AMERICAN STRAWBOARD CO. v. ELKHART EGG-CASE CO.

(Circuit Court, D. Indiana. January 27, 1898.)

No. 112.

1. PATENTS—INVENTION—PROCESSES.
   Elasticity, being a known law of nature, the use of it in a known manner is not an inventive act.
2. SAME—MECHANICAL PROCESSES.
   The method of forming egg-cases from strawboard, consisting in cutting the material into suitable strips, forming interlocking notches and points in the same, assembling them into sets, one below and one above, obliquely to each other, and then thrusting the upper set down upon the lower one, so as to form a partially collapsed or diamond-shaped cell-case, comprises a purely mechanical process, which is not patentable.
3. SAME.
   The function or mode of operation of a mechanical device is not patentable as a process; especially not where the process is not separable or distinguishable from such function or mode of operation.
4. SAME—EGG-CARRIERS OR CELL-CASES.
   The Williams patent, No. 533,331, for a process of manufacturing cell-cases or egg-carriers, is void for want of invention, and as involving a merely mechanical process.

This is a suit by the American Strawboard Company against the Elkhart Egg-Case Company for damages and injunctive relief for the alleged infringement of letters patent No. 533,331, issued to William E. Williams on January 29, 1895, and by him duly assigned to the complainant. The patent relates to an improvement in the art of manufacturing cell-cases, commonly called "fillers," from strawboard or other suitable material, for the storage and transportation of eggs and other small articles. The defendant, in its answer, alleges want of patentable novelty in the alleged invention, anticipation as shown in the prior art, and noninfringement. The process consists in making cell-cases, or fillers, which are usually 2¼ inches deep, and are made of strips of strawboard cut and put together so that each cell shall have four walls. The strips so put together usually consist of 2 sets, each 7 in number, forming 36 cells. The material part of the specification, omitting the drawings, is as follows:

"My invention relates to the manufacture of cell-cases which are made by locking together from their edges strips of strawboard, or other suitable material, for the purpose of transporting eggs and other articles, and it is in the manner of holding the strips while they are being put together that the invention consists. Cell-cases of this class are usually made of strips of strawboard or wood veneer, and are locked together by notches from their edges, and these notches are made of sufficient width to permit the cells to collapse to permit their shipping conveniently. Various-shaped notches are used to lock them together to prevent their coming apart in handling, and several forms of these notches are quite effectual in holding the strips together while the cells are in the form for holding the eggs, but, when collapsed, and thrown about, they come apart. The fault lies in putting the strips together, which process has been to place one set of strips, either by hand or machinery, on a suitable form, parallel to each other, and the right distance apart for the finished cells, and then insert the other set in the same form at right angles to the position of the other set. This is usually done by revolving the form after the first set of strips have been placed upon it, and then the others are inserted. But

there is another class of machines for making these cases, wherein one set of strips are fed along in continuous strips, and are notched and held into grooves the right distance apart parallel to themselves with the notches and ends in a right line to their sides, and are thus passed by another set of mechanism which inserts the other strips into them at right angles, thus forming the case in its right position. Thus all methods so far used lock the strips together when they are held in their right position to sets of strips at right angles to themselves. Thus the various forms of locks of the notches must be made of the shape and form the elasticity of the material of which they are made will permit. Strawboard or wood splints have very little elasticity in the direction of stretching or compressing the fibers, either lengthwise or transversely, but they readily bend to some limit without injury, and it is to employ the bending quality I design the process of holding the strips in position while locking them together, and thus the locks can be made more accented in their locking qualities, and forms of locks can be used that would not be practicable by the other method.

Fig. 1.

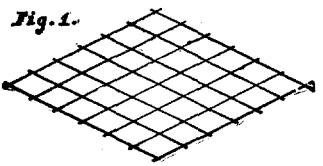


Fig. 2.

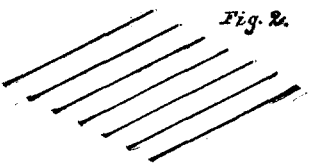


Fig. 3.

