

REED *ET AL.* V. SMITH *ET AL.*

*Circuit Court, E. D. Michigan.*

January 6, 1890.

1. PATENTS FOR INVENTIONS—CONSTRUCTION OF CLAIM—HARROWS.

The first claim of patent numbered 201, 946, to De Witt C. Reed, for an improvement in harrows, covers the combination of a harrow frame and harrow tooth secured therein, so as to be longitudinally adjusted, and a fastening clip, constructed 'with two biting edges bearing against the tooth, the object of which, is to hold it more rigidly in position than would be possible if the pressure were uniformly exerted over the whole width of the clip.

2. SAME.

In view of the state, of the art, and of the limitations put by the patent-office upon the patentee's original claim, the second claim is restricted to the combination with a harrow frame, provided with a curved seat, of a curved tooth, and such a clip as is described in the first claim.

3. SAME—INVENTION.

The use of a curved tooth resting upon a curved seat had previously existed in a horse-rake, and the application of this device to a harrow is not invention.

4. SAME—INFRINGEMENT—USE OF EQUIVALENTS.

While the defendants did not literally infringe upon the Reed patent, since their clip was flat, and the seat was not curved, yet it was held that, giving the patentee the full benefit of the doctrine of mechanical equivalents, the three straight lines used by the defendants to form the arc of a circle were the equivalent of the curved line in order that the working end of the harrow tooth be raised or depressed," it is necessary that the other end be curved, and it is desirable that it should rest upon seat more or less curved; but whether this seat be a literal curve, of a series of straight lines, the general effect of which is a curve is of no importance. *Held*, the defendants obtained the full benefit of the curved clip by the peculiar conformation of the seat with two shoulders; which performed the same function as the biting edges of the clip.

5 SAME.

The valuable feature in the patent is the two biting edges of the clip; and it makes no difference whether those biting edges are: used as a seat with a straight clip bearing on the opposite surface, and between them, or whether a curved seat is used conforming to the shape of the tooth, and the biting edge clip on the opposite side. *Held*, therefore, that the second claim was infringed by the defendants.

*(Syllabus by the Court)*

In Equity.

This was a bill in equity to recover for the infringement of letters, patent No. 201, 946, to Dewitt C. Reed, for an improvement in harrows. His invention is described as consisting in a novel means for adjusting a spring tooth so as to give to its point a greater or less depth of cut, by making that portion of the tooth adjacent to the frame curved, and resting on curved seat, securing it thereto by a clip, or its equivalent. The, only substantial defense in the case was non-infringement. The cause was submitted to the court upon pleadings and proofs.

*Howard & Roos* and *N. H. Stewart*, for plaintiffs.

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*Parker & Burton*, for defendants.

BROWN, J., The many adjudication which have been made in this and other states sustaining this patent obviate the necessity of our considering

at length all the former device claimed as anticipations, and preclude the possibility of our holding that there is not a patentable novelty in the invention. It would have been more satisfactory if some of these opinions had been reduced to writing, as we could then have learned exactly what was, decided, and upon what state of facts each decision was made. As it is, we are compelled to compare the patent with the infringing devices in each case; and, while this may afford a satisfactory basis for determining the exact question decided, we are left to conjecture, to a certain extent, the reasons which prompted the decision, and the evidence upon which it was based. While we are bound to hold this to be a valid patent, which we do, not only out of deference to these adjudications, but from our own examination of the case, we do not feel ourselves debarred from looking into the state of the art, and the proceedings in the patent-office, for the purpose of giving a construction to this patent, and ascertaining the scope of the invention.

