

ing in sustaining the pressure (from weight) on the outer band, the lateral pressure of the inside air tube will press its edges tightly against the dovetailed flanges of the metal rim, and thus be effective in holding it more firmly against the flanges of the metal rim at the momentarily bearing part of the tire. It will be obvious that one advantage of this arrangement is that successive outside bands or tires can be renewed from time to time without the necessity of wasting the tubular air chamber between it and the metal rim, and thus greater economy will be attainable. It will be generally most convenient to have the filling tube of the tubular air chamber projecting from the surface of the tubular air chamber resting on the metal rim, in which a hole is bored through which to pass the filling-tube."

The only change in the wording of the complete specification as finally accepted is the substitution of "thus be effective in holding it more firmly" instead of "assists in holding it more firmly." Apparently the only use of the air tube in holding the rubber tire against the dovetail flanges of the rim, as understood by the inventor, is at that part of the tire which is at the instant upon the ground; the idea of this inventor being that the pressure by the tire upon the ground will press in the outer rim of the air tube, and thus cause the air tube at that point to press laterally against the rubber tire, and hold the tire more firmly at the point of contact with the earth. The statement of invention made to the patent office, above referred to, conveys the same idea. I cannot think that the broad invention now claimed was then in the mind of the inventor.

Mr. Betts in his able memorandum, in which the arguments for the complainant are briefly and strongly stated, says:

"Doubtless, as is so often the case, the attorney and perhaps the applicant failed to appreciate the exact nature and true merit of the invention. He had perhaps builded better than he knew. It was this ignorance of his which constituted and caused his mistake."

It is well settled that a patentee is not to be deprived of the benefit of his invention because he may have failed to state or recognize all the beneficial uses to which it may be put. I do not understand, however, that one can be said to have made an invention of which he is not himself aware.

On a careful consideration of the whole evidence, including that as to the time of Bartlett's invention, I am satisfied that he never made the invention as now argued, and I am also satisfied that defendants' construction is not covered by the claims of the Bartlett patents. It is unnecessary to decide whether the exclusive license held by the Remington Arms Company at the commencement of this suit divested complainant of the right to bring it. Let the complaint be dismissed.

FORD et al. v. BANCROFT et al.

(Circuit Court, D. Massachusetts. February 19, 1898.)

No. 531.

1. PATENTS—OPERATIVENESS—CONSTRUCTION OF CLAIMS—INFRINGEMENT.

The Morris patent, No. 401,050, for a machine for inserting diagonal strips in fabrics, while perhaps not inoperative in the strict sense of the patent law, yet in fact never operated as one driven by power, rapidly and with positive results. *Held*, therefore, that it is not entitled to a broad range of equivalents,

- and is not infringed, as to claims 1, 4, and 5, by a machine made under the Bancroft patent, No. 539,406.
2. SAME.—REMEDY, AT LAW.
 Quere: Whether, in any event, under the circumstances, the remedy, if complainants were entitled to one, would not be at law.

This was a suit in equity by John S. Ford and others, composing the firm of Ford, Johnson & Co., against Frank H. Bancroft and others, composing the firm of Bancroft & Rich, manufacturers of machinery for weaving cane, for alleged infringement of letters patent No. 401,050, issued April 9, 1889, to Henry V. Morris, for a machine for inserting diagonal strips in fabrics. The claims involved are 1, 4, and 5 of the patent in issue. The defendants are manufacturing under letters patent No. 539,406, issued to them for their own invention.

Baldwin, Davidson & Wight and George O. G. Coale, for complainants.

Fish, Richardson & Storrow and Guy Cunningham, for defendants.

PUTNAM, Circuit Judge. The court found this a difficult case to apprehend in all its aspects, and therefore considered it prudent to order it reargued, and we are under obligations to the counsel on each side for the great assistance they have rendered us. The respondents maintain that, under the circumstances of the case, the complainants' only remedy is at law; but, while we recognize the fact that there is no jurisdiction in equity in patent causes except under the general rules of equity jurisprudence, yet, as applied to that class, these rules have so many phases that, in view of our conclusions on the question of infringement, we do not deem it necessary to attempt to determine this question. The respondents claim that complainants' machine is professedly automatic, while theirs is not; but the word "automatic" sometimes appeals to the imagination of the court so effectively that we have, on the whole, deemed it safer not to leave the case on that single proposition.

