

Case No. 17,342. WEBSTER LOOM CO. V. HIGGINS ET AL.
[15 Blatchf. 446;¹ 4 Ban. & A. 88; 16 O. G. 675.]

Circuit Court, S. D. New York.

Jan. 14, 1879.

PATENTS—SUFFICIENCY OF SPECIFICATIONS—COMBINATION
CLAIMS—AGGREGATIONS—PRIOR USE—SHIFTING BURDEN OF PROOF—PILE
FABRIC LOOMS.

1. The letters patent issued August 27th, 1872, to William Webster, for an improvement in looms for weaving pile fabrics, are invalid.
2. In respect to the fifth claim of said patent, namely, “In combination, the lay and its rigid shuttle box, the pivoted vibrating wire trough, the reciprocating driving slide, and the latch moving thereon, the latter being operated by the wire box, the combination being and operating substantially as described,” the descriptive part of the specification is insufficient.
3. The combination set forth in said fifth claim is not a patentable combination, but a mere aggregation of devices.
4. When a defendant has shown prior knowledge and use, the burden of showing prior invention is on the plaintiff.

[Cited in Washburn & Moen Manuf'g Co. v. Haish, 4 Fed. 904; Thayer v. Hart, 20 Fed. 694; Kittle v. Hall, 29 Fed. 514; Electrical Accumulator Co. v. Julien Electric Co., 38 Fed. 127.]

5. Webster was not the first inventor of the invention sought to be covered by said fifth claim.

[This was a bill in equity by the Webster Loom Company against Elias S. Higgins and Nathaniel D. Higgins for alleged infringement of a patent.]

Edward N. Dickerson and Clarence A. Seward, for plaintiff.

George Gifford and Ebenezer R. Hoar, for defendants.

WHEELER, District Judge. This suit is brought for relief against an alleged infringement of letters patent No. 130,961, issued, August 27th, 1872, to William Webster, and owned by the plaintiff, for an improvement in looms for weaving pile fabrics. The defendants, in their answer, allege, that, by previous contract with Webster, they are the owners of all such improvements made by him, deny that he was the first inventor of the invention patented, and allege, that, before the time of any invention thereof by him, the same, or substantial and material parts thereof, were described in, among others, letters patent of Great Britain to Erastus B. Bigelow, to William Weild, and to Moxon, Clayton and Fearnley, and in letters patent of the United States to Elias S. Higgins, assignee of William Weild, and to Ezekiel K. Davis, and that the same was known to, and used by, Ezekiel K. Davis and Thomas Crossley, of New York, at New York, that the description of the invention is obscure, and not sufficient to enable one acquainted with the art to which it belongs, to construct and use the loom therein attempted to be described, that there is no description in the patent of the combination specified in the fifth claim thereof, and deny infringement. On the hearing, the plaintiff relied solely upon the fifth claim of the patent, and the defendants abandoned all claim of ownership of the invention by virtue of any contract with Webster.

In Weaving pile fabrics, such as Brussels carpeting and velvets, wires are woven like filling into them, taking up warp into loops, over the wires, above that part of the cloth made of other warp and filling, constituting the pile of the fabric. Enough wires are woven in, and left there, to make a piece sufficiently large and firm to withstand the beat of the machinery, and then, as the weaving proceeds, those put in first are successively withdrawn, carried back and inserted again into open sheds of warp made to receive them, and woven into and carried along with the cloth. The heads of the wires are made much larger than the wires themselves, and square and flat, to fit into a box beside the cloth, with a narrow opening toward it, that will permit their moving freely along with the cloth. The looms used are not much different from those used in weaving other fabrics, except that machinery is added for withdrawing, carrying back and inserting the wires, which is called a wire motion, and the rest of the looms must be adapted to the working of that, so as not to interfere with it. As the wires are withdrawn, the loops are left to be held in place by the other warp and filling, as woven together, and, consequently, there must be a thread of filling woven in between the weaving in of each wire, and there must be two beats of the lay carrying the reed which beats up the filling and wires, and corresponding motions of the shuttle carrying the filling, to each insertion of a wire. The motions of the

