From this decision Arthur Griffith, the present Secretary for Public Works, New South Wales, now appealed to the High Court.

Schutt (with him *Braham*), for the appellant.

Arthur, for the respondent.

The following authorities were referred to during argument:— *Linotype Co. Ltd.* v. *Mounsey* (1); *McGlashan* v. *Rabett* (2); *Schwer* v. *Fulham and Robinson* (3); *Moore and Hesketh* v. *Phillips* (4); *Gadd* v. *Manchester Corporation* (5); *Terrell on Patents*, 5th ed., p. 131.

GRIFFITH C.J. This is an appeal from the Commissioner of Patents granting a patent. The title of the invention is "Non-septic treatment of sewage and other organic liquid." The appellant, who represents the Government of New South Wales, objects to the grant on the ground of want of novelty. The invention, as appears from the title, relates to the treatment of sewage, and the inventor calls it a non-septic treatment, although I think it will appear in the course of what I have to say that it is as much septic as that from which he distinguishes it.

Now, in dealing with the question of novelty, regard must be had to the existing knowledge upon the subject at the time of the application. Septic treatment or treatment in septic tanks is a well known term. The general idea is that liquid sewage is collected in a tank or other receptacle of suitable size called a septic tank, and there allowed to undergo a natural process of decomposition by which the solids are disintegrated and the

(1) 9 C.L.R., 194.
(2) 9 C.L.R., 223.
(3) 11 C.L.R., 249.
(4) 4 C.L.R., 1411, at p. 1425.
(5) 9 R.P.C., 516.

whole mass—with a small residuum which sinks to the bottom—becomes fluid. This process takes place by the agency, or at least with the aid, of germs, which do not require the presence of free oxygen for their life and to which oxygen is indeed pernicious. They are known as anaerobes. The fluid escapes from the tank through a screen or filter composed of stones or other suitable material. This effluent is charged with organic matter in suspension. The next step is to get rid of the organic matter and that is done chiefly by exposing it to the action of free oxygen in the air or otherwise. It is believed that another sort of germ, called aerobes, which requires the presence of free oxygen for their existence, contribute to, if they are not mainly responsible for, the resolution of this organic matter into its constituent elements. The means adopted for this purpose are various. Sometimes the liquid is allowed to fall over a succession of steps in the open air. The final process is filtration, the object being to obtain by the conjoint action of oxygen and of the germs, and by a deposition of any suspended or undecomposed matter, a final effluent consisting of pure water. One great object has been to expose as much as possible of the liquid resulting from the fermentative or putrefactive action in the septic tank to the action of oxygen, which may be conveniently described as aeration.

In a book published by Wanklyn and Cooper in 1905 a process is described for which they afterwards obtained a patent, which the authors called "translation," by which the whole body of liquid sewage was made to fall in a small film over a ledge or weir at the further end of the first receptacle into a second chamber in which the height of the liquid was a few inches below that in the first chamber. The second chamber had a vertical division or projection extending downwards across the whole width of the chamber to near the bottom, so that all the liquid must in its flow pass under the projection, then rising again to the water level. This projection was placed about six inches from the weir. The same process was repeated into a third chamber, and so on if necessary. The result was that all the liquid was forced to pass in the form of a thin sheet over the successive weirs, falling each time a few inches, so that the

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whole of it, and not the surface only, was successively exposed to the action of the air. This process, as I have said, the authors called "translation."

The methods of filtration are various. I shall have occasion later to refer to some of them.

That being the existing state of knowledge, I turn now to the specification. The applicant there says:—

"This invention relates to the treatment of sewage and other foul waters, organic liquids or liquids containing organic matter, for the purpose of converting the same into innocuous liquid capable of ready disposal. The object of my invention is to provide a thoroughly practical and efficient process for this purpose capable of producing a clear inodorous and harmless effluent, without the production of undue offensive and toxic gases, and which system may advantageously replace the present 'septic' tank process.