On the question of infringement, it is maintained that complainants' device made a marked radical step in the art, and comes fairly within *Machine Co. v. Lancaster*, 129 U. S. 263, 9 Sup. Ct. 299. The rule stated in that case, at page 286, 129 U. S., and page 307, 9 Sup. Ct., is as follows:

"Those claims are not for a result or effect, irrespective of the means by which the effect is accomplished. It is open to a subsequent inventor to accomplish the same result, if he can, by substantially different means. The effect of the rule before laid down is merely to require that, in determining whether the means employed in the Lancaster machine are substantially the same means as those employed in the Morley machine, the Morley patent is to receive a liberal construction, in view of the fact that he was a pioneer in the construction of an automatic button-sewing machine, and that his patent, especially in view of the character and terms of the four claims in question, is not to be limited to the particular devices or instrumentalities described by him, used in the three main elements of his machine, which, combined together, make it up. This is the principle applied by this court in *Consolidated Safety-Valve Co. v. Crosby Steam-Gauge & Valve Co.*, 113 U. S. 157, 5 Sup. Ct. 513."

The claims here in issue are as follows:

"(1) In a machine for inserting diagonal threads in warp fabrics, the combination, substantially as hereinbefore set forth, of the separators for opening a

diagonal passage in the fabric, means for actuating the separators, the needle which carries the diagonal thread through said passage, and means for actuating the needle."

"(4) The combination, substantially as hereinbefore set forth, of the separators for opening a diagonal passage in the fabric between the warp and weft threads, means for actuating the separators, the needle which carries the diagonal thread through said passage, means for actuating the needle, the feed rollers for carrying the fabric through the machine, and means for actuating them.

"(5) The combination, substantially as hereinbefore set forth, of the upper and lower dies formed with a longitudinal groove or race, means for raising and lowering the upper die relatively to the lower die, the feed rollers for carrying the fabric through the dies, the needle, and means for reciprocating the needle in the longitudinal groove or race."

The pith and substance of the central idea of the invention, as stated in the specification, are as follows:

"When the upper die is depressed against the lower die, it separates the threads of the fabric which is between them, and opens a passage or way through which a diagonal thread may be passed. The warp threads or strips are elevated and the weft strips are depressed."

They are described by the inventor, in his testimony, as follows:

"It occurred to me to design a machine for automatically inserting diagonal threads or strips in a prepared foundation mat to be attached to a chair by a spline, as was already done in the case of close mat. I was aware of the patent to Tylander and also to Vieman, both relating to this art, and I conceived the plan of using a straight needle and of opening a path through the foundation fabric for said needle, by elevating and depressing the proper strands so that the needle might follow the course to be occupied by the diagonal thread. In carrying out this idea, I constructed a pair or set of separator bars furnished with separators, or, as I call them, dies for elevating and depressing the proper portions of the mat. The separators so made by me performed very well, but I did not at that time complete the machine, for a lack of opportunity."

It thus appears that the pith of the invention was the production of a continuous channel, or "shed," through which a straight needle could be driven with effective speed. Everything else in the patent, so far as we are concerned with it, turns about this, is incidental to it, and might, perhaps, have been easily supplied from the prior art, so that replacing one form thereof by another would clearly be within the rule of equivalents. The complainants point out a continuous channel, and specific means for producing it; but, under any rule of equivalents, it would not necessarily follow that one did not infringe who used other means for producing the channel, or who produced the same channel in successive parts, with substantially the same ultimate results as though produced simultaneously throughout its entire length, as shown in the specification of the patent. A question of infringement does not ordinarily turn merely on propositions of that character. On the other hand, it would not necessarily follow that there was infringement because complainants' device was the first to produce a certain useful result, and the alleged infringer produced substantially the same result. In the extract we have given from *Machine Co. v. Lancaster*, *ubi supra*, it is said that "it is open to a subsequent inventor to accomplish the same result, if he can, by substantially different means." This is the same rule laid down in *Telephone Cases*, 126 U. S. 533, 8 Sup. Ct. 788.