parts must all be so timed that the wires will be inserted when the lay is swung away from the woven cloth and makes room, and the sheds for them are opened to receive them, and that the lay will beat up the wire, swing back for a thread of filling to be carried through, and beat that up, while the wire motion is after another wire, and be in the proper position to carry the shuttle, with its threads of filling, at the times when they must go in. The wires must be carried past the fell of the cloth, toward the lay swung back, to reach a place in the sheds open sufficiently wide for them to be thrust into; the reed must stand on the edge of the lay away from the cloth, to make room on the lay for the shuttle race, and must be carried by it to the fell of the cloth when it beats up the wires and filling; and so the lay must move past the fell of the cloth toward the wire motion. To prevent collision between the lay with shuttle boxes attached and the wire motion, in making these movements, either the wire motion must be arranged so that it will insert the wires, and move out of the way, before the lay and shuttle box arrive where the wire motion goes, or so much of the lay and shuttle box, on that side of the loom, as would hit the wire motion, must be detached from the rest of the lay while that moves up with the reed, and be kept out of the way of the wire motion. In the Bigelow loom, the wire motion consisted of a forked arm and reciprocating lever, extending upward through a horizontal rocking shaft, which were so timed as to be together at the wire box when the lay beat up, and that was crooked out of the way for a short distance opposite, so it would move past them when in that position. In the Weild looms, the wires were withdrawn by a latch on a reciprocating slide, into a horizontal trough, oscillating between the points of withdrawal and insertion, and pushed out of the trough into the sheds by an arm extending from the slide far enough to follow and reach them until in place. A part of the lay was detached, and, with the shuttle box, kept back when the rest beat up, out of the way of the trough and extending arm of the wire motion. In the Moxon, Clayton and Fearnley patent, the wires were to be withdrawn by a latch into a groove in a table, and carried into another groove that would direct them into the sheds. This table would appear to be in the way of a rigid lay and shuttle box. Webster was familiar with such looms, and, in 1865 and 1866, conceived the idea of improving them,

by making a wire motion to them that could be used with a straight and rigid lay, and made a drawing of parts of a loom representing such a lay, and parts of a wire motion representing a reciprocating withdrawing and pushing slide, mounted on a wire trough, oscillating between the points of withdrawal and insertion of wires. So far as appears, this was the first representation ever made of such a device for a wire motion. Said Davis was a machinist, master mechanic of the defendants, who are large carpet manufacturers, in the alteration and repair of their looms, and familiar with such looms. In 1867, he commenced to invent improvements to them, and had a model of his loom, containing his improvements to that time, made, which showed a wire motion, containing a reciprocating withdrawing and pushing slide, mounted on a bar slotted so as to be like the sides of a trough, with a pin to assist in supporting the wires, supported on upright arms to a rocking shaft, moving between the points of withdrawal and insertion of the wires, and a rigid lay with a sliding shuttle box, which was held back when the lay moved up, and kept out of the way of the wire motion. This was the first invention of a sliding shuttle box. Webster showed Davis his drawing in March, 1868. Davis applied for a patent in July, 1868. One was issued for his improvements February 9th, 1869. Davis showed his model to Webster November 11th, 1869. Webster made application for a patent June 21st, 1870; and the one in suit was granted August 27th, 1872. What the application of Webster was is not shown. He declared that he had invented certain "improvements in looms" for weaving pile fabrics, &c, and, in his specifications, set forth the nature and object of his invention in these words: "The first part of my invention relates to the combination and arrangement of the reciprocating or driving slide, sliding bar, withdrawing and inserting devices, and trough, in such manner that the trough shall be capable of oscillating between the points of withdrawal and insertion of the wire, the sliding bar receiving a horizontal motion at the same time that the pushing slide is being reciprocated on the trough by the driving slide. The advantage of this part of my invention is, that a shuttle box, rigidly connected with the lay, may be used. The second part of my invention relates to the means for preventing the wire from bounding back from its position in the wire box, and consists in a spring attached to the inner end of the wire box, and fitting indentations or openings in the heads of the wires. The third part of my invention relates to the combination of the vibrating trough directly with the lay. The fourth part of my invention relates to a modification of the mechanism, and consists in having the oscillating trough and reciprocating slide pathway combined or made in one piece, and having the withdrawing and pushing devices combined or connected and reciprocated thereon by power applied directly thereto, the object of this part of my invention being to dispense with the driving slide and stationary slide pathway and sliding bar. The fifth part of my invention, consists in the combination, with a lay having a rigid shuttle box, of a pivoted, vibrating wire trough, a reciprocating driving slide and latch, the latter being operated by the wire

