

Syllabus.

nor could it be invoked as against them by Kneeland, the purchaser. The case then is one of a claim apparently good, sustained by the decree of the trial court, and brought here for review without any of the testimony introduced in the trial court, and upon which its decree was based. Of course on such a record no error can be adjudged.

The decree is

Affirmed.

The CHIEF JUSTICE, MR. JUSTICE BRADLEY and MR. JUSTICE GRAY did not hear the argument nor take part in the decision of this case.

CROSBY STEAM GAGE & VALVE COMPANY v.
CONSOLIDATED SAFETY VALVE COMPANY.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR
THE DISTRICT OF MASSACHUSETTS.

No. 999 Argued October 22, 1891. — Decided November 2, 1891.

On an accounting as to profits and damages, on a bill for the infringement of letters patent No. 58,294, granted to George W. Richardson, September 25, 1866, for an improvement in steam safety-valves, the Circuit Court, confirming the report of the master, allowed to the plaintiff the entire profit made by the defendant from making and selling safety-valves containing the patented improvement, and this court affirmed the decree, on the ground that the entire commercial value of the defendant's valves was to be attributed to the patented improvement of Richardson.

It was held that the plaintiff's valves of commerce all of them contained the improvements covered by the patent of Richardson, and that, as the master had reported no damages, in addition to profits, the amount of profits could not be affected by the question whether the plaintiff did or did not use the patented invention.

It was proper not to make any allowance to the defendant for the value of improvements covered by subsequent patents owned and used by the defendant.

It was also proper not to allow to the defendant for valves made by the defendant and destroyed by it before sale, or after a sale and in exchange for other valves, which did not appear in the account on either side.

It was also proper not to allow a credit for the destroyed valves against the profits realized by the defendant on other valves.

Interest from the date of the master's report was properly allowed on the amount of profits reported by the master and decreed by the court.

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IN EQUITY. The case is stated in the opinion.

Mr. Edmund Wetmore for appellant. *Mr. Joshua H. Miller* was with him on the brief.

Mr. Thomas William Clarke for appellee.

MR. JUSTICE BLATCHFORD delivered the opinion of the court.

On the 27th of May, 1879, the Consolidated Safety Valve Company, a Connecticut corporation, brought a suit in equity in the Circuit Court of the United States for the District of Massachusetts, against the Crosby Steam Gage and Valve Company, a Massachusetts corporation, for the infringement of letters patent No. 58,294, granted to George W. Richardson, September 25, 1866, for an improvement in steam safety-valves. The claim of that patent was as follows: "What I claim as my improvement, and desire to secure by letters patent, is—A safety-valve with the circular or annular flange or lip *c c*, constructed in the manner, or substantially in the manner, shown, so as to operate as and for the purpose herein described."

On the 2d of June, 1879, the same plaintiff brought a suit in equity in the same court against the same defendant, for the infringement of letters patent No. 85,963, granted to the same George W. Richardson, January 19, 1869, for an improvement in safety-valves for steam boilers or generators. The claim of that patent was as follows: "What I claim as new, and desire to secure by letters patent, is the combination of the surface beyond the seat of the safety-valve, with the means herein described for regulating or adjusting the area of the passage for the escape of steam, substantially as and for the purpose described."

In the answers in the two suits, the defence of want of novelty was set up, and alleged anticipating patents were referred to; infringement was denied; and it was averred that the valves made and sold by the defendant were the inventions of George H. Crosby, and were described in two patents granted to him and owned by the defendant, one, No. 159,157,

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dated January 26, 1875, and the other, No. 160,167, dated February 23, 1875.

The same proofs were taken in the two suits, and they were heard together in the Circuit Court; in each suit a decree was made dismissing the bill (7 Fed. Rep. 768); and from each decree the plaintiff appealed to this court. Non-infringement was found by the Circuit Court. This court (113 U. S. 157) reversed the decree in each case, and directed the Circuit Court to enter a decree in each case sustaining the validity of the patent, decreeing infringement and awarding an account of profits and damages.