"According to the non-septic process I am introducing, the sewage is first allowed to ferment or in other words it is exposed to anaerobic action, in order to disintegrate the solids and render the whole amenable to the subsequent treatment, but the fermentation is not, as in the septic treatment, permitted to pass into putrefication. Subsequently the sewage, before leaving the 'non-septic' tank, is subject to the action of aerobic micro-organisms, by which it is converted into the desired effluent." He then says "Various forms of apparatus for carrying out the non-septic process may be adopted but the most practical constructions are illustrated in the accompanying drawings, but only in explanation to further describe my discovery as the shape and the dimensions of the appliances, tanks or filters, as their position, can be changed in various manners without much altering the principle and good results of the process." Then he refers to a number of drawings to which he does not tie himself down. The drawings represent a series of four chambers. That into which the liquid first comes is a good deal larger than the others, and the last one is much smaller than the first. No dimensions are given, and he says that is a matter to be varied according to circumstances. Then he goes on to say, describing the first compartment: "In the arrangement shown Fig. 2 the tank is divided

into two longitudinal compartments 1 and 2 each of which is divided transversely into four compartments Fig. 1, a1, a2, a3, a4." —The important point here is that each compartment is divided transversely—"The first compartment of each a1 is built of sufficient size to allow the sewage to ferment, but not to putrefy, and here, by fermentation, the organic matter is broken up into finely divided particles."—I have already pointed out that the breaking up process is the process of the septic tank.—"During this process, the lighter particles float to the surface and are held back to disintegrate by the baffle (dip-board) b1, while the effluent, rich in finely divided organic matter rises on the further side of b1." I should have said that in each of these chambers described by the applicant there is in the chamber what he calls a "dip-board," which I have previously described as a vertical division projecting downwards across the whole width of the chamber but not reaching the bottom. The distance which it reaches is not certain and is not pointed out by the inventor. The specification then continues—"Here it is at once brought into contact with the air and passes in a thin sheet over a divisional wall, or weir c1 in order that it may liberate itself of CO_2 and take up as much oxygen as possible from the air. From this point onwards the anaerobic microbe life rapidly gives way to its more powerful enemies, the aerobic micro-organisms. Passing over the weir c1 the effluent, entering compartment a2 descends under the translating-board (dip-board) b2 and again rises to the surface to pass over the weir c2 where again it takes up further oxygen and so by similar translation the process may be repeated as shown in compartments a3 and a4 and further if necessary. The weirs c1, c2, c3, are shown—c1 level with the water's surface, c2 slightly below, c3 again level with the water with a projecting level sill on top weather grooved under the lip. Over this sill the effluent spreads in a thin sheet and falls into the following chamber. The object of these weirs is to raise the effluent, and its finely divided matter, into contact with the air during its treatment, and either the one or the other, either in conjunction or separately, I claim as part of my invention." I have already pointed out that Wanklyn and Cooper's invention has precisely the same purpose. It exposes the whole of the fluid

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in the form of a thin sheet to the air in its passage through the apparatus. One other passage I should read on this point:— "My tank is built so as to assist the aerobic action at the right period, my dip-boards and weirs, with the exception of the baffle b1 in compartment a1, are not for to intercept organic matter but to carry it forward and to repeatedly supply the effluent, by translation, with as much oxygen from the air as it can take up, in order that the aerobic life may subsist and do its work in the depths of the aerobic compartments a2, a3, a4 or compartment a2 if one alone."

So far it would appear that the real invention, if any, is a new process. From the specification itself and from the evidence of the applicant before the Commissioner, and from the drawings furnished by the applicant, it appears that the first chamber is intended to be as large as the three succeeding chambers, and that the dip-board is placed at such a distance from the inlet as to form a large receptacle in which the ordinary process of a septic tank goes on, a scum arising just as there, and being intercepted by the dip-board. But the liquid from that part must of necessity pass under the dip-board before it can reach the second chamber. Here the process of "translation" begins, and is continued into the third and succeeding chamber or chambers. This process of translation itself is not distinguishable from that of Wanklyn and Cooper, although in the applicants' diagram the dip-boards are at a greater distance from the weirs than in Wanklyn and Cooper's. But this is not relevant to the "translation" of the liquid.

Now the first claim, and the claim is an essential part of the specification—it sets out that for which the patent is granted—is as follows:—"In tanks for the treatment of sewage, or other liquid containing organic matter, the use of translating chambers to supply the effluent with oxygen from the air, substantially as described." It is objected by the appellant that this is a claim, not for a process combining the principles and operation of a septic tank with the "translation" of Wanklyn and Cooper, but for the use of "translating chambers" in the abstract, and would therefore cover Wanklyn and Cooper's invention. The respondent contends that the words "substantially as described" meet

this objection. The effect of those words varies according to circumstances. But in the face of the fact that there is nothing in the specification except the words "of sufficient size to allow the sewage to ferment, but not to putrefy," to indicate that the initial use of the principle of the septic tank is an essential part of the process, or to show the relative size of the different chambers into which the translation takes place, I do not think that the words "substantially as described" have the effect of so limiting the claim. It is therefore too large and includes translating chambers, the use of which is not novel. The patent therefore cannot be granted for the claim in that form.