In *Machine Co. v. Lancaster*, there was not only a radically new conception, but there was also effected by the inventor a fundamental advance in the practical arts. In the case at bar there is no such advance. As we have seen from the citation which we have made, the inventor's conception was an open "shed," through which a straight needle could be driven with rapidity. For this, power was the normal means to secure the success contemplated, though it may be that certain contrivances for substituting the hand for power would be a merely colorable evasion, not permitted by the law. This, however, is such an extreme theory that, as the case stands, it would be mere trifling to follow it out. The normal machine contemplated by the inventor was one driven by power, rapidly and with positive results. This neither he, nor any one claiming in his right, ever accomplished. While the machine constructed under the patent did in fact operate so that, probably, it cannot be regarded as a mere "experiment," in the sense in which that word is used in the patent law, yet it never accomplished a practical advance in the art. Its theory was in practice abandoned, and the complainants, while pursuing the art to which it relates, use, admittedly, machines governed by different principles. A subsequent designer who, for the sake of securing practical results, was willing to sacrifice in part the speed expected from the use of a straight needle and a continuous shed, and who, omitting their form, if not their substance, ingeniously accomplished his purpose, could not justly be denied the title of an inventor, though under some circumstances he might be held to be only an improver. This is what the respondents have accomplished; and whether or not they are infringers must depend on the breadth of construction to be given the claims in issue, in view of the fact that the invention accomplished no substantial advance in the practical arts.

How much of the expected ease and speed of the complainants' device the respondents have sacrificed, and how far the "means" used by the latter differ in fact from those of the former, may be seen by comparing the following extracts from the testimony of complainants' expert:

"The primary object of the invention of the Morris patent is to supersede the hand method of inserting the diagonals into the foundation fabric composed of the longitudinal and cross strands, and to provide the necessary mechanism for inserting the diagonals. * * * In connection with these main or principal features, the machine of the Morris patent includes the necessary supporting framework, some minor auxiliary devices, such as devices for severing the diagonals, and, since one object of the patentee was to make a wholly automatic machine, means are set forth for enabling the separators, needle, and feeding mechanism to operate automatically. * * * In operating defendants' machine, the attendant performs the following movements: He first depresses the treadle with his foot, thereby depressing the upper separator or die. Secondly, he grasps the handle of the needle carrier with his left hand, pulls the same towards him, and thereby pulls the needle through the diagonal passage formed through the fabric by the conjoint action of the dies and the cam operating upon the pin of the lower die to elevate the same. Thirdly, he reaches across the machine, and with his right hand threads the end of a diagonal strand through the eye of the needle. Fourthly, he pushes the needle-carrier handle with his left hand backwardly until a stop is encountered. Fifthly, he operates the clamp with his right hand to clamp the end of the diagonal strand adjacent to the point of the

needle, which has just been laid into the foundation fabric during the backward movement of the needle. Sixthly, he releases the stop which limits the backward movement of the needle carrier and simultaneously pushes the needle carrier out to its full limit of movement, thus withdrawing the end of the strand from the eye of the needle. Seventhly, he releases his foot from the treadle, whereby the upper die is elevated. Eighthly, he operates the handle which actuates the feed rollers so as to advance the foundation fabric one step in position for the insertion of the next diagonal."

Notwithstanding all this, complainants might be able to show infringement if they brought themselves within *Machine Co. v. Lancaster*, *ubi supra*. But in that case, as we have already said, the inventor made a radical step in advance in the practical arts; in the case at bar, he has not accomplished this. Each is entitled to be protected to the extent of what he accomplished, and no more,—one to the extent of the practical results, and the other to the extent of what he specifically shows in his patent. This is apparently the suggestion found in the opinion of Mr. Justice Brown in *Deering v. Harvester Works*, 155 U. S. 286, 295, 15 Sup. Ct. 118, as follows:

"But in view, not only of the prior devices, but of the fact that his invention was of doubtful utility and never went into practical use, the construction claimed would operate rather to the discouragement than the promotion of inventive talent."

