

Opinion of the Court.

## BOYER v. SCHULTZ BELTING CO.

ERROR TO THE CIRCUIT COURT OF THE UNITED STATES FOR THE  
EASTERN DISTRICT OF MISSOURI.

No. 228. Argued April 22, 23, 1890. — Decided May 5, 1890.

At the trial of an action at law for the infringement of a patent, the plaintiff having introduced testimony on the question of infringement, the defendant demurred to the evidence without putting in any of his own. The court sustained the demurrer and directed a verdict for the defendant: *Held*, that the question of infringement ought to have been submitted to the jury under proper instructions; that it was not a matter of mere judicial knowledge that the mechanical differences between the two machines were material, in view of the character of the patented invention, and of the claims of the patent; and that the case was not one where, if the jury had found for the plaintiff, it would have been proper for the court to set aside the verdict.

THIS was an action at law for the infringement of letters patent. Verdict for the defendant and judgment on the verdict. The plaintiff sued out this writ of error. The case is stated in the opinion.

*Mr. M. A. Wheaton* for plaintiff in error.

*Mr. Chester H. Krum* and *Mr. Wilmarth H. Thurston* for defendant in error.

MR. JUSTICE BLATCHFORD delivered the opinion of the court.

This is an action at law, brought in the Circuit Court of the United States for the Eastern District of Missouri, by Herman Royer against The Schultz Belting Company, a Missouri corporation, for the infringement of letters patent No. 77,920, granted May 12, 1868, to Herman Royer and Louis Royer, as inventors, for "an improved machine for treating raw hide." The patent expired on May 12, 1885, and this suit was brought on the 16th of November, 1885.

The specification, claims and drawings are as follows:

## Opinion of the Court.

“The nature of our invention is to provide an improved machine for converting raw hides into leather, of that class which is used for belting, lacings and other purposes where it is necessary to preserve the native strength and toughness without destroying or impairing the natural fibres or grain of the leather.

“In order to accomplish our object, we employ a machine mounted on a suitable frame, having a vertical slotted shaft, to which is attached, at its base, a bevelled wheel between two bevelled pinions upon a horizontal shaft. Around the vertical shaft is placed a row of vertical pins or rollers, held in place by upper and lower rings, one of which is firmly bolted to the frame. An iron weight or press is employed for crowding the coil of hide down after it has received the forward and back action around the shaft.

“To more fully illustrate and describe our invention, reference is had to the accompanying drawings, of which figure 1 is a horizontal section through A B; figure 2, a side sectional elevation, showing central shaft; figure 3, a side sectional elevation; figure 4, a horizontal section, showing the hide around the shaft in the circle of pins.

“A represents the frame, of any suitable materials, up through which the vertical shaft B passes, having a slot, B', through which the end of the hide is placed, where it is held in place by the set-screws *b b b b*. C C C are vertical pins or rollers set in the rings D and D', the lower one, or D', being firmly attached to the frame by bolts *c c*. A bevelled wheel, E, is attached to the vertical shaft B, which is actuated by the bevelled pinions F F placed on the horizontal driving-shaft G. This shaft has a pulley, H, for driving the machine. An iron weight, I, having an opening through its centre for the vertical shaft, and vertical grooves, *i i*, in it to prevent its turning, is placed upon the inside of the pins or rollers, and, by pressing upon this weight, the hide is compressed edgewise, after the forward and backward stretching or pressing is performed lengthwise.

“The operation of our machine is as follows: The end of the raw hide, after it has been deprived of the hair, is intro-



## Opinion of the Court.

is pressed downward, which, in a measure, compensates for the stretching lengthwise. The hide so operated upon is then treated with oil and tallow in the usual way.

“By thus treating the hide in our machine, the leather is rendered very tough, and the fibres or grain are not injured, but imparts to it a rough, corrugated and seamy appearance, making it more strong and lasting for the purpose designed than by any other machine or process.

“Having thus described our invention, what we claim and desire to secure by letters patent is —

“1. The vertical shaft B with a slot, B', and set-screws *b b b*, said shaft having a forward and back motion, substantially as and for the purpose described.

“2. The pins or rollers C C C, set in the rings D and D', together with the grooved weight I, substantially as and for the purposes described.”

The defendant set up, in answer to the petition, that the machine was not the joint invention of the patentees; that it was in public use by one of the patentees for more than two years before the patent was applied for; and that it was not new, giving references on the question of novelty. The answer also denied every allegation in the petition. There was a reply, putting in issue the new matter in the answer. The case was tried by a jury.

The bill of exceptions shows that, after testimony had been put in by the plaintiff on the question of infringement, the defendant demurred to the evidence introduced by the plaintiff on that question without itself putting in any evidence. The court sustained such demurrer and directed the jury to find for the defendant. The jury so found, and a verdict was rendered for it. The ruling of the court is reported in 28 Fed. Rep. 850. The plaintiff excepted to so much of such ruling as sustained the demurrer to the evidence, and to so much of the instruction of the court as directed the jury to find for the defendant. A motion for a new trial was made and overruled, the opinion thereon being in 29 Fed. Rep. 281. Judgment being rendered for the defendant, the plaintiff has brought a writ of error.