On receiving the mandate of this court in the suit on the patent of 1866, the Circuit Court, on the 18th of May, 1885, entered a decree in conformity therewith and for a recovery by the plaintiff of profits and damages from February 15, 1879, and ordered a reference to a master to take an account of such profits and damages. A like decree was made on the mandate in the suit on the patent of 1869. The date of February 15, 1879, was taken because that was the time when the title to each of the patents became vested in the plaintiff.

The master took voluminous proofs, and filed his report on the 5th of August, 1889, covering both of the suits. The report of the master found that the total profits which the defendant had derived from its manufacture and sale of steam safety-valves containing the improvement described and claimed in the patent of 1866, from February 15, 1879, to September 25, 1883, the date of the expiration of the patent, amounted to \$40,344.59. Both parties filed exceptions to the report; and on the 11th of October, 1890, the Circuit Court entered a decree overruling both sets of exceptions and awarding to the plaintiff a recovery for the \$40,344.59, with interest thereon from August 5, 1889, the date of the filing of the master's report, and the costs of the suit. From this decree the defendant has appealed. The opinion of the Circuit Court is reported in 44 Fed. Rep. 66.

The master says, in his report in the case, in respect to the patent of 1866, which he calls No. 1184, that, for the period from February 15, 1879, to September 25, 1883, he attributes

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the entire commercial value of the valves manufactured and sold by the defendant to the improvement covered by the patent of 1866. He adds: "Richardson's invention, as described and claimed in that patent, revolutionized the art of relieving steam-boilers from steam pressure rapidly approaching the dangerous point. It made effective for that purpose — rapidly, and with comparatively small loss of steam — apparatus described in other patents, which very nearly embodied Richardson's invention, but did not actually contain it. The Supreme Court in these cases has defined this invention, and has declared it to be a vital one — a life-giving principle to structures very nearly approaching, but not quite containing an embodiment of, Richardson's discovery." The master also says in his report: "It was contended before me that none of the complainant's valves of commerce contained this invention of Richardson, but, upon the whole evidence, with specimens of all the different valves put on the market by the complainants before me, I find that they all contained Richardson's improvement of 1866. The Supreme Court has decided in these cases that the defendant's valves contain this invention, and it is under this decision that the accounting in No. 1184 is before me. Eliminate this invention from the defendant's valves and they would be commercially worthless. No substitute for this invention has been suggested to me, and I know of none which the defendants could have used in its place to have made their valves of commercial value. The defendants claim that some of the profits which they have made are due to the peculiar form of their valves, but the form which they used in making their valves was the form in which they clothed the Richardson invention, the life of their valves, and without that life the Crosby form is worthless."

The specifications and drawings of the two patents of Richardson are set forth at length in the report of the cases in 113 U. S. 157. The opinion of this court said (p. 178): "There is one structural difference between the two valves, which is now to be mentioned. In the Richardson valve, all the steam which escapes into the open air escapes from the huddling chamber, through a stricture which is smaller than the aper-

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ture at the ground joint. In the defendant's valve, the valve proper has two ground joints, one at the inner periphery of the annulus and the other at its outer periphery, and only a part of the steam, namely, that which passes through one of the ground joints passes into the huddling chamber and then through the stricture, the other part of the steam passing directly from the boiler into the air, through the other ground joint. But all of that part of the steam which passes into the huddling chamber and under the extended surface, passes through the constriction at the extremity of such chamber, in both valves, the difference being one only of degree, but with the same mode of operation."

In respect to this point, one of the briefs for the appellant, now submitted, says: "The appellant's valve, in this case, known as the Crosby valve and made in accordance with the Crosby patents, is so constructed that it has two ground joints. When the valve rises, by reason of increased pressure, part of the steam escapes through one ground joint directly into the open air, and part of the steam escapes through the other ground joint into a huddling chamber, and thence into the air through orifices which form an aperture less than the ground joint orifice through which it enters said huddling chamber. Although the relief to the boiler caused by the blowing off of the valve was, in consequence of this double mode of escape for the steam, due to the combined effect of its escape through the huddling chamber and its escape through the second ground joint, yet, as all that part of the steam which entered the huddling chamber passed through the stricture opening, the court held that the valve contained the Richardson device, and was, therefore, an infringement."