box to release the wire, and the slide and latch moving on the trough, all as set forth.” Then, a description of the accompanying drawing, mere-up stating what parts the figures represented. Then, a description of his improvements, in which he described a stationary sliding pathway on which the reciprocating or driving slide would move; a withdrawing and pushing slide secured to an oscillating trough pivoted to the breast beam, so as to reciprocate thereon, and be moved by a bar secured to it, and sliding in a mortise in the withdrawing and pushing slide, and with a wrist on the latter to which to apply power; the wire box latch and their working; and said: “Sheet 2, Fig. 3, represents the fulcrum H, of the oscillating trough E. as attached to the end of the lay C², by a plate H¹. The other end of the trough may be operated by a cam or other device, not shown. Fig. 4 represents a modification of the invention. The withdrawing and pushing slide, B¹, in this case, becomes the driving slide. The fulcrum or centre, H, of the oscillating trough, E, is represented as being attached to the breast beam, A¹, of the loom, in the same manner as shown in Fig. 2, sheet 1. Fig. 5 represents an end view of the withdrawing and pushing slide described in Figs. 3 and 4, but with the trough attached with shuttle box. The fulcrum of the oscillating trough, E, may be attached to the shuttle box or lay of the loom, or to a vertical shaft.” He further described some of these parts by reference to figures of the drawing, representing different views of them, and described a horizontal movement of the latch, and stated that he did not expect to confine himself to the precise form of the several parts described. The first claim is for the vibrating trough, driving slide, its guiding way, the pusher, latch and sliding bar, combined and operated, substantially as described. The second is for improvements about the wire box. The third is for: “The combination, with the lay, C², of the trough, E, when arranged, connected and operating as described, and for the purpose set forth.” The fourth is for the oscillating trough, constructed to serve as a slide guideway, in combination with the driving slide, pusher and latch, operating substantially as, and for the purposes, set forth. The fifth is for: “In combination, the lay and its rigid shuttle box, the pivoted vibrating wire trough, the reciprocating driving slide, and the latch moving thereon, the latter being operated by the wire box, the combination being and operating substantially as described.”

The form and language of the patent leave what the inventor intended to describe in his specification, and cover by the fifth claim, somewhat open to Inquiry. That claim is almost

identical with the fifth part of the description of the nature and object of the invention, and they obviously refer to the same thing. Neither is intelligible without reference to what precedes. In what precedes that part of the description there is a combination of the wire trough with the lay, by being pivoted to it, mentioned. The same thing is again mentioned twice in the specification preceding the claims. The use of a lay with, a rigid shuttle box is referred to in connection with the first part of the description of the nature and object of the invention, as an advantage to be derived from, but not as a part of, the invention. That part is different from that mentioned in the fifth part. Upon this view, it might, with some plausibility, be said, that the combination with the lay intended, when mentioned in the fifth part as being "as set forth," and in the fifth claim as being "as described," was the combination by pivoting the wire trough to the lay, which had been set forth and described, and not some other combination not in any manner set forth or described. If that should be held to be the combination, neither the defendants nor any others, have used it, and the defendants do not infringe. In argument, however, the fifth part of the invention, and the fifth claim, have been treated as for the parts mentioned, in combination generally, without regard to pivoting the wire trough to the lay or shuttle box.

In what has been stated, of and concerning the contents of the patent, every word concerning the lay and shuttle box has been recited. There is in it no allusion to any machinery or contrivance for moving the reciprocating slide, except a wrist on it for attaching power to it; nor for moving the wire trough, except the rod H^2 , mentioned in connection with a trough pivoted to the lay; nor any whatever for moving the lay; nor is any other shown in the drawing or models. As has been said in argument, in behalf of the plaintiff, the patent is to be construed in the light of what was before known to persons skilled in the art of making and operating such looms, and liberally in favor of the patent, in accordance with the maxim, "Ut res magis valeat quam pereat," not, however, for the purpose of adding to the patent anything not there, but of reaching the true meaning of what is there.

