ives Vs. Hamilton

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Decided On : 1875

Appeal No. : 92 U.S. 426

Appellant : ives

Respondent : Hamilton

Judgement :

Ives v. Hamilton - 92 U.S. 426 (1875)
U.S. Supreme Court Ives v. Hamilton, 92 U.S. 426 (1875)

Ives v. Hamilton

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ERROR OT THE CIRCUIT COURT OF THE UNITED

STATES FOR THE EASTERN DISTRICT OF MICHIGAN

SYLLABUS

1. Where an improvement in saw mills, for which letters patent were issued consists of the combination of the saw with a pair of curved guides at the upper end of the saw and a lever, connecting rod or pitman, straight guides, pivoted

cross-head, and slides or blocks and crank-pin, or their equivalents, at the opposite end, whereby the toothed edge of the saw is caused to move unequally forward and backward at its two ends while cutting. The claim is,

"giving to the saw in its downward movement a rocking or rolling motion by means of the combination of the cross-head working in the curved guides at the upper end of the saw, the lower end of which is attached to a cross-head, working in straight guides and pivoted to the pitman below the saw, with the crank-pin substantially as described,"

the use by another party of guides consisting of two straight lines representing two consecutive cords of the curve of the guides of the patentee, and arranged in other respects in the same manner as this curve, is clearly the employment of a mechanical equivalent, and is an infringement of the patent.

2. It is not a change in principle to pivot the lower end of the saw to the pitman below the cross-head, and, by a reverse motion of the crank or driving wheel, produce the same motion of the saw as when the pitman is pivoted above the cross-head.

3. The description in a patent for an improvement is sufficient if a practical mechanic, acquainted with the construction of the old machine in which

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improvement is made, can, with the patent and diagram before him, adopt such improvement.

4. The essence of the improvement does not consist in the precise position in which any part is placed, but in a combination of mechanical means for producing a certain result.

The facts are stated in the opinion of the Court

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MR. JUSTICE BRADLEY delivered the opinion of the Court.

This was an action brought to recover damages for the infringement of certain letters patent granted to Hamilton, the plaintiff below, for an improvement in saw mills. The defendants pleaded the general issue with notice of special matter, setting up several prior inventions -- amongst others that of one Isaac Straub. The plaintiff's patent was dated the fifth day of December, 1865. His improvement, as described therein, consisted of the combination of the saw with a pair of curved guides at the upper end of the saw and a lever, connecting rod or pitman, straight guides, pivoted cross-head, and slides or blocks and crank-pin, or their equivalents, at the opposite end whereby the toothed edge of the saw is caused to move unequally forward and backward at its two ends while cutting. His claim is,

"giving to the saw in its downward movement a rocking or rolling motion, by means of the combination of the cross-head working in the curved guides at the upper end of the saw, the lower end of which is attached to a cross-head, working in straight guides and pivoted to the pitman below the saw, with the crank-pin, substantially as described."

The old method of guiding a saw in its upward and downward movement was to cause the two ends of the cross-head, to which the upper end was attached, to slide in straight grooves or guides. The lower end of the saw was guided in the same manner, and to the lower cross-head was attached by a pivot the lever, or pitman, worked by the crank of the driving wheel. This arrangement gave the saw a straight and uniform motion, up and down, between the guide posts of the frame in which it worked, either perpendicular or at a slight inclination, according to the position of the guide posts.

In Hamilton's improvement, the guiding grooves for the upper end of the saw are curved, with the concave part of the curve turned towards the approaching log, so that, as the saw descends,

the top part at first retreats before the log, and afterwards moves up towards it at the same time that the bottom part is moved back and forth in just the opposite directions by being attached to the pitman above the cross-head; the combined motions thus giving to the whole saw a kind of rocking or vibratory movement, by which the teeth take the most advantageous bite into the log, and all of them perform their proportional part of the work. The result is something like that produced by two men working a saw in a saw pit.

The defendant is using a saw in which the guides are not curved, it is true; but they each consist of two straight lines that represent two consecutive cords of the curve in Hamilton's guides, and are arranged in other respects in the same manner as this curve -- namely, having the interior angle, like the concave side of the curve, turned towards the approaching log, the effect being exactly the same. He also connects the lower end of his saw to the pitman below the cross-head, instead of above it; but by reversing the motion of his crank, or driving wheel he produces exactly the same combination of movements as those produced by Hamilton, the one being the exact equivalent of the other; and if Hamilton's patent was for the result, the infringement would be so perfect as to amount to a mere copy of the invention. But Hamilton does not claim the result. He could not do it, for, as he says, the same result was effected by two men when sawing in a pit. His claim is, "giving to the saw in its downward movement a rocking or rolling motion by means of the combination," &c.; -- that is, not the rocking motion itself, but the means devised by him for producing it.

The question in the case, therefore, is whether the defendants use the same or equivalent means -- that is, the same, or substantially the same, combination of mechanical devices.

The substitution of guides at the top, made crooked by a broken line instead of a curved line, is too transparent an imitation to need a moment's consideration. A curve itself is often treated, even in mathematical science, as consisting of a succession of very short straight lines, or as one broken line, constantly changing its direction; and many beautiful theorems were evolved by the early mathematicians on this hypothesis. At all events, in mechanics, when, as in this

case, a broken

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line is used instead of a regular curve, being deflected at one or more points by a very slight angle, and performing precisely the same office as a curve similarly situated, the one is clearly the equivalent of the other.

The attaching of the lower end of the saw to the pitman below the cross-head instead of above it, and thereby getting the same movement as before by reversing the motion of the crank, is no change in principle. This is too obvious for discussion.

The combination of the two things in the defendants' mill -- namely, the crooked guides above, and the connection of the saw with the pitman below at a point removed from its centre of motion -- both being calculated to give to the saw the precise rocking or vibratory motion desired -- is a close copy of the plaintiff's invention; quite as close as is usually made by those who attempt to evade a patent whilst they seek to use the substance of the invention.

The defendants insist, however, that Hamilton's patent is defective for not clearly describing the position, perpendicular or otherwise, in which the curved guides should be placed, and that if any required position can be inferred from the patent, it is a perpendicular one, whilst the guides of the defendants' saw are inclined at a slight angle to the perpendicular. As to the alleged defect of the patent, there is nothing in the objection. The invention claimed is an improvement on an old machine, and it is properly taken for granted that the practical mechanic is acquainted with the construction of the machine in which the improvement is made, and nothing appears in the case to show that any peculiar position different from that of saw mills constructed in the ordinary way is necessary to render it effective and useful. The essence of the improvement has nothing to do with the precise position of the guides. It is a combination of mechanical means to produce a rocking motion of the saw, and this combination is just as applicable to guides that have a slight inclination as to guides that are perpendicular. We think that

there is no ground for either branch of the objection. The description in the patent is sufficiently specific, and the inclination of the defendants' guides cannot exempt them from the charge of infringement.

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The complaint made by the defendants that the patent is defective in not stating the nature of the curve for the guides, whether that of a circle or of some other figure, in view of the subject matter of the improvement and of the diagrams annexed to the patent, are not sufficient to affect its validity. Any good mechanic acquainted with the construction of saw mills and having the patent and diagram before him, would have no difficulty in adopting the improvement and making suitable curves.

The conclusions to which we have come are decisive of the case. It is unnecessary to discuss in detail the different points made at the trial or the several instructions asked. We have examined them all, and find nothing on which to base a judgment of reversal. If Straub's patent would have revealed anything to affect the validity of Hamilton's, the parties did not see fit to spread it on the record, and therefore we have no means of deciding that question.

Judgment affirmed.