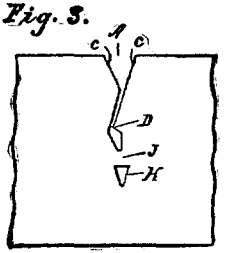


Fig. 4.

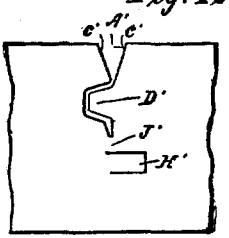


Fig. 5.

"Fig. 3 shows the lock commonly employed, and will illustrate for all that class sufficient for the purpose herein. The corners at the entrance of the notch, A, are cut away as shown by c, c, to more readily permit the entrance of the transverse strip, and the projection, D, is supposed to give a little itself, and to spring aside the same projection of the entering strip while being thrust in, and when the strip is forced home the projection, D, is supposed to spring out and interlock into the hole, H, of the other strip, which it does, when they are in the right form, but when collapsed they are liable to come apart. I construct the form to hold the strips as near as practicable in the relative positions to each other as when the case is collapsed, shown in Figs. 1 and 2. Thus the strips are held close up together, and parallel to each other, and each succeeding strip is held sufficiently in advance of the other to make the right distance between the notches of the next set of strips, which can then

only be inserted at an acute angle, forming diamond-shaped cells; and the construction of the form is such that the sides of the notches are bent outwardly from each other when held in the form shown by Fig. 5, permitting the entrance of the other strips, and as they are forced home the projections, D, are sprung past each other, and the body of the strips shown by J between the hole, H, and notch, A, enter home. When they spring into their normal positions, the projection, D, interlocking the hole, H, making a secure lock, and when the case is removed from the form it will be right up the same as others; and the same principle of a locking as shown by Fig. 3 can be accented to the form of Fig. 4, and make a more secure fastening, and in no way damage the board out of which it is made; and other forms of locks of similar nature, whereby the strips are locked together by incisions from their edges, may be made more accented and secure by using my process of putting the strips together. It is not essential that the strips be placed in a form as shown, but they may be advanced along continuously, but sufficiently near each other, and the notches and ends of each successive strip be sufficiently in advance of the other to permit the insertion of the transverse strips at an acute angle, forming diamond-shaped cells, as above described; the point of my invention being to lock the strips together while the cells are partly collapsed, thereby availing of the sidewise bending of the locking parts of the board for the purposes described.

"What I claim is: (1) A step in the art of making cell-cases, which step consists in forming two sets of strips with interlocking perforations, and assembling the strips in relatively inclined positions to form a cell-case in a collapsed or partially collapsed condition. (2) The method of forming cell-cases which consists in providing the strips with suitable interlocking slots and perforations, assembling one set of strips in a suitably spaced group, placing the strips of a second set across the first set at an oblique angle, and pressing them edgewise into said slots, substantially as set forth. (3) A process of making cell-cases which consists in taking strips of strawboard or other suitable material which have notches cut in their edges, of a form to lock into each other when the strips are placed together transversely to each other, substantially as described, and holding one set of strips parallel to each other, but each successive strip in advance of the other, substantially as described, then thrusting the other strip into the first-mentioned strips, forming diamond-shaped cells, which may be collapsed or righted up for the purpose desired."

The patent to Shepard—No. 489,664, issued January 10, 1893—describes his process of forming cell-cases or fillers from two sets of strips as follows:

Fig. 1.