The third and fourth claims are not objected to, and I need not refer to them.

The fourth claim is:—"In tanks for the treatment described, the addition of micro-organic and certain grub life, when advisable, to facilitate the process." It is conceded that the addition of micro-organisms at various stages of sewage treatment is a well known operation. There is nothing novel in that. What is meant by "certain grub life" is not explained. We do not know what it means. Under these circumstances it cannot be said that there is anything novel in that claim.

The fifth claim is:—"The application of a biological filter, with automatic appliances for its working substantially as described with reference to drawings Figs. 4 to 11." It is not disputed that the biological filter described in the drawings is a perfectly well known appliance, so that there cannot be a patent in respect of that. But we are told that what the respondent desires is to claim the automatic appliances for working the filter which he mentions, and no objection is offered to his getting a grant in respect of them. But as the claim stands it is at least doubtful whether that is the meaning of it, and it is certainly desirable that the claim should be amended.

The sixth claim is:—"In percolating filters, the construction of a filter substantially as described, Figs. 1, 2, 12, C. and K." The description is given in the specification and is as follows:—"For a final treatment in special cases, the effluent may be led by a regulated flow on to a filter constructed as follows:—C. Figs. 1 and 2. An open tank, the bottom of which has a suitable slope

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towards the outlet, has laid upon the bottom stones of a suitable size apart one from the other and in line so as to form alleys, large stones are laid over these in such a manner as to expose their under sides as much as possible. Over these are similarly placed smaller stones, then a layer of uniform size, again this size is reduced, till finally a layer of gravel is placed. The surface of the gravel is formed into a series of distributing channels u, Fig. 12, lined with washed ashes, sand or the like.

"The filter C. receives the filtered effluent by the channels u which are laid out according to the shape of the filter so as to give the most uniform distribution. The effluent rises over the sides of the u channels and percolates through the fine gravel of the ridges v and from thence it trickles till it finds itself at the bottom, from which it freely flows away." It appears that the appliances are identical with those described in a book by Dunbar and Calvert. They did not use the words "washed ashes, sand or the like," but they use the expression "fine grained material," and there is no doubt of the substantial identity between these two things. It is true that those writers think the filter will act in a particular way, and that it will be disadvantageous, but the applicant thinks it will act in another way, and will be advantageous. But that does not make any difference in the identity of the two appliances.

The last claim is:—"In tanks or compartments, for special treatment of sewage tank effluent or other liquid containing organic matter, the application of a submerged aerobic filter supplied with oxygen, oxygenated water or air, as described." The term "aerobic filter" does not mean anything. The term "submerged filter" of the kind described is a well known term. It is merely a bag or vessel containing stones, larger ones at the bottom and smaller ones at the top. The liquid is forced up, first through the larger stones and at last through the smaller ones. That appliance is not new. The only novelty, if there is any, is in supplying oxygen to the liquid before it flows through this appliance. That may be a novelty, and may be a valuable discovery. But the combination of supplying oxygen with the use of a submerged filter is not claimed. A form of combination of that sort, if claimed, might be novel, and might properly be granted a

patent. It is possible that the claim as it stands can be construed to mean that, but certainly that is not the natural meaning, and is not the meaning I attribute to it.

The principal contest is as to the first claim. A great deal of the evidence is quite irrelevant to the question of novelty. It appears that the real nature of the invention is as I have described. It may be a very useful discovery, and, if it is, it is desirable that the respondent should get the benefit of it. We think we may properly follow the principle acted on in *Moore & Hesketh* v. *Phillips* (1), and, while we cannot support the decision of the Commissioner in regard to the patent in respect of this specification, we ought to give the applicant an opportunity of mending his hand and obtaining, as I hope he will, a patent for what may turn out to be a very useful invention.

The form of the order I will read afterwards. It is substantially the same as that in *Moore & Hesketh* v. *Phillips* (1).