The master further says, in his report: "The defendants claimed before me that the complainants, in the accounting in 1184, which relates only to the Richardson patent of 1866, should prove specifically the value of the invention secured to them under that patent as used by the defendants, and that, as it was claimed by complainants (and the Supreme Court has so decided) that defendants used also Richardson's invention of 1869, the value of the invention secured to the com-

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plainants by the 1869 patent must be determined, and not made an element in the recovery to be had under the accounting in 1184. I have no means of determining the value of that invention as used by the defendants from February 15, 1879, to September 25, 1883, or of stating in dollars and cents how much of the profits of the defendants during that period is due to that invention. The complainants claimed that during that period all the profits of the defendants were due to the Richardson invention of 1866, and, as the Richardson invention of 1869 belonged also to the complainants, and as the complainants and defendants were respectively the same in each case, 1184 relating to the said invention of 1866 and 1199 relating to the invention of 1869, and as the said period from February 15, 1879, to September 25, 1883, was included within the period to be covered by the accounting in each case, no injustice is done the defendants in acceding to the complainant's claim in this regard; and this is especially so in view of the fact that the defendants claimed that the adjustable device as shown in the Richardson patent of 1869 is worthless as such, and that the cost of the Crosby valve is less without the said so-called adjustable ring and is a better and more useful safety appliance."

The master also found that the plaintiff had suffered no damages in addition to the profits to be assessed against the defendant, in regard to the patent of 1866.

The defendant's exceptions to the master's report cover the following points: (1) The disallowance to the defendant of the sum of \$1978.34; (2) the finding that the Richardson valve sold by the plaintiff contained the invention set forth in the patent of 1866; (3) the finding that the entire commercial value of the valves made and sold by the defendant, between February 15, 1879, and September 25, 1883, was due to the improvement covered by the patent of 1866; (4) the failure to find that the plaintiff was entitled to recover only for the ascertained value of the improvements covered by the two patents over and above the value of previous safety-valves known to the art and open to be used by the defendant; (5) the failure to require the plaintiff to show what in fact was

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the value attributable to the improvement of 1866; (6) the failure to require the plaintiff to show what was the value of the improvement of 1866, in comparison with the value of safety-valves previously known to the art and free to the defendant to be used; (7) the failure to find that the defendant was liable to account to the plaintiff for only a nominal sum; (8) to the same purport as exception 7; (9) the failure to ascertain what part of the profits of the defendant was due to the two patented improvements of Crosby; and (10) the failure to ascertain what part of the profits was due to the employment of the improvement covered by the patent of 1869.

The Circuit Court, held by Judge Colt, says in its opinion: "In judging of the correctness of the method pursued by the master in his estimation of defendants' profits, the construction put upon the Richardson 1866 patent, and the language used in respect thereto, as embodied in the opinion of the Supreme Court, cannot be disregarded. It was clearly the duty of the master in his findings, as it is also the duty of the court at the present time, to give full force and effect to the opinion of the Supreme Court. If the contention of the defendants is sound, that the Supreme Court, in their interpretation of the Richardson 1866 patent, gave too much prominence to the feature known as the 'huddling chamber with a strictured orifice,' it is for them, upon appeal, to obtain some modification of that opinion; but so long as it stands as the opinion of that court, the views therein expressed should be strictly carried out. The position, therefore, taken by the defendants, that the complainants are only entitled to nominal damages, because, as they say, the Richardson valve of commerce does not contain the huddling chamber with a strictured orifice, or, in other words, a huddling chamber with an aperture for the exit of the steam into the open air which is of smaller area than the aperture at the ground joint, I cannot regard as sound, in view of the opinion of the Supreme Court. That court construed the Richardson patents, and it held that defendants' valve was within those patents, and it gave a broad construction to the Richardson 1866 patent."

