

COMMISSIONER'S DECISION

UNOBVIOUS: In View of Prior Art,

The use of first and second means predetermining discrete seed growing locations in greenhouse soil trays; the growing locations of each means being different from the other and the second means being used for planting after the planting using the first means has been harvested, is unobvious over the prior practice of haphazard over-planting, such as growing chrysanthemums between dormant daffodil bulbs.

FINAL ACTION: Affirmed in part; amendment accepted.

This decision deals with a request for review by the Commissioner of Patents of the Examiner's Final Action dated January 16, 1973 on application 057,743. This application was filed on July 23, 1969 in the name of Yull G. Poon and refers to a "Greenhouse Space-Saving Device". The Patent Appeal Board conducted a Hearing on February 13, 1974, at which Mr. J.A. Enstone and Mr. C. Curphey represented the applicant.

The application relates to a method and apparatus for growing successive cycles of plants in greenhouse soil trays which eliminate aeration and cleaning of the soil between cycles. The soil is first covered with a multiperforated paper layer which will retain moisture in the soil and inhibit weed growth. At the time of planting the paper is covered with a layer of rigid material through which are drilled holes according to a predetermined plan. Seeds are planted in the holes, the rigid material removed, and the plants grown through the paper layer and subsequently harvested. The process is repeated using a fresh paper layer and a different rigid layer in which the drilled holes are located in a different position than in the first. The process may be repeated several times to utilize new growing locations for other plants.

In the prosecution terminated by the Final Action the examiner refused claims 1, 2 and 5 as being obvious in view of the following references:

Home Vegetable Growing Canada Department of Agriculture Publication #1059, 1959, Tables 1 and 2, and page 9.

The Beginning Knowledge Book of Backyard Flowers by Polly Hathaway ... Rutledge Book, Inc. 1965.

This art shows methods of planting showing different growing cycles of plants in gardens and other outside areas (rather than in greenhouse trays).

In the Final Action the Examiner stated in part:

It is conceded that the publications do not directly teach the applicant's method or apparatus. However the claims are rejected as being obvious in view of the cited references since the use of the principle in soil trays in greenhouses is not considered patentably distinct from the principle as used in outdoor gardens or as used in reforestation areas. The principle of planting successive crops wherein the second crop is planted after the first crop is harvested but in different discrete locations from the first crop while leaving the roots of the first crop in the soil is known in reforestation areas. The principle is known in reforestation and appears to be well known in outdoor gardening. The use of this principle in soil trays to be used in greenhouses is obvious and is not patentably different. Likewise planting seeds is not inventive over planting seedlings or bulbs and applicant may not rely on the fact that he is planting seeds as a factor in patentability.

Publication #1059 discloses on page 9 at lines 10-12 that planting successive crops after an earlier crop is harvested is known and Tables 1 and 2 could be used in selecting the crops. It would be obvious that the second crop need not be at the same discrete growing locations as the first crop and in all probability would be at slightly different locations. Roots from the first crop, unless deliberately pulled out, would remain in the soil, and it is common to leave roots of many crops in the soil.

The Hathaway reference discloses a Garden Plan which shows alternate flowers in one row i.e. daffodil and chrysanthemums. Daffodils are planted in the fall and bloom in early spring. The chrysanthemums are planted in May. In the plan the chrysanthemums are shown between the daffodil bulbs which indicates that the chrysanthemums are planted while leaving the roots of the daffodils in the soil. As pointed out previously, it is not inventive to plant seeds instead of bulbs or in trays in a greenhouse instead of outdoors.

The applicant in his response dated April 12, 1973 to the Final Action stated in part:

With respect to Publication #1059, the Examiner relies upon the teachings on page 9 at lines 10 and 12. The Examiner states that this part of the publication teaches that planting successive crops after an earlier crop is harvested is known and Tables I and II could be used in selecting the crops. All the reference teaches in this isolated passage is that successive crops of lettuce, carrots, beets, radish, cress and spinach may be obtained by successive sowings, and that these should be planted after early crops of lettuce, radish, spinach or peas are harvested. The Examiner concludes that it would be obvious that the second crop need not be at the same discrete growing locations as the first crop and in all probability would be a slightly different locations. The Examiner also deduces that the roots from the first crop, unless deliberately pulled out, would remain in the soil. However, there is absolutely no positive teaching of deliberately leaving the roots in the soil or of choosing different discrete locations for successive plantings.