O'CONNOR J. If this matter were to be determined on the view of the real nature of the invention, which is to be gathered from the diagrams and the evidence before us, I should have felt very little hesitation in saying, in accordance with the principles already acted upon in this Court, that there was quite sufficient evidence of novely in the invention to allow of a patent being granted for the purpose of an application under sec. 56. But the Court is bound to decide the matter upon the claim. The objection is made to the claim; and for the purpose of the application, and for the purpose of this appeal, the applicant must be bound down to what he has claimed in his claim for a patent. Therefore it becomes necessary to consider the form of the claim at the end of the specification, because it is upon the statement of the invention as claimed there that the decision of the Court must depend. The real substance of the invention is dealt with in the first claim in these words. [His Honor read the first claim.] It may be as well to notice that the word "effluent" is all through the specification used as describing the liquid sewage in course of its transit through these different chambers or tanks in which it is treated. Sometimes the word is used as describing the

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final result of the purification of the water as it issues from the apparatus. But here it is evidently used to describe the liquid as it is going through the process. Now the substance of the claim is clearly this:—The invention is described as being the use of translating chambers to supply the effluent with oxygen from the air. The principle, therefore, is the purification of liquid containing organic matter by applying oxygen from the air to the liquid, and by applying it by a method generally known as the translating method, and by special means described in the specification. Now the words used are "substantially as described." When we look through the rest of the specification, it is clear that the inventor, as he has set forth his invention in the specification, does not claim any particular virtue in placing the dip-board or baffle-board at any particular position in the various tanks in which the baffle-boards are placed; and, as one reads the specification and the claims together, it is clear that what they claim is the aeration of liquid as it passes through from one tank to another—that being secured by the flowing over of the liquid in a very thin stream from one tank to the other, the application of air to every portion of it being ensured, by the use of a baffle-board, which forces by undercurrent every portion of the liquid under the baffle-board to the top and over the lip, and so on through each chamber, till it comes to the final chamber. If the contest here had been only between his invention and the septic tank in use in New South Wales in various places described in the evidence, it is beyond doubt that there is considerable difference between the applicant's method of dealing with the matter and any other method that is in use. The difference really consists in his use of the method of translation which he has described. The ordinary system of septic tanks is described by a diagram of one tank actually in use at Gladesville. It is a common form of tank in which there is one chamber shut out from the air in which the fluid is handed over to the work of the anaerobic microbe which does not require oxygen, and cannot live in free oxygen. After the liquid is putrefied there it finds its way through a kind of filter on to a ledge, and over that ledge down steps, over which it passes into another filter. While it is in a liquid state, and before it comes to the air, it is not subject to any circulation or transla-

tion during which the aerobic microbe has any opportunity of performing its work. But the application of the translating method, unfortunately, is not new. If we look into the state of knowledge on the matter, it is quite clear that in Wanklyn and Cooper's book the authors have suggested precisely the same system, although it is said it has never been carried out.

It is worth while to read a passage from Wanklyn and Cooper's book on Sewage Analysis, p. 92, in order to see how exactly the principle upon which they acted corresponds with the principle which is adopted in this specification. They say:—"In order to cause aeration of the whole mass of the liquid, the plan we propose consists in the continual removal of the uppermost layer of liquid, and the continual putting of that uppermost layer down to the bottom of the reservoir. We feed at the bottom and run liquid off from the top."

Then the system is described. My learned brother the Chief Justice has gone into it with quite sufficient detail to make it unnecessary to refer to it further. It is described in the first instance as a system in which the liquid passes from one tank to another by means of pipes. With regard to that they suggest an alternative method at p. 98:—"What would happen if the pipes were too few or too narrow? We reply that, in that case, the level of the liquid would rise, and the liquid would run over the partitions, making little waterfalls. The remedy would, of course, be to widen the pipes and to have more of them. If the pipes were too numerous and too wide, the only evil would be waste of pipe, and there would be no hindrance to the working of the machine.

"Obviously, too, instead of pipes there might be simply an additional partition attached to both sides, but not quite reaching down to the bottom of the tank; and that arrangement would be equivalent to having only one flattened-out pipe."