A comparison of the claims as originally made with those allowed by the patent-office demonstrates, we think, that Reed considered himself, or wished to be considered, as a pioneer in the art of adjusting curved teeth longitudinally upon their seats, when, in fact, such adjustment, as applied to hay-rakes, had been known long before. While it may have added very materially to the practical value of the spring-tooth harrow; in view of the similar use and operation of the two instruments, it does not seem to us, in a legal aspect, to involve invention, or anything more than mechanical skill, to adapt the adjustment of rake teeth to the teeth of a spring-tooth harrow. The object is the same in each case, viz., to bring the teeth back into line when their proper alignment has been destroyed by their becoming bent or broken, in being brought into contact with obstructions. This was obviously the view adopted by the patent-office, as is evident by the action taken upon Reed's original claims. In his original specifications he states his invention to consist "in a novel means for adjusting the said tooth so as to give to its point a greater or less depth of cut, which is effected by making that portion of the tooth which is adjacent to the frame curved, and resting on a curved seat, and secure it thereto by a clip, or its equivalent, by the loosening of which the tooth may be thrown forward, or pushed back beneath its fastening, thus lowering or raising its point, as will be hereinafter set forth and claimed. Further on he states that "the cross-bar or loop portion of the clip is *preferably* formed concave upon its under side, and with a concavity greater than the corresponding portion of the harrow tooth; so that, when brought down to a firm bearing upon the tooth, this cross portion of the clip will find a firm bearing at its edges upon the tooth, and hold it snugly and rigidly upon its curved seat." In his drawings he presents several alternative forms of bars or clips; all of which, however, with possibly one exception, are made, concave, so as to hold the 'tooth rigidly against the frame by two biting edges, instead of a flat surface. In his specifications he states other variations, and says that the principal feature

of his invention is “that the tooth shall rest upon a curved seat, and be capable of being adjusted longitudinally through

its said seat, and thereby either elevate or depress its working point” And again:

“It is not absolutely essential that the under surface of that portion of the clip or plate that presses upon the tooth should be concaved, though it is preferable. Nor is it necessary that it should bear only upon the tooth at the edges of the plate, though it is preferable that it should be constructed to bear at its two edges upon the tooth.”

He then proceeds to claim:

“(1) The combination with the frame, A, of a curved harrow tooth, made adjustable longitudinally upon its seat, for the purpose of raising or lowering its working point, substantially as and for the purposes described.”

This is broadly a claim for every form of longitudinal adjustment of a curved harrow tooth upon its seat.

“(2) The combination, with a harrow frame provided with a curved seat, of a curved harrow tooth, made adjustable longitudinally upon the said curved seat, whereby its Working point may be raised or lowered, substantially as and for the purposes described.”

This differs from the first claim only in its limitation to a *curved* seat. Both these claims were rejected upon reference to the prior patents of Paddock and Hollingsworth for improvements in horse-rakes. The Paddock patent shows a curved spring tooth, resting upon a curved seat, and held in place by a bolt or clamping hook, one end of which is curved in a U shape, embracing the tooth, and the other end of which passes through the axle, to which it is secured by a nut. The Hollingsworth patent also shows a curved tooth, held upon a curved seat by a set-screw, which serves to secure the tooth rigidly to the bearing, and to admit of the forward or backward adjustment of the tooth.

“(3) The combination, with a harrow; frame and harrow tooth, of a clip, or its equivalent for securing the tooth to the frame, and made to bear at its edges upon the harrow tooth, substantially as and for the purposes described.”

This claim seems to have been construed by the patent-office as a broad claim for a clip, or its equivalent, for securing the tooth to the frame, although it was limited to a clip made to bear at its edges upon the harrow” tooth, and was rejected upon reference to the Edgar patent, which shows the teeth of a horse-rake secured to the cross-bar by a cap-plate or bar similar to a clip, although the seat does not appear to be curved.”

“(4) The combination, with a harrow frame provided with a curved seat, (Of a curved tooth and clip, or its equivalent, D, substantially as and for the purposes described.”

This claim was allowed to stand, and became the second claim of the patent. Some question was made upon the argument with regard to the proper position of the letter D. We think it should have read, “the clip, D, or its equivalent,” as in the specifications “D” is described as “a clip whereby the tooth is secured upon its seat.” In lieu of the first three claims was substituted the following, which was allowed to stand as the first claim of the patent:

“The combination, with a harrow frame and harrow tooth secured thereon, so as to be longitudinally adjusted, of a fastening clip, formed as described,

whereby only its transverse edges have bearing against the tooth, substantially as set forth.”

