

VAN DEUSEN AND OTHERS *v.* NELLIS.

Circuit Court, N. D. New York. October 29, 1881.

PATENTS FOR INVENTIONS—REISSUE NO. 8,962.

There is nothing in the first claim in reissue No. 8,962, granted to John E. Hetherington, November 11, 1879, for an “improvement in artificial honeycomb foundations,” in view of the inventions already existing which can be considered patentable.

In Equity.

John Van Santvoord, for plaintiffs.

Horace E. Smith, for defendant.

BLATCHFORD, J. This suit is founded on reissued letters patent No. 8,962, granted to John E. Hetherington, November 11, 1879, for an “improvement in artificial honey-comb foundations,” the original patent having been granted to him, as inventor, October 1, 1878. The following is the specification of the reissue, including what is inside and what is outside of brackets, omitting what is in italics:

“Figure 1 {represents} *is* a front view. Figure 2 is a transverse {vertical} section in the plane, *x, x*, figure 1, on an enlarged scale. Similar letters indicate corresponding parts. This invention consists in {a honey-comb foundation produced from a cake of wax having on each side a series of hexagonal depressions with flat bottoms, said bottoms forming a continuous sheet, from each side of which rise the ribs which form the borders of the hexagonal depressions, whereby the cost of such honey-comb foundations is reduced and the durability of the article is increased; also,} in the combination with an artificial honey-comb foundation {produced from wax} of wires {or other strands} which pass through the foundation and prevent it from sagging and stretching, and also strengthen it, thereby

making it less liable to breakage while being handled; [further.] *The invention also consists* in the combination with a honey-comb foundation [produced from wax] of one or more supporting wires or strands, extending across the [foundation] *cake* at suitable points to prevent sagging when in the hive and breakage in handling. As is well known, artificial honey-comb foundations [are produced from] *consist of* sheets or cakes of wax, which are pressed between rollers or dies, whereby the sheets receive a series of hexagonal depressions, presenting the appearance of a honey-comb in section. These *cakes or* foundations are placed in the bee-hives, and by this arrangement the bees are caused to build their cells regularly. [In all the artificial honey-comb foundations of this class known to me, the bottoms of the hexagonal depressions have been made in the form of an inverted pyramid, and, in order to produce this shape, a considerable depth of wax is required, and, furthermore, the operation of forming such foundations requires great care. My foundation is made of a cake, A, of wax with a series of hexagonal depressions, a, the bottoms, b, of which are flat, and, in fact, form a continuous flat sheet, (see figure 2,) from each side of which rise the ribs, c, c, forming the sides of the hexagons. In order to give additional strength to the flat bottom of each depression, the ribs, c, on one side of the cake, A, are so placed that they unite in the center of one of the depressions on the opposite side, and *vice versa*, as indicated by dotted lines in figure 1 of the drawings. By this arrangement I am enabled to produce artificial honeycomb foundations with great economy of wax, since the weight of one of my flat-bottomed foundations is less than one-half of that of one of the old foundations 597 with pyramidal bottoms covering the same; and, furthermore, my flat-bottomed foundations can be formed much easier than those with pyramidal bottoms, so that in their

production a considerable saving of time and labor is effected in addition to the saving in stock. In order to increase the strength of the artificial honey-comb foundation produced from wax, I apply to the same a series of wires, *d, d.*] *It has been found, however, that these foundations stretch or sag when they are put into the hive, by which defect their utility is greatly impaired. Another objection is that these cakes are very frail, and consequently they are easily broken or cracked while being handled. Referring to the drawings, the letter a designates the depression in the cake of wax, and b are the elevated rims or ridges separating these depressions from each other. The letters, d, d, indicate a series of wires which pass through the foundation. These wires may be inserted into the sheets of wax before they are pressed between the rollers or [the] dies; or they may be inserted during the process of manufacture, in any suitable manner, the characteristic feature or principle of [my] the invention being that the wires or strands of inelastic material are imbedded in the cake or [foundation,] comb, or traverse the same on either or both sides. These wires pass through or are inserted into the foundation at a distance of about seven-eighths of an inch apart. Of course, I do not limit myself to that precise distance; but I have found that the best result is obtained if the wires are thus placed. By this arrangement I strengthen the honey-comb foundation, making it less liable to injury while being handled, and also prevent it from sagging or stretching, [to which foundations of this class are subjected, particularly in hot weather.] Of course, I do not limit myself to wires to produce this result, since threads or strands of any inelastic or non-expanding material may be used as well. [I do not claim as my invention an artificial honey-comb foundation produced from a cake of wax having on each side hexagonal depressions with pyramidal bottoms, such being old and well-known.] What I*