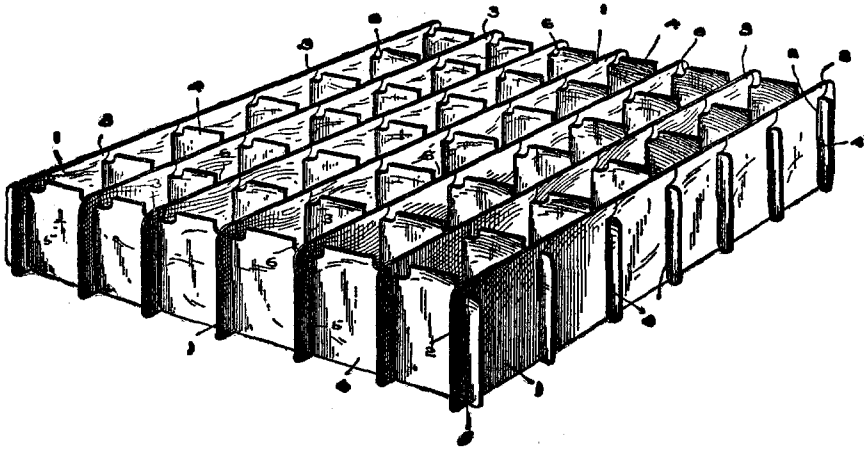
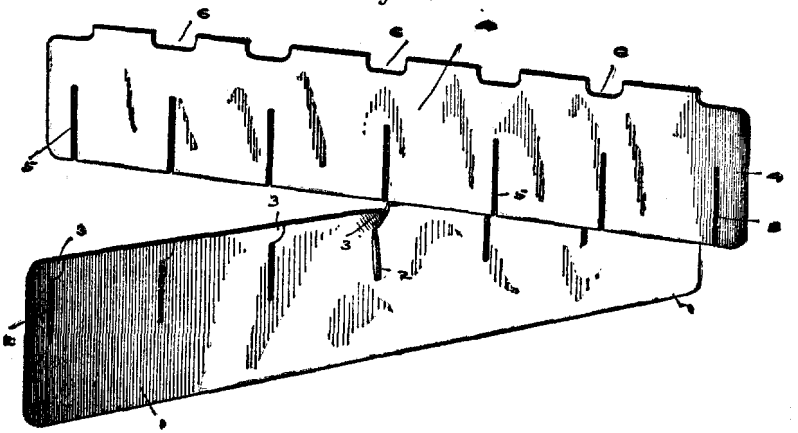


Fig. 2.



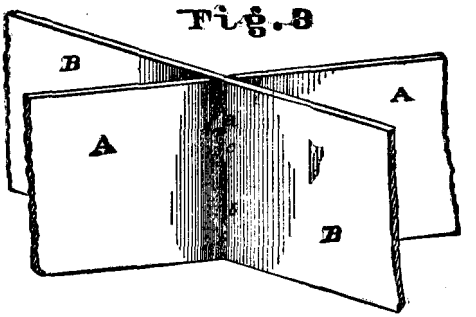
"In putting the filler together by hand, two of the strips, 1 and 4, are placed in respect to each other as shown in Figure 2 (i. e. obliquely), and the slot, 2, with its curved slit, 3, in the strip, 1, is opened, and the strip, 4, with its slots, 5, is passed down into that of the strip, 1, causing them to interlock at the points as shown in Fig. 1, and when in place the hook (3) on the lower strip springs back into place, preventing the removal of the strip."

The patent to McCarren—No. 203,356, issued May 7, 1878—describes his method of assembling two sets of strips as follows:

Fig. 1

Fig. 2

Fig. 3



"To place the two together, the incisions, b and c, in the two sides, A and B, are brought together with the aforesaid sides at right angles, or nearly so, to each other, and the one passed over the other, the flexibility of the material used in their construction permitting the projection, a, to spring away from the solid part of the side, B, until the slot, a, is reached, into which it passes, and locks the two sides securely together, the incisions on each of the sides accommodating the solid part of the other until the two edges of each are parallel."

The defendant's expert testified as follows:

"The first claim [of the patent in suit] is for 'a step in the art of making cell-cases.' The second claim is for 'the method of forming cell-cases.' The third claim is for 'a process of making cell-cases.' The claims are, therefore, very obviously for an art or process as distinguished from a machine. The art or process seems to me to be purely and essentially a mechanical one, as distinguished from such processes as involve chemical or other elementary change, or such as operate to change the condition or substance of the material operated upon, or such as take place through the operation of heat, electricity, or other such elements. Had the patentee described in detail an operative machine such as he refers to for assembling the strips, the art or process made the subject-matter of these claims would be the function of such a machine."