Applicant questions how, in the absence of the teachings of his specification, one can proceed to harvest the first crop and then select a second plurality of discrete growing locations, with each of the second growing locations being different from each of the first growing locations. Once the first crop has been harvested in an outdoor garden, there is simply no way to know where the roots of the first crop are. Thus, Publication #1059 totally fails to even remotely suggest the novel method and apparatus described and claimed by applicant.

The Examiner also cites the Hathaway reference making particular reference to its disclosed garden plan showing alternate flowers in one row i.e. Daffodils and Chrysanthemums. The Examiner points out that the plan shows Chrysanthemums between the Daffodil bulbs, and he concludes that this indicates that the Chrysanthemums are planted while leaving the roots of the Daffodils in the soil. There is absolutely no such teaching to warrant such a conclusion. Furthermore, there is certainly no teaching that the Daffodils are "harvested" prior to planting the Chrysanthemums. If such harvesting does not take place, then it would be very easy to locate where the Chrysanthemums should be planted. However, once harvesting has taken place, the stems of the Daffodils have been removed and the soil reworked, it would be most difficult to ensure that the Chrysanthemums were planted in discrete growing locations that are different from each of the growing locations of the Daffodils. In fact, there would be no certainty that the Chrysanthemums would not be planted right over the Daffodil roots and bulbs underneath the soil.

A hearing was held on February 13, 1974 at which time several important issues were discussed, and as a result the applicant indicated his willingness to make certain amendments to the claims. One of the issues raised was that amended claims 8 and 9, which were

to replace claims 1 and 5, would read on other modifications not intended to be covered by the applicant. A second issue was the question of the breath of claiming in claims 8 and 9. On February 18, 1974 the applicant was requested by telephone to forward in writing the amendments he proposed for consideration by the Board. The applicant responded by submitting an amendment, dated February 25, 1974, which reads in part:

Since the hearing, I have had the benefit of a discussion with the Assistant Chairman of the Patent Appeal Board concerning one of the points which was raised at the Hearing. Following upon that discussion I now submit for your consideration two fresh copies of the claims with some amendments as noted below. I believe that these amendments will overcome the problem raised at the Hearing.

Claim 1:

This claim is the newly proposed claim 8 (the method claim) renumbered as claim 1 with the following suggested amendments.

- L. 3 The clause "utilizing substantially the total area of each tray" has been added.
- L. 6 (L. 1 of sub-paragraph (a)) The clause "utilizing selection means to select" has been added and it will replace the word 'selecting'.

Claim 2:

- L. 3 The reference to steps (d), (e) and (f) of claim 1 has been changed to steps (e), (f) and (g) consequent upon the changes in claim 1.

Claim 3:

- L. 1 The reference to step (a) of claim 1 has been changed to step (b) consequent upon the changes in claim 1.

Claim 4:

- L. 1 The reference to steps (c), (d) and (f) of claim 3 has been changed to steps (d), (e), and (g) consequent upon the changes in claim 1.

Claim 5:

This claim is the newly proposed claim 9 (the apparatus claim) renumbered as claim 5 with the following suggested amendments:

- l.. 3 The clause "utilizing substantially the total area of each tray" has been added.

Claims 6 and 7:

These claims remain unaltered.

I believe that these suggested amendments clear away the difficulty raised for the first time at the Hearing.

The first question which must be considered is what is the scope and contents of the prior art cited.

