

Case No. ~~7,907~~ KNOX ET AL. V. GREAT WESTERN QUICKSILVER MIN. CO.

[6 Sawy. 430; 4 Ban. & A. 25; 14 O. G. 897; 7 Reporter, 325.]<sup>1</sup>

Circuit Court, D. California.

Nov. 18, 1878.

PATENTS—ORE ROASTING FURNACE—INFRINGEMENT—MEASURE OF DAMAGES—ESTIMATING PROFITS.

1. In a suit in equity for the infringement of a patent, the complainants may recover the full amount of profits made by the defendant by the use of the patented invention, without being limited to the license fee or royalty established for such use.
2. Although an established royalty may be the measure of damages, it constitutes no element affecting the profits derived by the defendant from the use of the invention, unless it is paid,

in which case there is no occasion for an accounting.

3. In estimating profits, it is not the profits of the business, as a business, that is to be considered but the value of the advantages derived by the infringer from the use of the invention over what he would have derived from the use of other machines, then known and open to the public.
4. An accounting should extend down to the time of taking the account, and should cover all infringing machines constructed and used by the defendant, after the commencement of the suit, as well as those which were previously constructed or used by him.

[Cited in Edison Electric Light Co. v. Westing-house Electric & Manuf'g Co., 54 Fed. 505.]

5. A comparison of the patented machine with others, for the purpose of determining its advantages over them, in estimating profits, can only be made with machines both known and open to public use at the time of the infringement, and not with machines subsequently invented or constructed.
6. A change in the location of one of the elements of a patented combination, will not evade the charge of infringement, where all of the parts operate in substantially the same way and produce the same result.

[Cited in Consolidated Roller-Mill Co. v. Coombs, 39 Fed. 34.]

[This was a suit in equity by Richard F. Knox and Joseph Osborn against the Great Western Quicksilver Mining Company for infringement of patent No. 104,323, for an improvement in ore roasting furnaces. The suit was brought in 1874. Upon the application of defendant, the proceedings were stayed, and the complainants required to bring their action at law to establish their rights under their patents, which was accordingly done. A motion was made by the defendant in the law case to strike out certain parts of the complaint, which was denied. Case No. 7,900. The case at law was then tried by a jury, who found the plaintiffs' patent valid, and also the defendant's furnace to be an infringement. Judgment was entered therefore for the plaintiffs, who then came into chancery, and applied for their injunction and accounting in the original equity case, which had been stayed. An account was ordered to be taken by the master, and the case is now heard upon exceptions to the master's report.]

M. A. Wheaton, for complainants.

Estee & Boalt, Cope & Boyd, and Garber & Thornton, for defendant.

SAWYER, Circuit Judge. To discuss all that is said by counsel in support of the exceptions to the master's report, would be to re-examine the questions tried and determined in one action at law now in the supreme court on writ of error, and again considered on the original hearing of this case.

1. It is earnestly urged that the master adopted an erroneous principle in estimating the profits which the complainant is entitled to recover. That, it being shown that complainant had established a royalty of \$6,000 for each furnace of twenty tons capacity for the use of his invention, the amount of the royalty is the utmost limit of the amount he is entitled to recover in equity, as well as at law. But the statute and the rule established by the decisions of the supreme court are otherwise. The statute provides that, "upon a decree being rendered in any such case for an infringement, the complainant shall be entitled to

recover, in addition to the profits to be accounted for by the defendant, the damages the complainant has sustained." Rev. St. § 4,921. This is an express statutory recognition of the different measures of recovery in suits in equity and actions at law; and it not only expressly authorizes the recovery in equity of the profits resulting from the use of the invention, but, in addition thereto, the damages which the complainant would be entitled to recover at law; and the latter, in the discretion of the court, may also be trebled. The established royalty might be the measure of the mere damages, but it constitutes no element affecting the profits derived by the defendant from the use of the invention unless it is paid, and, if paid, there would be no occasion for an account. In *Facket Co. v. Sickles*, the supreme court recognizes the right to recover profits made by the use of the invention, where it is said that "the rule in suits of equity, of ascertaining by a reference to a master the profits which the defendant has made by the use of the plaintiff's invention," stands upon the principle "of converting the infringer into a trustee for the patentee as regards the profits thus made." 19 Wall. [86 U. S.] 617. See, also, *Burdell v. Denig*, 92 U. S. 720; *Cowing v. Rumsey* [Case No. 3,296]; *Vaughan v. Central Pac. R. Co.* [Id. 16,897], In *Mowry v. Whitney*, 14 Wall. [81 U. S.] 651, the court say upon this subject:

"The question to be determined in this case is, what advantage did the defendant derive from using the complainant's invention over what he had in using other processes then open to the public and adequate to enable him to obtain an equally beneficial result. The fruits of that advantage are his profits. They are all the benefits he derived from the existence of the Whitney invention. \* \* \* The inquiry then is, what was the advantage in cost, in skill required, in convenience of operation, or marketability, in bringing car-wheels by Whitney's process from the condition in which they are when taken hot from the moulds, to a perfected state, over bringing them to the same state by those other processes, and thus rendering them equally fit for the same service. That advantage is the measure of profits."

2. But it is urged that the evidence does not show that defendant made any profits, and that the master erred, in finding as profits, the difference in the cost of reduction of ores between the infringing furnace and other furnaces open to public use, when it does not appear that that amount of profits, or indeed any profits, resulted from working the mine. The supreme court answers this objection by saying, in substance, that it is not

the profits of the business as a business that is to be considered, but the advantage derived to the infringer in the diminished cost, etc., of carrying on the business by the use of the invention. Thus, in *Cawood Patent Case*, 94 U. S. 710, the supreme court say upon this point: "It has been argued that it would have been better for these defendants, if, instead of repairing the crushed and exfoliated ends of the rails, they had cut off the ends and relaid the sound parts, or had caused the rails to be re-rolled. Experience, it is said, has proved that repairing worn-out ends of rails is not true economy, and hence it is inferred that defendants have derived no profits from the use of the plaintiff's invention. The argument is plausible, but it is unsound. Assuming that experience has demonstrated what is claimed, the defendants undertook to repair their injured rails. They had the choice of repairing them on the common anvil or on the complainant's machine. By selecting the latter, they saved a large part of what they must have expended in the use of the former. To that extent they had a positive advantage, growing out of their invasion of the complainant's patent. If their general business was unprofitable, it was the less so in consequence of their use of the plaintiff's property. They gained, therefore, to the extent that they saved themselves from loss. In settling an account between a patentee and an infringer of the patent, the question is, not what profits the latter has made in his business, or from his manner of conducting it, but what advantage has he derived from his use of the patented invention."

And again, in the recent case of *Mevs v. Conover* [23 Lawy. Ed. U. S. Sup. Ct. Rep. 1008], the supreme court say: "The only errors assigned in this case are to the confirmation of the master's report, and they relate to the ascertainment of the profits which the defendant had made by his unauthorized use of the plaintiff's invention. That the machine employed by the defendant in splitting wood was an infringement of the plaintiff's patent is established by the decree which sent the case to the master, and no complaint is made of that, but it is contended that the master erred in reporting 'there was saved to the defendant seventy-five cents per cord in the wood split by him and made into bundles.' In the ascertainment of profits made by an infringer of a patented invention, the rule is a plain one. The profits are not all he made in the business in which he used the invention, but they are the worth of the advantage he obtained by such use; or, in other words, they are the fruits of that advantage. *Mowry v. Whitney*, 14 Wall. [81 U. S.] 651. We are not convinced that the rule declared in that case was not followed in this. The patented invention infringed by the defendant was a new and improved machine for splitting kindling-wood, and a distinguishing feature of it—perhaps the principal feature—was a device for the automatic feeding of the wood to the reciprocating splitting knives or cutters, by a movable platform or apron carried forward by an endless chain. That device the defendant used, though it is said he used it in another machine, known as Green's. The evidence is full and uncontradicted that an advantage is gained in splitting kindling-wood

by a machine with that device of at least seventy-five cents a cord over splitting it by hand or without that device. It was in harmony with this evidence the master reported and the court decreed. It is urged, however, that the Green machine, in which the defendant used the plaintiff's invention, was old and defective, and that no profits were actually received from such an use. But if such be the fact, if the defendant was a loser by splitting wood with the Green machine, his loss was less to the extent of seventy-five cents on each cord split, than it would have been had he not used the patented invention. Such a result was equivalent to an equal gain, and it was rightly estimated as a part of the profits for which the infringer was responsible."