Either form of the wire motion described in the patent, except that pivoted to the lay, might, probably, be put in place of the wire motion in the Weild looms and, by attaching the power to the wrist of the driving slide, be made to operate without any material, if any, alteration of the other parts. But neither form would so operate by being so substituted in that loom with a rigid lay and shuttle box in place of the detached lay and shuttle box, because the wire trough would not keep out of their way. Nor could either form be substituted, without other material alterations, for the wire motion in the Moxon, Clayton and Fearnley looms, nor without still greater and more material alterations, for that in the Bigelow looms. As wire motions merely, to be used as improvements on the Weild looms, as the inventor probably intended, they seem to be well enough described. But,

construing the fifth part of the invention broadly, as construed in argument, the combination goes outside of the wire motion, into the loom proper, and the question is, whether that combination is well enough described, “to enable any person skilled in the art” “to which it appertains” “to make, construct,” “and use the same.” Competent experts and workmen have testified, on the part of the defendants, that what is necessary in that behalf cannot be done without the exercise of inventive genius. Those equally competent have testified for the plaintiff that it can be. To do it, with any of the then existing looms, motion would have to be given by machinery to the vibrating wire trough, to move it out of the way of the lay, at the proper time, to allow all the connecting parts of the wire motion to do their work, and permit the lay, reed and shuttle boxes to do theirs, without interference. The times of the motions of the parts were to be calculated, and the machinery to accomplish the motions at the proper time was to be contrived and constructed. The witnesses who say no invention would be required do not say but that all this was to be done. They merely say that competent workmen could, in their opinion, do it without invention. The requirement of the law seems to be, that the specification should be full and plain enough so that a fairly competent workman at loom building could take it, and, exercising what then existing knowledge there was common to that trade, follow it out, and by it, without invention or addition, construct an operating loom, containing the parts mentioned as in combination in the fifth claim, working together. Curt Pat. §§ 254, 255. A loom is mentioned, and not a wire motion merely, here, because a part of the loom proper is taken into the claimed invention, and the parts taken would be fragmentary, and could not operate, without the rest Whether the specification is so sufficient is a question of fact, to be determined upon the evidence, and the nature of the things to be done, as it is made to appear. The horizontal pushing slide, in the Weild wire motion, extending towards the lay and shuttle box, was a great obstacle to the use of a rigid lay and shuttle box; and Webster, by the things well described, dispensed with that. But still he retained the oscillating trough, which, as used in the Weild wire motion, where only it was known to be used, would always be in the way of a rigid lay and shuttle box, and he provided no mode whatever for keeping them out of the way. If a workman had undertaken to work out Webster’s specification, when he had made and put into a loom all the parts described or mentioned in it, his situation would be the same as that of Davis was in September, 1868, when he undertook to furnish the Crossleys with a loom like that represented by his model, except that

it should have a rigid shuttle box. He then had, in his wording model, a reciprocating withdrawing and pushing slide, mounted on a slotted bar, which was the equivalent of Webster's vibrating trough, all as the plaintiff now claims to be an infringement. Still, when the shuttle box was made rigid, the parts would clash; and, although he was an inventor and a master mechanic, and much more than an ordinarily competent workman, it took him nearly two years to arrange and time them so they would not clash. The trough was to be kept out of the way, by having the right motion given to it at the right time. The motion and time were to be found, and finding them would be invention. It was a problem to be solved, which would require experiment, which is more than a specification is allowed to require and be valid. *McFarlane v. Price*, 1 Starkie, 199; *Turner v. Winter*, 1 Burn. & H. [Term R.] 602; *Rex v. Arkwright*, *Webst Pat. Cas.* 64; *Curt Pat. § 255*; *Evans v. Baton*, 7 Wheat. [20 U. S.] 356; *Sullivan v. Red-field* [Case No. 13,597]. It is said, that a competent workman could give any required motion at any required time to parts of machinery, which may be true. Still the requisite motions and times would remain to be found. It is a significant fact in this connection, that no looms nor models, containing this alleged invention, were made by Webster, or by the plaintiff, or by any one under them or either of them until after those claimed to be infringements had been made and seen. Upon these reasons, the conclusion seems to be inevitable, that the specification is not sufficient.

Furthermore, the fifth claim is for the invention of a combination of a lay with a rigid shuttle box, with the parts of a wire motion named in it. There can be no invention about that unless the parts do work together in accomplishing some result so as to make a working combination. The functions of the lay are to carry the reed and shuttle boxes, and to serve as a shuttle race, without having anything to do with the wire motion. The functions of the wire motion are to withdraw the wires, carry them back, and insert them, without having anything to do with the lay. They do not join together in doing anything. All that is required of either, in connection with the other, is to keep out of its way. In some sense they combine together, and with all the other parts of the loom, to make the fabric produced; but that is not the combination described. In the same sense the parts of a stove mentioned in the combination in question in *Hailes v. Van Wormer*, 20 Wall. [87 U. S.] 353, combined with all the other parts, to give heat; but that did not make a patentable combination. As said by Mr. Justice Strong, in that case each produces its appropriate effect unchanged by the others. That effect has no relation to the combination, and in no sense can be called its product. This placing the parts together would be the mere aggregation of devices, not invention. As well might the breast beam, the heddles, or any of the more remote parts of the loom, be mentioned, and claimed as included.