The Hathaway reference discloses a "Garden Plan" which shows alternate flowers in one row, i.e. daffodils and chrysanthemums. The daffodils are planted in the fall and bloom in early spring. The chrysanthemums are planted in the spring, after the daffodils have bloomed and are cut back. In the plan the chrysanthemums are shown between the daffodil bulbs, which indicates that the chrysanthemums are planted while leaving the roots of the daffodils in the soil. This reference discloses that the basic concept of planting between the roots of other plants is known in the art.

The publication #1059 reference relates to the planting of successive crops after an earlier crop is harvested. According to tables 1 and 2 the second crop need not be grown in the same location as the first.

The next question to be decided is whether claims 1 and 5 as amended are directed to a patentable advance in the art over the prior art cited. Rejected claim 2, which depends on amended claim 1, adds additional procedural steps, and will stand or fall with claim 1.

Amended claims 1 and 5 read:

1. A method of growing plants in a greenhouse from seeds in soil trays in which each soil tray can be used for at least two growing cycles utilizing substantially the total area of each tray without the necessity of cleaning the trays or aerating the soil comprising the steps of:

- (a) utilizing selection means to select first and second predetermined pluralities of discrete growing locations in at least one soil tray, each of the predetermined second growing locations being different from each of the first predetermined growing locations;
- (b) placing seeds in said first predetermined plurality of discrete growing locations;
- (c) carrying out a first plant growing cycle in the tray in the greenhouse under controlled growing conditions;
- (d) harvesting plants from the tray at the end of the first growing cycle while leaving the roots of the plants just grown in the soil;
- (e) placing seeds in said second predetermined plurality of discrete growing locations;
- (f) carrying out a second plant growing cycle in the tray in the greenhouse under controlled growing conditions; and
- (g) harvesting plants from the tray at the end of the second growing cycle.

5. An apparatus for growing plants in a greenhouse from seeds in soil trays in which each soil tray can be used for at least two growing cycles utilizing substantially the total area of each tray without the necessity of cleaning the trays or aerating the soil comprising:

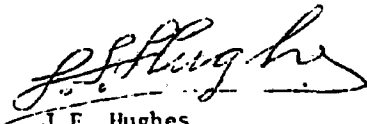
- (a) means for selecting first and second predetermined pluralities of discrete growing locations for seeds in at least one soil tray, each of the predetermined second growing locations being different from each of the first predetermined growing locations;
- (b) means for carrying out first and second sequential plant growing cycles in the tray in the greenhouse under controlled growing conditions; and
- (c) the said tray including means for enabling plants to be harvested from it after each growing cycle has been completed while leaving the roots of the plants just grown in the soil.

It is noted that the method of claim 1 involves at least two growing cycles without cleaning or aerating the soil. The claim also covers "selection means to select first and second predetermined pluralities of discrete growing locations...." There is no means for selecting

first and second predetermined areas shown in the art cited. The "Garden Plan" reference discloses only the basic idea of planting without removing the roots from the previous crop. This, however, is not a predetermined planting procedure, but is more on the idea of putting a plant in an open area, as is a common procedure in most small flower gardens. The method of claim 1 when taken as a whole is not taught, nor suggested by the art cited. In our view, therefore, claim 1 discloses a patentable advance in the art. Claim 2 which depends on claim 1 is also considered to be acceptable.

Amended claim 5, which is an apparatus claim, is of substantially the same scope as amended claim 1, and avoids the prior art by including the same basic limitations. Accordingly, the same arguments apply to claim 5 as were applied to claim 1, and claim 5 should also be acceptable.

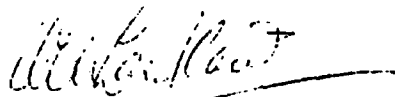
The Board is satisfied that the claims as amended overcome the rejection made in the Final Action, and recommends that the amended claims be accepted.



J.F. Hughes,
Assistant Chairman,
Patent Appeal Board.

I concur with the findings of the Patent Appeal Board. Accordingly, I accept the amended claims and return the application to the examiner for resumption of prosecution.

Decision accordingly,



A.M. Laidlaw,
Commissioner of Patents.

Dated and signed in
Hull, Quebec this
5th day of March, 1974.