The opinion then says that the court approves and adopts

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the conclusions reached by the master in the paragraphs before quoted from his report.

In the former opinion of this court, at 113 U. S. 170, it was said: "In the present case the defendant has introduced in evidence the before-named English patents to Ritchie, Webster and Hartley, and the English patent to William Naylor, No. 1830, granted July 1, 1863; and also letters patent of the United States, No. 10,243, granted to Henry Waterman, November 15, 1853, and the reissue of the same, No. 2675, granted to him July 9, 1867. In view of all these patents, and of the state of the art, it appears that Richardson was the first person who described and introduced into use a safety-valve which, while it automatically relieved the pressure of steam in the boiler, did not, in effecting that result, reduce the pressure to such an extent as to make the use of the relieving apparatus practically impossible, because of the expenditure of time and fuel necessary to bring up the steam again to the proper working standard. His valve, while it automatically gives relief before the pressure becomes dangerously great, according to the point at which the valve is set to blow off, operates so as to automatically arrest with promptness the reduction of pressure when the boiler is relieved. His patent of 1866 gave a moderate range of pressure, as the result of the proportions there specified, and his patent of 1869 furnished a means of regulating that range of pressure, by a screw-ring, within those narrow limits which are essential in the use of so subtle an agent as steam. In regard to all the above patents adduced against Richardson's patent of 1866, it may be generally said that they never were, in their day, and before the date of that patent, or of Richardson's invention, known or recognized as producing any such result as his apparatus of that patent produces, as above defined. Likenesses in them, in physical structure, to the apparatus of Richardson, in important particulars, may be pointed out, but it is only as the anatomy of a corpse resembles that of the living being. The prior structures never effected the kind of result attained by Richardson's apparatus, because they lacked the thing which gave success. They did not have the retarding stric-

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ture which gave the lifting opportunity to the huddled steam, combined with the quick falling of the valve after relief had come. Taught by Richardson, and by the use of his apparatus, it is not difficult for skilled mechanics to take the prior structures and so arrange and use them as to produce more or less of the beneficial results first made known by Richardson; but, prior to 1866, though these old patents and their descriptions were accessible, no valve was made producing any such results. Richardson's patent of 1866 states that the addition to the head of the valve terminates in an annular lip, which fits loosely around the valve-seat, and is separated from it by about $\frac{1}{64}$ th of an inch for an ordinary spring, and a less space for a strong spring, and a greater space for a weak spring, forming an annular chamber, and regulating the escape of the steam; that the steam, when the valve is lifted, passes beyond the valve-seat, and into the annular chamber, and acts against the increased surface of the valve-head, and thus overcomes the increasing resistance of the spring due to its compression, and lifts the valve higher, and the steam escapes freely into the open air, until the pressure is sufficiently reduced, when the spring immediately closes the valve. It is not shown that, before 1866, any known valve produced this result."

The opinion also said: "It appears to have been easy enough to make a safety-valve which would relieve the boiler, but the problem was to make one which, while it opened with increasing power in the steam against the increasing resistance of a spring, would close suddenly and not gradually by the pressure of the same spring against the steam. This was a problem of the reconciliation of antagonisms, which so often occurs in mechanics, and without which practically successful results are not attained. What was needed was a narrow stricture to hold back the escaping steam, and secure its expansive force inside of the lip, and thus aid the direct pressure of the steam from the boiler in lifting the valve against the increasing tension of the spring, with the result that, after only a small, but a sufficient, reduction in the boiler pressure, the compressed spring would, by its very compression, obtain the mastery and close the valve quickly. This problem was