A similar suggestion was made by Judge Colt in *New York Paper-Bag Mach. & Mfg. Co. v. Hollingsworth & Whitney Co.*, 5 C. C. A. 490, 56 Fed. 224, 227.

But, whatever were the views of Mr. Justice Brown and Judge Colt, no broad rule of equivalents can be applied, under the circumstances of the case at bar, without carrying the rule to an absurd extreme, nor without infringing the true purpose of the patent statutes, as stated by the former. Construing the claims in issue in the light of the facts and rules we have stated, we do not find in the respondents' machine either the complainants' channel, or their needle, or the equivalent of either, or anything which performs the function of either. That respondents' machine may be so abnormally readjusted as to produce complainants' channel, if it can be, would not, in view of the facts that such readjustment was not in the contemplation of its constructor, and that it is foreign to the functions of the device, have any effect on the case. The incident would be merely an illustration of what ingenuity can accomplish, and would have no relation to the practical rules of the patent law. The complainants' channel, so important for the rapid driving of a straight needle, could find no equivalent in respondents' machine, unless the complainants' patent includes every form of separation of the warp and weft strands, for the passage of any form of needle, by any form of separating device; and, under the circumstances to which we have referred, the art of weaving, and its kindred arts, forbid giving so broad a monopoly to complainants. As the question involved is purely one of fact, nothing would be gained by further elaborating it; and, moreover, as our impressions have come largely from our inspection of the two machines in controversy, it would be impracticable to record details minutely.

The result is we are unable to perceive that the complainants have shown that the respondents infringe the claims in issue. Let there be a decree according to rule 21, dismissing the bill, with costs.

CAMPBELL v. PENNSYLVANIA R. CO.

(Circuit Court of Appeals, Second Circuit. January 25, 1898.)

No. 20.

1. COLLISION—BOATS MOORED IN SLIP—INSUFFICIENT FASTENINGS.

The owners of a vessel moored in a slip, where she has repeatedly grounded at low tide, are chargeable with knowledge of the condition of the bottom, and, if they leave her without a watchman, are bound to secure her so that any list she may be expected to take in case of an unusually low tide will be overcome. If, for want of such fastenings, she breaks loose and injures other vessels, her owners will be responsible.

2. SAME.

Owners of a vessel moored in a slip without a watchman will not be liable for injury to other vessels in the slip if, being properly secured, she is cast adrift so as to collide with them, by the malicious act of a stranger.

This is an appeal from a decree of the district court, Southern district of New York, in favor of the libellant for damages to his canal boats Howard Stellar and Tompkins, caused by a collision with respondent's car float No. 16, which broke away from her moorings, and collided with them. The facts sufficiently appear in the opinion.

Galbraith Ward, for appellant.

Jas. J. Macklin, for appellee.

Before WALLACE and LACOMBE, Circuit Judges.

PER CURIAM. The two canal boats, with others, were lying moored in the slip on the south side of the Erie dock or pier, North river, Jersey City. Next below to the southward is the Abbatoir dock, and on its north side the car float, not being needed for use, was laid up. It was secured with three lines, had been thus laid up some two or three weeks, and on the fall of the tide would take bottom, and, the bottom being uneven would list towards the Erie dock. At about 1 p. m. of February 11, 1896, at low water, the float swung across the slip, owing to the rendering of her head line from the bow cleat, which caused her amidship line to part, the float at that time having a list from the dock, and the bottom where she lay being soft, muddy, and greasy. The low tide on which this happened was lower than any that occurred in the year 1895 or in the year 1896 down to the time of the trial, being $3\frac{1}{4}$ feet below mean low water,—due to continuous heavy wind from the north and west. The district judge held that defendants were responsible, and we are inclined to concur in that conclusion. The defendants are not liable, as insurers, against all contingencies except the "act of God," as that phrase is generally understood. They would certainly not be liable for the malicious act of a stranger casting the boat adrift, if they had exercised proper care in attending to her fastenings. They were bound, however, to exercise such care and prudence in securing her as the circumstances required. And the