## Opinion of the Court.

The plaintiff's machine has a vertical crib of cylindrical bars standing in a circle around and concentric with a central shaft. The ends of these bars are fastened in appropriate discs or rings, and thus are held in proper position. The crib does not revolve, but the central shaft does. A vertical slot is made in the latter, in which one end of a hide is inserted and there held by set-screws. Several hides can be treated in the machine at the same time. The ends of the hides being fastened, the central shaft is made to revolve, and in doing so it draws the hides into the crib through a space between two of the bars and winds them in a coil around the shaft. A sufficient number of hides is put into the machine at one time to fill entirely the diameter of the inside of the crib when they are compressed. When the hides are all drawn into the crib, and the coil is compressed around the central shaft, filling the crib tightly, the motion of the central shaft is reversed, and the hides are unwound and wound up again around the shaft in the opposite direction, the hides being all the time under pressure. This operation of winding, unwinding and rewinding is continued, and the action on each hide is to bend every particle of it, whether thick or thin, alike and under the same degree of pressure. There is a weight on top of the coil of hides, so as to produce end pressure on them in the direction of the shaft, lengthwise of the crib.

The plaintiff contends that no other machine existed before, which wound hides in one direction and then rewound them in the other direction, while under pressure, and that this produced a new mode of operation in the treatment of hides, which was not the result of a mere improvement on the mechanism of any prior machine. He therefore urges that the case falls within the principle applied in *Morley Machine Co. v. Lancaster*, 129 U. S. 263, that "where an invention is one of a primary character, and the mechanical functions performed by the machine are, as a whole, entirely new, all subsequent machines which employ substantially the same means to accomplish the same result are infringements, although the subsequent machine may contain improvements in the separate mechanisms which go to make up the machine;" and

## Opinion of the Court.

that, the patentees having been the first persons to succeed in producing an automatic machine for treating raw hide in the manner in which their machine treats it, the claims of the patent must be construed liberally.

The plaintiff, who is one of the patentees, was examined as a witness on the trial, and fully explained the patented machine, its mode of operation, and the improvement it effected in the conversion of raw hides into leather.

The defendant's machine has in it a cylinder which is arranged horizontally instead of perpendicularly, and corresponds to the cylindrical crib of the plaintiff's machine. The cylinder is constructed of two half-cylinders of iron, hinged together, inside of which are fixed semi-circular strips of wood, arranged lengthwise of the cylinder, so that the inside surface of the cylinder, when closed, is practically the same as the inside surface of the plaintiff's crib. The ends of the half-cylinders are secured in position rigidly. The general proportions of the two machines are in size about the same. The defendant's machine has a revolving central shaft, one-half of the diameter of which is removable in that part of it to which the hides are fastened. This half is in sections, which are held to the other part of the shaft, when fastened to it, by screws. The edges of the hides are fastened to the shaft by unscrewing such sections and placing one edge of each hide upon the face of the solid half of the shaft. The sections are then screwed on, over the edges of the hides, in which position they clamp the hides fast between the two halves of the shaft. There are grooves lengthwise along the face of the solid half of the shaft, and ribs along the faces of the removable sections, so that the edge of each hide which is fastened in the shaft is pressed down into the grooves, and is thus held more securely. There is a long opening in the side of the defendant's cylinder, through which the hides are drawn in by the revolution of the shaft, in like manner as they are drawn into the crib of the plaintiff's machine through one of the openings between the bars. As the defendant's machine is in a horizontal position, the end pressure on the coil of hides cannot be produced by a weight. Instead of that, it has two

## Opinion of the Court.

sliding discs, one at each end of the horizontal coil of hides, which discs have a central hole in them for the central revolving shaft to pass through. There is an arrangement of screw-bolts, nuts and hand-wheels, so that the two discs may be drawn together to make end pressure upon the coil of hides, and retracted therefrom; and there are springs to make the pressure yielding.

The view taken by the Circuit Court was, in regard to claim 1, that the defendant's machine did not have the slot of that claim; and as to claim 2, that the defendant's machine could not be said to infringe it.

We think the Circuit Court erred in not submitting to the jury the question of infringement, under proper instructions. If the patented invention was, within the ruling in *Morley Machine Co. v. Lancaster, supra*, "one of a primary character," and the patent was "a pioneer patent," which were questions of fact to be passed upon by the jury, then the question, on a proper construction of the patent, whether the defendant's machine infringed its claims, was a question of fact for the jury to determine, on all the evidence which the case might present. *Tucker v. Spalding*, 13 Wall. 453.

It was not a matter of mere judicial knowledge that the mechanical differences between the two machines were material, in view of the character of the patented invention and of the claims of the patent; and we are unable to concur with the view of the Circuit Court, in its opinion denying the motion for a new trial, that this is a case where, if the jury had found a verdict for the plaintiff, on the evidence put in by him on the question of infringement, all of which evidence the bill of exceptions states is set forth therein, it would have been proper for the court to set aside such verdict. *Keyes v. Grant*, 118 U. S. 25, 36, 37.

As there must be a new trial, we forbear remarking further on the questions involved.

*The judgment of the Circuit Court is reversed and the case is remanded, with a direction to grant a new trial.*