That is precisely the arrangement spoken of as the dip-board or baffle-board in the applicant's specification. In the illustration given in Wanklyn and Cooper's book, the dip-board or baffle-board is put close to the near side, the entrance side of each tank. In the sketch in the specification in this case, it is put in various

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places—away from the near end—in most cases rather towards the far end. Nothing is claimed as to the position of the board as being essential to the invention; and, as it may be put where the inventor wishes according to circumstances, there is absolutely nothing to distinguish the invention in that respect from what appears to be the existing knowledge. The invention, therefore, is not new, and in the shape in which the specification and claim stand at present, the objection for want of novelty must succeed as to the first claim.

As to the fourth claim, it is clear that there is nothing novel about that.

As to the fifth claim, if properly amended, that is not objected to. If the only claim is for the automatic appliances for working the biological filter there must be an amendment to make that clear

The sixth and seventh claims stand on quite a different footing. As to the sixth, it is clear that that particular kind of filter is well known. It has been described and apparently is in use as pointed out by a passage in Dunbar and Calvert's book.

As to the seventh claim, I agree that if it were put in the form of claiming a combination of the use of oxygen with the submerged filter in this particular process in order to bring about the result aimed at in a more efficient way than before, it would be a good invention; and, as other amendments have to be made, it would be wise to make that one also.

That being so, the appeal must be allowed in respect of the claims which we hold to be bad. At the same time I think it is certainly one of those cases in which the principle adopted by this Court in *Moore & Hesketh* v. *Phillips* (1), should be followed. At this stage of the application, inquiry is made by the Commissioner and objections are allowed merely for the purpose of thrashing out in a general way whether the invention is one which ought to be put on the file. Registration does not guarantee its validity. Afterwards some question may be raised on the trial of an action for infringement which may show that the grant is quite invalid. For the present purpose all that is necessary is to give the inventor an opportunity to put his invention

(1) 4 C.L.R., 1411.

on the file and put it into practice, and at the same time give an opportunity to persons objecting to bring forward any matter which obviously ought to prevent the invention from being put on the public records as protected.

As I said at the beginning, it is quite clear that there is in this invention something which is novel and apparently useful; and, if we are to judge by the evidence, it is actually working most efficiently where it has been tried at Kenmore and Gladesville. I agree that the inventor should have an opportunity to put his claim in such a shape as will enable him to get a patent for it, if it can be put in such a way as to show novelty in invention.

It appears to me that the substance of the invention may be described in this way. The applicant takes the old septic tank method which relied altogether upon the action of anaerobic microbes. He stops the process of decomposition and prutrescence at a certain point, and introduces a system of aeration. That operates in two ways. It operates as described in Wanklyn and Cooper's book, and it also operates by the introduction of aerobic microbes. The merit of the invention appears to be in enabling the solids in the liquid to be kept circulating with the liquid until they are gradually disintegrated and disposed of, so that when the liquid comes to the filter stage, it is really in a much better condition to be treated than under the older system.

I cannot see that there will be any difficulty in stating the claim to that invention in such a way that its novelty will be apparent on the face of it. I therefore agree that an opportunity should be given for doing so, and I agree with the form of order which I have had an opportunity of seeing.

Appeal allowed. Decision appealed from discharged. Declare that the grant ought not to be made in respect of claims 4 *and* 6, *and ought not to be made in respect of claims* 1, 5 *and* 7, *unless the respondent within two months applies for, and on such application obtains, leave to amend the specification with regard to them*

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respectively. The time for sealing the patent to be extended until one week after the expiration of the time for appealing from the final decision of the Commissioner in respect of the application to amend, or on the final application for a patent, or after the determination of any such appeal as the case may be. Respondent to pay the costs of the appeal.

Solicitors, for the appellant, *Braham & Pirani.*
Solicitors, for the respondent, *Minter, Simpson & Co.*

B. L.

[HIGH COURT OF AUSTRALIA.]

UNION BANK OF AUSTRALIA LTD. . . . APPELLANTS; DEFENDANTS,

AND

ALBERT ERNEST RUDDER . . . . . RESPONDENT. PLAINTIFF.

ON APPEAL FROM THE SUPREME COURT OF NEW SOUTH WALES.

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SYDNEY, *Aug.* 16, 17, 18.

Griffith C.J., Barton and O'Connor JJ.

Principal and agent—Ratification—Guarantee—Principal and surety—Goods consigned to forwarding agent for delivery to purchaser—Goods delivered without production of shipping documents to agent of vendor—Agreement to indemnify forwarding agent against claim by holder of shipping document—Endorsement of guarantee—Co-surety—Misappropriation of goods by agent.