Both of these claims are alleged to be infringed by the defendants. It is clear the first claim is for a fastening clip, constructed with two biting edges bearing against a tooth, the object of which is to hold it more rigidly in position than would be possible if the pressure were uniformly exerted over the whole width of the clip. This was the construction put upon it Judge SEVERENS in the case of *Reed v. Nelson*, (unreported,) and is obviously correct. The second claim, broadly construed, covers a curved seat and curved tooth and clip, or its equivalent. Plaintiffs claim the clip need not be curved, and that the language of the claim is satisfied by a clip of any shape by which a curved tooth is fastened to a curved seat; but in view of the state of the art, as disclosed by the Paddock patent, we find it impossible to give it this construction. The drawings annexed to this patent exhibit very clearly a curved rake tooth, held in place upon a curved seat by a clip running through the axle, and bolted to it, As before observed, while the adaptation of this device to a harrow was undoubtedly a happy thought, and appears to have been the one thing necessary to insure the popularity and general use of the spring-tooth harrow, we do not think it belongs to that class of conceptions which the law dignifies, by the name of “invention.” Indeed a person could hardly look at the Paddock device without noticing at once how easy it would be to adapt it to a harrow, and, if the patentee had seen or known of this device, such adaptation would probably have occurred to him long before. While he may have evolved his device of a curved tooth resting upon a curved seat from his own brain, if, in fact, the same device previously existed in a similar form, and had been applied to an instrument bearing such a close resemblance to a harrow as a horse-rake does, were not at liberty to credit him with the invention. We find it impossible to escape the conclusion that the clip, which lies at the foundation of the plaintiff’s patent, is limited to a curved clip with biting edges, designed to hold the tooth rigidly in its seat. This seems to have been the view of the patentee himself, as shown, not only from the drawings annexed to his patent, but from his action in consenting to the erasure of the word “preferably” from his specifications, leaving them to read “the cross-bar or loop portion of the clip is formed concave upon its under side;” and also from his erasing the clause in which it was said not to be absolutely essential that the under surface of the clip should be concave. The testimony of the blacksmith in whose shop the work was done, indicates that, after experimenting with a flat piece of iron for some time, Mr. Reed came back to his shop “with the piece of harrow frame and tooth to fix it over, because it was not tight enough, and could not hold it.” Then he says: “Mr. Reed went and took a little more off of the wood, and had me to make him another plate, a little heavier and a little hollow, so that the edges of the plate would bear onto the tooth.”

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Construing the second claim, then, as limited to the clip, D, described in the specifications and in the first claim do the defendants infringe this patent? Literally, they do not, since their clip is flat, and the seat



is not curved; but, with all that, they have managed to appropriate all there is of value in this device. Considering the importance of this invention as bearing upon the utility of the spring-tooth harrow, and the restrictions we are bound by law to put upon these claims, we think that, so far as they are Valid, we are bound to interpret them liberally, and to give the patentee the full benefit of the doctrine of mechanical equivalents. Now, the general shape of the seat used by defendants is a curve, and it only escapes being a literal curve by the fact that three straight lines are used, instead of the curved line, to form the arc of a circle. We had occasion, many years ago, in the case of *Ives v. Hamilton*, which was carried to the supreme court, and is reported in 92 U. S. 426, to hold a similar evasion as applied to the upright guides of a saw-mill to be an infringement, In this case the supreme court says:

“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 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.”

In order that the working end of the harrow tooth be raised or depressed, it is necessary that the other end be curved, and it is desirable that it should rest upon a seat more or less curved but whether this seat be a literal curve, or a series of straight lines, the general effect of which is a curve, is of no sort of importance.

The chief difficulty in this case lies in the defendants’ clip, which is flat. It will be observed, however, that they obtain the full benefit of the curved clip by the peculiar conformation of the seat with the two shoulders, which perform substantially the same functions as the biting edges of the clip and, in connection with a flat clip pressing upon the tooth midway between the two shoulders, holds it rigidly in position. Now, as before Observed; the valuable feature in this patent is the two biting edges of the clip; and it seems to us to make no practical difference whether the party seeking to avoid the patent uses these biting edges as a seat on which to rest the tooth with a band or straight clip bearing upon the opposite surface Of the tooth; between the edges, or whether he Uses a curved seat made to conform to the shape of the tooth, and a biting edge clip bearing upon the opposite surface to hold it in place. Such a reversal or interchange of functions is immaterial. The object in either case is to obtain a firmer grip upon the tooth by concentrating the pressure upon two or three points than is possible by distributing it uniformly over the entire surface of the clip. In ‘this respect it is possible that defendants’ device is

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superior to the plaintiffs', but we cannot say that it is not an infringement of their patent. Did we feel any doubt regarding this question of infringement, we should feel bound to resolve those

doubts in favor of the plaintiffs, in view of the large number of devices offered in evidence, all of which have been adjudged by different courts to be infringements of their invention, and some of which bear a much more distant resemblance to theirs than does the device used by the defendants here. Our conclusion upon the whole case is that the defendants have infringed the second claim of plaintiffs' patent, and there must be a decree in their favor for an injunction, with the usual reference to a master to assess their damages.