Upon this subject, in connection with that of the sufficiency of the specification, it seems proper to remark, that, if no invention was necessary to combine these parts, de-

scribing the combination of them, merely, describes no invention; if invention of some mode of combining them was necessary, such mode is wholly wanting.

If, for any reason, however, these conclusions are not correct, the question whether Webster was the first inventor of the invention sought to be covered by the fifth claim is to be decided. There is no fair question but that looms like those which the plaintiff claims to be infringements were made and operated by, and were, therefore, known to, and used by, Davis, as alleged in the answer, before the date of the patent so as to defeat it, unless the invention was made before. As this patent is not accompanied by the application in evidence, the invention must be taken to have been made at the date of the patent, unless it is shown by parol proof to have actually been made at a prior date. *Kelleher v. Darling* [Case No. 7,653]. The burden of proof rests upon the defendants, to show, beyond any fair doubt, the prior knowledge and use set up; but where they have sustained that burden by showing such knowledge and use prior to the patent the burden of showing the still prior invention claimed, by at least a fair balance of proof, must rest upon the plaintiff. Substantially all the evidence there is upon that subject is the original drawing of Webster, with the testimony of himself and others showing that it was made by him in 1865 and 1866, and the other drawings, not much different from that, with testimony that they also were made by him at a time earlier than those looms. There is scarcely any explanation of the drawings, or of the workings of the parts represented, in his testimony, or in what he said, as testified by others, contemporaneously with making or exhibiting the drawings, more than that they represented a wire motion, and that a shuttle box rigidly attached to the lay could be used with it. All the drawings show a lay with such a shuttle box that show any lay, but show no mode of operation by which it could be used. The lay is always shown in the position the lays of the Weild looms are in when their shuttle boxes are in line with them, the same as if rigidly attached, and never in a position where they would be detached to keep out of the way of the wire motion, with the wire motion out of its way, so as to show that with its rigid shuttle box it could be used. The drawings would seem to be mere drawings of his wire motion with the lay sketched, as the breast beam and some other parts appear to be, for the purpose of showing that it was the wire motion of a loom, without showing any particular combination of the wire motion with any of the parts of the loom proper. If such a showing was intended, the evidence fails to show satisfactorily that the intention

was carried out To say that this shows the invention of any real combination of a lay having a rigid shuttle box, with the parts of the wire motion, would be going beyond what is fairly shown by any substantial evidence in the case. The abiding conviction produced, as the effect of the exposition of the case in the very able and exhaustive arguments of counsel, as well as of more examination and study of it than what is here written will probably indicate, is, that, while Mr. Webster did really invent some new parts for wire motions, he never fully completed any invention of any combination of them with any of the parts of a loom. To allow such an invention and patent as is here shown to stand in the way of other inventors would be very unjust to them, as contrary to the plain requirements of the patent laws, for, should they invent any mode whatever, for doing what the patentee shows no way of doing, he would be enabled to say that their mode was his, and to maintain his claim to it.

In coming to the conclusions here reached, neither the decision, nor the opinion of the learned judge making it, in *Webster v. New Brunswick Carpet Co.* [Case No. 17,337], upon this same patent have been overlooked, or lightly considered. Had this case been like that, or understood to be so, no more would have been necessary here than to follow, and refer to it. But counsel on both sides of this case have treated it as being essentially different from that and the counsel for the defendant, in this express themselves satisfied with the decision in that upon the pleadings and evidence on which it was made. What that case in fact was is not shown in this. The opinion, however, shows that most of the questions here made and passed upon were not there raised and considered.

Let a decree be entered dismissing the bill of complaint, with costs.

For other cases involving this patent, see *Webster v. New Brunswick Carpet Co.*, Case No. 17,337; *Webster Loom Co. v. Higgins*, 105 U. S. 580; *Loom Co. v. New Brunswick Carpet Co.*, Case No. 17,338; *Webster Loom Co. v. Higgins*, Id. 17,341; *Webster Loom Co. v. Short*, Id. 17,343.

¹ [Reported by Hon. Samuel Blatchford, Circuit Judge, and here reprinted by permission.]