This statement is nowhere denied by complainant's expert. The complainant's expert testified that the diamond-shaped cell-case forms no part of the patented invention; that, if a person should make a cell-case by hand by taking a strip in each hand, and holding them obliquely to each other, it would not be an infringement; that, if a person should take seven strips of cardboard, and place them parallel to each other, and then take another strip, and place it across the seven obliquely, so as to form three sides of a cell-case, it would not be covered by complainant's patent; and, if he should then place another strip across the first seven parallel to the last one, so as to make six complete diamond-shaped cell-cases, it would be a mere repetition of the first operation, and would not be covered by the complainant's patent. He further testified that if a person should build up a cell-case of 36 cells by placing the strips across each other at an oblique angle, one by one, he would not be following the process described by complainant's patent.

L. L. Bond (Adams, Pickard & Jackson, on the brief), for complainant.

J. M. Van Fleet (V. W. Van Fleet, on the brief), for defendant.

BAKER, District Judge (after stating the facts). The patent in suit is for a process in manufacture, and not for the mechanism employed, nor for the finished product of such manufacture. Le Roy v. Tatham, 14 How. 156, 22 How. 132, establishes the doctrine that the application of a newly-discovered principle to known objects, through known means used in an accustomed manner, and producing a previously known result, constitutes a patentable process. In that case the invention did not consist in the novelty in the machinery, but in bringing a newly-discovered principle into practical application, by which a useful article was produced. Mowry v. Whitney, 14 Wall. 620, decides that the application of a known force to a new object through known means used in their accustomed manner, producing known effects, constitutes a patentable process. Cast-iron car wheels had never been subjected to an annealing process in connection with slow cooling before the process was discovered or invented by Whitney. A new and previously unknown result was thus obtained. In Foote v. Silsby, Fed. Cas. No. 4,916, 14 How. 218, it is held that the application of a known force to known objects, through known instruments used in a new manner, and producing a useful result, either new or old, constitutes a new and

patentable process. Each of these arts constitutes a new operative means. In the first, the force is new; in the second, the object; and in the third, although the instrument is old as a concrete embodiment of one idea of means, its new use, producing a useful result, constitutes a means of an entirely different character in respect of the operation in which it is now employed. Beyond these three, no result of an inventive act can be conceived. Tested by these principles, the process of the complainant's assignor involved no act of invention. No new force is employed. The force employed is mechanical, except the elasticity of the board which operates to straighten the flexed interlocking points which had been forced out of a right line by mechanical pressure in putting the two sets of strips together. The elasticity of the board is not new, nor was it new with the complainant's assignor to discover that an elastic substance, when sprung out of its natural position by mechanical force, would, when such force is removed, return to its normal position. The object sought to be obtained was old, namely, the interlocking of two or more strips together by the means here used. Nor was the manner of its use new. It is an old use of elastic substances to flex them to one side by mechanical force, and then to have them return to their normal shape and position when the force is removed, by reason of the elastic force inherent in them. Elasticity is the known law of their nature, and the use of it in a known manner does not constitute an inventive act. Besides, the patentee does not claim the use of the elasticity of the strawboard as a part of his invention. He claims as his invention "the manner of holding the strips while they are being put together." Every step in the process was old and familiar, except, possibly, the assembling of the two sets of strips at an oblique angle. But it can hardly be contended that the assembling of the strips at an oblique angle, in view of the prior art, would constitute a patentable process. It seems clear enough that the complainant's assignor could not claim as his invention the assembling of strips at every degree of obliquity less than a right angle. Given the interlocking strips, the method of putting them together so as to avoid the fracture of the interlocking points would be a matter involving mere skill and experience, and not invention. Diagram Fig. 2 in the Shepard patent shows that the strips were assembled obliquely, and not at right angles. That the strips were put together by hand in the Shepard patent is immaterial, as complainant's patent discloses no mechanism for use in practicing its process. Shepard, in his patent, clearly describes the method of availing himself of the sidewise bending of the interlocking points, and of their elasticity in springing back into place in assembling his strips, which is the precise object of the complainant's process. McCarren's patent describes the same thing. He says the flexibility of the material used in the construction of egg-cases permits the interlocking points to spring away from the solid part of the strip until the slot or opening is reached. It is clearly implied that when the interlocking point reaches the slot or opening, having been previously flexed, it