It can scarcely be supposed that the defendant in this case has gone on for more than three years at a loss, reducing ores to the extent of about a hundred thousand tons, the reduction of which required the erection and use of two new furnaces of the same kind, in the face of and pending this litigation, and at the risk of being mulcted in large damages if finally unsuccessful in the litigation. But, however this may be, the cases cited authoritatively dispose of this exception and foreclose further discussion upon the point in this court.

3. Another exception is, that the master should have limited his accounting to the one furnace which had been constructed prior to the commencement of this suit, and not extended it to the two furnaces erected and sued at the same mine pending the suit; that, as to the latter, the causes of action had not arisen, and they are not involved in this accounting. The suit is for an infringement of complainant's patent by the use of his invention. It is not a matter of any moment by what particular machine defendant accomplished the infringement. He was infringing at the commencement of the suit, which is to obtain an account of the profits resulting from the infringement, and an injunction against further infringement.

Defendant continued the infringement by using the same furnace then in use, and by constructing and using others at the same mine. The profits resulting from the infringement in the use of the invention are sought to be recovered. The supreme court have held that the accounting should be continued down to the time of taking the account; and if so, I see no reason why it should not cover the profits of the entire infringement by use of the invention, by whatever machine effected, as well as the profits resulting from

the use of the particular machine used at the time of the commencement of the suit. If the infringement is by the manufacture and sale of the invention, the accounting must necessarily extend to all sales to the time of the accounting, or the accounting must stop at the commencement of the action; for the same machine cannot well be made and sold before the bringing of the suit, and again after its commencement I can perceive no reason for applying a different rule, in the case of the use of an invention, from that applicable to its manufacture and sale. Besides, an injunction would certainly not be limited to the machine in use before, or at the time of, the institution of the suit I think the accounting properly embraced all the machines containing the invention used by the defendant at its mine down to the time of the accounting.

4. Assuming what is called the “modified Green furnace”—the last one erected by defendant—not to be an infringement, it is claimed that this furnace was open to public use, and is equal to or better than complainants’, and that the comparison for the purpose of ascertaining the profits should have been made with this furnace. But this furnace was not in existence during a large portion of the time covered by the accounting. If not an infringement, it is the first furnace of the kind ever constructed. It was built pending this suit, long after its commencement, and long after the judgment at law, and, doubtless, with the careful purpose of evading complainants’ patent. It is possible that somebody may yet invent a furnace far superior to any now in use. If such should be the case before this accounting is finally settled, would it be pretended that the comparison should be made with such furnace, because, at the time of the infringement complained of, that furnace was not invented or patented, and, therefore, was open to public use, if the defendant or others had only known enough to make one of the kind? Such a claim would be simply preposterous. The comparison must be with machines at the time of the infringement, both known, and open to public use.

5. Another exception is, to the allowance by the master, in the accounting, of the profits resulting from the use of the modified Green furnace, which, it is claimed, is not an infringement of complainants’ patent This furnace was constructed April 10th, 1877—after the trial and judgment in the action at law—and doubtless, as before remarked, with a view to avoiding the future consequences of the judgment in that action. It is the only furnace, referred to by defendant’s counsel, not before the jury on the trial of that action. As it was not passed upon by the jury, it is necessary to inquire whether it is an infringement.

The jury found the original Green furnace to be an infringement, and the verdict settles the point, as to that furnace, so long as the judgment in the action at law stands. If the original Green furnace is an infringement, no proposition can be plainer to my mind than that the modified Green furnace is equally so. The modification consists in so reducing the height of the furnace above the fire-places that the top will be at the proper distance above the fires for the exit-flues to admit of the fumes being maintained at a temperature