claim as new and desire to secure by letters patent is—1. [As a new article of manufacture, an artificial honeycomb foundation produced from a cake of wax having on each side a series of hexagonal depressions with flat bottoms, said bottoms forming a continuous sheet, from each side of which rise the ribs which form the borders of the hexagonal depressions, substantially as shown, and described. 2.] The combination, with a honey-comb foundation [produced from wax.] Of wires [or strands,] embedded in and passing through the foundation, to increase its strength and durability, substantially as set forth. [3] 2. The combination, with a honey-comb foundation [made of wax,] of one or more supporting wires extending across the [foundation] *cake*, whereby the sagging of the [foundation] *cake* is obviated when in the hive and the liability to breakage in handling is prevented.”

Reading in the foregoing what is outside of brackets, including what is in italics, and omitting what is inside of brackets, we have the text of the specification of the original patent.

The specification of the original patent does not claim a honeycomb foundation having hexagonal depressions with flat bottoms, either made of wax wholly or in part, or made of some other substance. The embedded wires are made a necessary feature of the first claim of the original, and the supporting wires are made a necessary feature of the second claim of the original. The first: claim of the original is converted into the second claim of the reissue, and the second claim of the original is converted into the third claim of the reissue, with the limitation, in the second claim of the reissue, 598 that the foundation is to be produced from wax, and with the limitation, in the third claim of the reissue, that the foundation is to be made of wax. The text of the original specification does not make any allusion to the fact that the hexagonal depressions have flat bottoms. But figure 2 of the drawings in

the original shows that the bottoms are flat, and the specimen filed in the patent-office with the application for the original patent showed it. So, also, the text of the original specification did not allude to the fact that the ribs on one side of the cake are so placed that they unite in the center of one of the depressions on the opposite side, and *vice versa*. But that was shown in figure 2 of the drawings of the original and in the said specimen.

It is shown that the defendant has infringed the first claim of the reissue. The main defense is that there is nothing in such first claim, in view of what existed before, which was patentable. It is admitted that an artificial honey-comb foundation produced from a cake of wax having on each side a series of hexagonal depressions with pyramidal bottoms, the cake forming a continuous sheet, from each side of which rose the ribs forming the borders of the hexagonal depressions, existed before. But it is claimed that the foundation with flat-bottom depressions requires less wax, and is thus cheaper, besides requiring the consumer to eat a less quantity of artificial comb. It is said that where the depressions have pyramidal bottoms, or lozenge-shaped bottoms, the base and the side walls are so thick that the bees, in building up the cells, do not thin the wax sufficiently, whereas where the bottoms are flat the base is thin and the side walls are thin and can be high and sharp, so that the bees utilize the excess of wax in constructing the comb, and thus time and labor and material are saved.

The patent granted to Samuel Wagner, No. 32,258, May 7, 1861, for "artificial honey-comb," is introduced by the defendant. The specification says:

"My new manufacture consists in a substitute for the central division or foundation of the comb built by bees, either with or without the whole or any portion of the walls forming the hexagonal cells projecting from the division, which substitute is artificially and

suitably formed upon both sides or faces and of any suitable material which is susceptible of receiving the desired and necessary configuration. * * * Figures 1 and 2 of the drawings represent my new manufacture in plan, the black lines showing the salient angles on the obverse side, from which spring its walls, which form hexagonal cells. The red lines show similar angles on the reverse side, and the red and black lines illustrate the relative disposition of the cells,”

Figures 1 and 2 show that the ribs on one side are so placed that they unite in the center of one of the depressions on the opposite side, and *vice versa*. “Figure 1 represents comb foundation suitable for the foundation of drone comb, while figure 2 represents that suitable for worker comb.” The hexagons in the comb in figure 1 are of larger 599 size than those in the comb in figure 2. The specification then goes on to describe apparatus for making the foundation:

“Figures 3a and 3b are elevations of one of the hexagonal solids, which, when used as herein specified, will produce the comb foundation shown in figure 1, and in section on an enlarged scale in figure 4. A mould is prepared, similarly to those used in the production of printers’ type, in which solids are cast which will accurately fill the interior of a newly-formed cell of a natural comb of the kind of which it is desired to form the central division. Numbers of type or solids being produced, they are locked together in a form like printers’ type, and *fac similes* of the assemblage are produced by either of the well-known processes of stereotyping or electrotyping. Two of these stereotypes or electrotypes are made to act, by means of a press or otherwise, upon the opposite sides or faces of an interposed sheet of suitable material, which action gives the sheet the configuration desired. It is best to obtain in this division or foundation, sheet a uniform degree of tenuity, which can only be done by closely imitating the natural waxen comb, which is

effected by so placing the dies that the apices formed at the juncture of the three rhomboidal facets of each hexagon shall be exactly opposite the juncture of the sides of three facets of adjacent hexagons forming the reverse side. The angles of the rhomboidal facets should be as nearly as possible 109° and 71° , and the dies should not be permitted to approach each other so nearly as to reduce the thickness of the interposed material much less than the one-hundredth part of an inch. Should it be deemed desirable to form the hexagonal walls of the cells, or any portion of them, the type or solids should be formed as seen in figures 3a, 3b, with a band or projection around them of about the one two-hundredth part of an inch in thickness, and some taper may be given to the type from the band towards the rhomboidal facets. * * * Among the many materials which may be used may be mentioned compounds of which wax forms a part, rubber and gutta percha, and compounds of which they, or either of them, are components, *papier mache*, etc. Thin sheets of metal, reduced to the tenuity of foils, may be used, though I prefer good non-conductors of heat, improved by being rendered water-proof, if not so. Very many materials and compounds not mentioned may be used, but it is unnecessary herein to attempt to specify them, as my invention is not confined to, and is independent of, any particular material. It may be mentioned that, with some materials, heat, as well as pressure, may be used in shaping the artificial comb foundation. Many variations may be made in my invention, which, though not improvements upon it, embody its essence. For example, the relative arrangement of the impressing dies may be varied, so as to produce a different arrangement of cells on the obverse and reverse sides of the comb foundation from that shown in the drawings, in which case the thickness of the division plate would have to be increased; provided the pyramidal depressions made

by the three rhomboidal facets terminating each hexagon were retained. Such depressions might be dispensed with, and the foundation sheet might be impressed, so as to leave slightly projecting ridges of the material from which the sides of the cells can be extended On each side of the sheet. But I do not recommend any departure from the closest imitation possible of the natural central sheet of the comb as formed by bees. To render the artificial comb foundation acceptable to the bees, it is not requisite that any portion of the sides of the cells should be formed thereon, as the salient angles on either side, formed at the edges of the described depressions, are a sufficient guide to the bees, and from them they will commence the waxen sides of their hexagonal cells. By the employment of my invention in bee-hives, perfect regularity of combs and their kind is insured, and the production of drones prevented to any extent desired. I propose to take honey from store combs built upon my artificial foundations, by removing 600 the full combs from the hives, and by slicing off the natural waxen superstructure. The artificial central portion of the” comb being then replaced in the hive, will be again built upon by the bees, saving to them always the elaboration of wax and the time required for the construction of this part of the comb, which consumes more time in its natural construction than any other parts of the comb of equal weight, because fewer laborers can be engaged upon it at one time than on other portions.”

The claim of Wagner’s patent is this:

“As a new article of manufacture, artificial substitute for the central division of comb built by bees, which presents to them, on both sides thereof, guides for the construction or continuation of the sides of the comb cells, whether the same is constructed with or without the whole or any portion of the sides of the cells.”

It is objected to the Wagner patent that it does not speak distinctly of a foundation made wholly of wax. It does not exclude such a foundation, and such a foundation is within the general terms of the materials spoken of in it. It names compounds of which wax forms a part. Foundations wholly of wax, and otherwise answering Wagner's description, existed before Hetherington's invention. Wagner distinctly says that the pyramidal depressions may be dispensed with, and the foundation sheet, which is necessarily a flat sheet, be impressed so as to leave slightly projecting ridges of the material. It is true that he says he does not recommend any departure from the closest imitation possible of the natural central sheet of the comb as formed by bees. Some persons may prefer pyramidal bottoms; some may prefer flat bottoms. Wagner shows the use of either as a mechanical structure. Hetherington, for certain reasons, preferred flat bottoms. Others think that such reasons for using flat bottoms are overborne by other reasons for using pyramidal bottoms. With the Wagner patent, and with foundation made wholly of wax, with pyramidal depressions, there was no invention in the first claim of the plaintiff's reissue. It was a mere selection of a form of foundation which Wagner described, besides showing how to make it. The use of wax alone in such form, after wax alone had been used for the foundation with pyramidal depressions, did not make the foundation of that form made wholly of wax a new manufacture, or a new invention, in the sense of the patent law.

This is an action at law, which has been tried before the court without a jury. On the facts, I find generally for the defendant, and direct that judgment be entered for him, with costs.

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