springs into place. I am therefore of opinion that the complainant's process discloses no inventive act.

But if it were conceded that complainant's patent disclosed invention, I am of opinion that it is for a mere mechanical process, and hence invalid, under the doctrine announced in Locomotive Works v. Medart, 158 U. S. 68, 15 Sup. Ct. 745, and Glass Co. v. Henderson, 15 C. C. A. 84, 67 Fed. 930, 34 U. S. App. 19. The principle deducible from these cases is that when the process is mechanical, and involves no chemical or other similar elemental action, it is not patentable. Or, as stated in the last above cited case, where the process is mechanical, and there is involved no chemical or other elemental action which is separable or distinguishable from the functions of the several mechanical devices which are employed to effect the result, it is not the subject of a patent. The defendant's expert testified that the complainant's process was purely and essentially mechanical, as distinguished from such processes as involved chemical or other elemental changes, or such as operate to change the condition or substance of the matter operated upon, or such as take place through the operation of heat, electricity, or other such elements. This statement was neither explained nor denied by complainant's expert. I am of opinion that the view of the defendant's expert is the true one. The cutting of the strips, the forming of the interlocking notches and points in the same, the assembling of the sets of strips one below and one above, obliquely to each other, and then thrusting the upper set of strips down upon the lower ones so as to form a partially collapsed or diamond-shaped cell-case, are all purely mechanical processes. The bending or flexing of the interlocking points in putting the two sets of strips together, is mechanical. The only thing in the whole process which is not purely mechanical is the returning of the interlocking points to their normal position on the removal of the mechanical pressure. This results from the elasticity of the substance. This quality of such substances is as old and well known as the substances themselves. The use of this quality of such substances is old and familiar, and is shown to have been availed of in the process of manufacturing egg-cases before complainant's assignor applied for his patent. The utilization of this quality of strawboard in the complainant's process cannot, in my judgment, rescue the patent in suit from the claim that it is purely mechanical.

The patentee, in the specification preceding his claims, has clearly stated in what his invention consists. He says:

"My invention relates to the manufacture of cell-cases which are made by locking together from their edges strips of strawboard or other suitable material, for the purpose of transporting eggs or other articles, and it is in the manner of holding the strips while they are being put together that the invention consists."

Thus he explicitly limits his invention to the manner of holding the strips while they are being put together. The complainant's expert testified, and, in my opinion, correctly, that the diamond-shaped cell-case forms no part of complainant's patent. He admits that if a person should take strips in each hand, and hold them obliquely,