sufficiently high to pass out before condensation—that is to say, at the same or about the same height above the fires at which the exit-flues in the original Green furnace passed out at the side of the furnace—then inserting the exit-tubes in the centre of the top, so that the fumes shall pass out at the top instead of the side, as in the original, there being two fire-places on each side of the modified furnace in the same positions as in the original. It is earnestly insisted by defendant's counsel, that by this location and arrangement of the flues the heat from the fires is not drawn across the furnaces as in the complainants' and in the original Green furnace—one of the objects to be accomplished by locating the exit-flues in the side opposite the fire-places—and that, therefore, one important element in the complainants' combination and improvement is wanting. But it is perfectly plain to be seen that the heat is drawn across by this arrangement, substantially, and even precisely, as in the original. The heat from the fire-places on one side is drawn to the centre, and from the opposite side to the same point, where the heat from the fires on the opposite sides unites and passes out through the flues, the two operating together and drawing the heat entirely across the furnace, heating all the ore uniformly. Or, look at the modified furnace in another aspect. Pass a solid plane of the full width of the furnace down through the centre of the flues to the bottom of the furnace, leaving half of the flues on each side, and we have two furnaces placed back to back, each with fireplaces on one side and exit-flues on the opposite side, at the top, to be sure, but also in the side at the same height and in the same position as the original Green furnace; and in each furnace the heat is drawn entirely across and passes out at the opposite side at the same height and position as in the original Green furnace. Cut off the top of the original Green furnace at the exit-flues, and the exit-flues, without changing their position, will be at the top as well as in the sides opposite the fire-places, and will be in the same position as in the modified Green furnace, divided into two, as suggested. In this aspect there is, in fact, no change in the location of the flues. It can make no difference that we do not, in fact, insert the partition and make two furnaces thereby, instead of one double furnace. It in no way affects the operation of drawing the heat across. The operation is precisely the same in both. In the language of the master, "it

has substantially the same combination of the same parts, and the same number of parts, all operating in substantially the same way, and producing the same results, the only change being in the place of the outlet vapor-flue.” In *Adams v. Joliet Manuf'g Co.* [Case No. 56] it is said by the court: “A change of location of a part, in a combination where there is no new function performed by the changed member in its new location, will not evade a patent.” In this case the changed part—if, in the view suggested, there can be said to be a change—performs no new function. It operates in precisely the same way and accomplishes the same result in the same mode in the combination. This exception must, therefore, be overruled. If I am in error upon this point, the master has made a separate report as to the profits resulting from using the modified Green furnace, and the supreme court will be able to correct the decree in this particular, if right in other respects.

6. As to the other points of the master's report to which exceptions have been taken, I agree with the master. The Neate and Luckhardt furnaces are the only ones, besides the Almaden furnace, to which testimony was, with any degree of definiteness, directed with reference to profits; and neither of them was open to public use without payment of a royalty, as the evidence shows. But if the comparison is to be made with either of them, I do not think the result would be more favorable to the defendant. There can be no doubt, from the evidence, that either the furnace of complainant, or either of the Green furnaces, is greatly superior to either the Neate or Luckhardt furnace. After a careful consideration of all the testimony, and especially if other elements of profits indicated by the evidence—such as more perfectly and uniformly roasting the ores, the greater saving of quicksilver, the diminished sickness of the workmen from salivation, and the like—be considered, as they should be, I do not think a dollar per ton by any means too high an estimate of the advantages derived from using either of the former over either of the latter. If there is any error, there seems an under rather than an overestimate of profits. One dollar per ton is not a very large amount of profit in the reduction of a single ton of ore. The reduction in cost of so common and simple an operation as splitting a cord of kindling-wood by the patented machine, in one of the cases already cited, was nearly as much. The large amount, in the aggregate, results from the immense quantities of ore reduced during the more than three years, covered by the accounting, that have elapsed pending this contest.

The aggregate amount may seem “crushing.” as suggested by defendant's counsel, when compared with the \$6,000 per twenty ton furnace royalty, for which the right to use the invention might have been purchased. But if so, this legitimate result, in ease of final defeat, was one of the risks assumed by defendant when it elected to contest the complainant's right, rather than pay the royalty properly demanded, should the patent turn out to be valid, and to have been infringed. The defendant entered into the contest advisedly, well knowing the consequences of defeat for when the complainants elected an account



in equity as their most advantageous remedy, the defendant drove them to an action at law, doubtless to avoid the accounting and limit them to damages; and, when the action at law was brought, again endeavored to confine complainants to mere damages by moving to strike from the complaint the part preserving the right to an account in this suit after establishing their right at law, but the motion was denied by Mr. Justice Field. **Knox v. Great Western Quicksilver Min. Co. [Case No. 7,906]**. The defendant, therefore, can have no ground of complaint on the score of the large amount recovered, provided it be fairly the result of the use of complainants' duly patented inventions.

I am not satisfied from the large mass of evidence, which seems to cover the entire field of quicksilver mining and furnaces, that at the time of issuing the patents held by complainants it had been demonstrated by actual experiments that any furnace then known would profitably reduce quicksilver ores of the grades now advantageously worked by complainants' and the Green furnaces. It is apparent to me, from the evidence, that complainants' furnace was the first to practically and profitably reduce low-grade quicksilver-ores; and that these furnaces of complainants and defendant are still greatly superior to any others in use, and are capable of profitably reducing ores that cannot be worked with profit in other furnaces not embodying substantially the same elements and combinations. The Luckhardt furnace is the one apparently most confidently relied on by the defendant as being practicable, and most nearly approaching in usefulness those used by complainants and defendant. Defendant erected and used for a time one of them at its mine, and, although its testimony is to the effect that it was a success, but of too small capacity, the significant fact remains that it was torn down, and, when demolished, defendant did not build another Luckhardt furnace of larger capacity, but did erect in its place a Green furnace, which was afterward followed by another, notwithstanding the pending litigation and the risk of being called upon to account for a large amount of profits resulting from its use, in case of failure to defeat the pending actions.

Besides, other mine-owners pay the large royalty established by the complainants for the use of their inventions, which they

would not be likely to do if there were other furnaces equally good, or nearly so, open to public use or to be had at a smaller royalty. These facts of themselves speak volumes in favor of the superiority of the furnaces of complainants, and those constructed and used by defendant, over the Luckhardt or any other furnace. The testimony, all considered, leaves no doubt on my mind that the furnaces used by complainants and defendant, and those embodying the same elements and combinations and operating upon the same principles, are greatly superior to any others in use for reducing quicksilver ores. And it also seems clear to me that the Green furnace, and the modified Green furnace, embody the elements and combinations found in complainants' furnace.

This suit was commenced in October, 1874. Upon the application of defendant, the proceedings were stayed and the complainants required to bring their action at law to establish their rights under their patents, which was accordingly done. After a laborious trial the jury, under instructions of the court as to the law applicable to the case, found the patents held by plaintiffs to be valid, and the Green furnace to be an infringement, the verdict being special upon each claim by itself. The verdict was set aside upon some of the subordinate claims, but confirmed by the court on the other and principal claims. Judgment was entered in February, 1876, and a writ of error to the supreme court perfected February 4th, 1878. The validity of the complainants' patents and their infringement having been established in the action at law, nothing was left to be done, except for complainants to apply for their injunction and accounting in the equity suit, which had in the meantime been stayed. The accounting resulted in the master's report now under consideration. If there is any error in these proceedings, in my judgment, it is not in the accounting, but it will be found in my construction of the patents in the action at law. Upon that point, as counsel were informed at the time, and again upon the decision of the motion for a new trial, my mind was not wholly free from doubt—not that a better furnace for reducing quicksilver-ores had been constructed by complainants than was ever before in use, but whether the claims in the patents were sufficient to secure the valuable features combined in the furnace. Defendants took their exceptions, and, a bill of exceptions having been duly settled, the construction adopted is now before the supreme court for review. If the judgment in the action at law should be affirmed, I can perceive no error in the accounting. If reversed, of course, the basis of the accounting will be withdrawn. I regret that the final decision of the action at law could not have been had before passing upon the master's report.

Let the exceptions to the master's report be overruled, the report be confirmed, and a final decree entered for complainants in accordance therewith.

[For other cases involving this patent, see note to *Knox v. Great Western Quicksilver Min. Co.*, Case No. 7,906.]

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<sup>1</sup> [Reported by L. S. B. Sawyer, Esq.; reprinted in 4 Ban. & A. 25; and here republished by permission. 7 Reporter, 325, contains only a partial report.]

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