and thus place them across each other one by one until he had constructed a partially collapsed cell-case having 36 cells, it would not infringe the complainant's patent. These admissions make it clear that the assembling of two sets of strips, one by one, at an oblique angle, constitutes of itself no part of the manner of holding the strips while they are being put together. Hence others would have the right to put two sets of strips together at an oblique angle, unless they put them together in sets of two or more strips at a time. But no process of putting two sets of strips together at an oblique angle is conceivable except by some mechanical device. Nor is it possible to conceive of such a process as something separable and distinguishable from the function or mode of operation of such mechanism. The patent for the process in suit is nothing more than an attempt to secure the function or mode of operation of purely mechanical devices. If the patentee had described clearly and fully the mechanical devices by means of which the two sets of strips were held obliquely while they were being put together, he might have secured a patent for them; but not for the function or mode of operation of such devices. As his process can only be practiced by purely mechanical means, it is the result or function of mechanical devices as certainly as though he had described and patented the mechanism by which the result was produced. The function or mode of operation of a mechanical device is not patentable as a process; certainly not where the process is not separable or distinguishable from such function or mode of operation. Besides, the complainant's patent fails to disclose any means by which his process can be reduced to practice. It cannot be claimed that the description of the process would suggest to a person skilled in the art the means intended to be employed in reducing the process into practice. The means of practicing the process must be described, unless the description of the process itself plainly suggests the means. It may well be doubted whether the process practiced by the defendant is an infringement of that protected under the complainant's patent. If one of the steps claimed as essential is omitted, and its place is left unsupplied, or if for it is substituted a step which the patentee intended to avoid, or if the succession of the acts is changed in any material degree, the identity of the invention practiced with the patented invention is destroyed, and the former is not an infringement. 3 Rob. Pat. § 925; Arnold v. Phelps, 20 Fed. 315; Hammerschlag v. Garrett, 10 Fed. 479; Cotter v. Copper Co., 13 Fed. 234; Fish Co. v. Roberts, 12 Fed. 627; Russell v. Dodge, 93 U. S. 460. The complainant's patent discloses no mechanical devices which can be used in the practice of its process. Its process comprises the following steps: The forming of the strips, providing them with suitable interlocking slots or notches, assembling one set of strips in a suitably spaced group, placing the strips of the second set across the first at an oblique angle, and pressing the strips of the second set into the slots or notches of the first set of strips. The first step in the process is the forming of the strips of suitable length and width. It does not appear that the complainant's process can be

practiced in any other manner; and it would seem to be an indispensable element in its process. The defendant's process consists in uniting by suitable mechanism the ends of 14 continuous sheets of strawboard, 7 on each side, simultaneously, and afterwards severing these interlocking ends from the continuous sheets, thus forming an egg-case filler. The defendant's process seems to be purely mechanical, and it makes use of continuous sheets of paper, which are not severed into strips until the egg-case has been completely formed.

The stipulation of the parties shows that the defendant is making cell-cases in accordance with claims 2 and 3 of Smith's patent, No. 507,761, which consists in presenting "two series of continuous sheets," which are not severed until the cell cases have been completely formed. As it was decided in the interference proceeding that the Williams invention was prior to that of Smith, it may be safely assumed that he would not fail to claim all of the Smith invention which he truthfully could. But with Smith's claims 2 and 3 before him for the construction of cell-cases by presenting two series of continuous sheets, he limited his claims to two sets of strips, thus taking from Smith only his first claim. It thus appears that Williams did not venture to claim in the patent office either that he conceived the idea of uniting two series of continuous sheets, or that his two sets of strips were the same thing as the defendant's two series of continuous sheets. He ought not now to be permitted to set up a claim which he failed to assert in the patent office. The fact that the defendant was granted claims 2 and 3 is cogent evidence that the Williams invention could not rightfully be enlarged to cover these two claims in the defendant's patent. But, without definitely deciding the question of infringement, I am of the opinion that the complainant's patent is invalid. The bill will therefore be dismissed for want of equity, at the complainant's cost.

GORMULLY & JEFFERY MFG. CO. v. WESTERN WHEEL WORKS et al.

(Circuit Court of Appeals, Seventh Circuit. February 11, 1898.)

No. 411.

1. PATENTS—INVENTION.
   There is no invention in employing the well-known spiral spring to hold a bicycle brake from the tire by bending the spring around the axis of the brake, and having portions of it pressing on the head and the brake.
2. SAME—BICYCLE BRAKES.
   The Jeffery patent, No. 312,473, for improvements in bicycles, is void as to claim 11, covering a spring brake, because of anticipation and lack of invention.

Appeal from the Circuit Court of the United States for the Northern District of Illinois.

This was a suit in equity by the Gormully & Jeffery Manufacturing Company against the Western Wheel Works and Adolph Schoeninger for alleged infringement of a patent for improvements in velocipedes or bicycles.