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solved by Richardson, and never before. His patent of 1869 describes the arrangement and operation of the whole apparatus, with the adjustable ring, thus: When the pressure of the steam lifts the valve, the steam acts against the surface of an annular space between the bevel of the valve-seat and the downward-projecting flange of the cap-plate, to assist in holding up the valve against the increasing resistance of the spring. The aperture between the valve and its seat is always greater than that between the flange and the upward-projecting rim, and thus the steam in the annular space assists in holding up the valve till the boiler pressure falls below that at which the valve opened. The difference between the closing pressure and the opening pressure depends on the distance between the flange and the rim. There is a central aperture in the cap, through which the steam escapes when the valve is lifted, which is surrounded by a projecting cylindrical flange, threaded on the outside, to which is fitted a threaded ring, which can be turned up or down and secured by a set-screw. By this means, the area of the aperture for the escape of steam beyond the valve-seat is adjustable, the space being largest when the ring is down, and smallest when the ring is up."

The opinion then considers the prior patents of Ritchie, Webster and Hartley, and holds that they did not anticipate Richardson's invention of 1866. In regard to the Webster patent, it says: "The Webster patent shows a huddling chamber and a stricture. But the evidence shows that valves made with the proportions shown in the drawing of Webster work with so large a loss of boiler pressure, before closing, as to be practically and economically worthless. Webster's patent describes a means of making the area for the escape of steam adjustable, consisting in adjusting up and down, on a smooth valve-stem, a sliding collar or flange, and fixing it in place by a set-screw. But it does not show the screw-ring of Richardson, with its minute delicacy of adjustment and action." Further it says: "Richardson is, therefore, entitled to cover, by the claim of his patent of 1866, under the language, 'a safety-valve with the circular or annular flange or lip *c c*, constructed in the manner, or substantially in the manner, shown,

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so as to operate as and for the purpose herein described,' a valve in which are combined an initial area, an additional area, a huddling chamber beneath the additional area, and a strictured orifice leading from the huddling chamber to the open air, the orifice being proportioned to the strength of the spring, as directed. The direction given in the patent is, that the flange or lip is to be separated from the valve-seat by about $\frac{1}{64}$ th of an inch for an ordinary spring, with less space for a strong spring, and more space for a weak spring, to regulate the escape of the steam, as required." "The Richardson patents have a disc valve, an annular huddling chamber, an annular stricture at the outer extremity of the radii from the centre of the valve, an additional area which is radially beyond the disc valve, and a cylindrical steam way. But, before 1866, an annular form of safety-valve was well known. Such a valve necessarily requires an annular steam way. In the defendant's valve, complainant's Exhibit A, the same effects, in operation, are produced as in the Richardson valve, by the means described in Richardson's claims. In both structures the valve is held to its seat by a spring, so compressed as to keep the valve there until the pressure inside of the boiler is sufficient to move the valve against the pressure of the spring, so that the steam escapes through the ground joint into a chamber covered by an extension of the valve, in which chamber the steam acts expansively against the extended surface, and increases the pressure in opposition to the increasing pressure of the spring, and assists in opening the valve wider; this chamber, in the defendant's valve, has, at its termination, substantially the same construction as Richardson's valve, namely, a stricture which causes the steam to act, by expansive force, against the extended surface of the valve; and in both valves, after the pressure of the steam has been somewhat reduced in the boiler, the closing movement is quickened, as the valve nears its seat, in consequence of the reduced pressure of the steam on the extended surface, and the valve comes suddenly to its seat. In the Richardson valve, the valve proper is a disc, and the extended surface is an annulus surrounding the disc, while, in the defendant's

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valve, the valve proper is an annulus, and the extended surface is a disc inside of the annulus. But this is a mere interchange of form between the valve proper and the extended surface, within the skill of an ordinary mechanic."

It is contended by the defendant that the proof shows that a valve made in the required proportions of the patent of 1866 and in accordance with its drawing and description, without the improvement of 1869, and with the area of escape at the outlet smaller than the area of entrance at the ground joint, is not as economical or as good in action as the earlier Webster valve; that a valve constructed in accordance with the patent of 1866 is not an economical valve, but operates with a large loss of steam; that the valves sold by the plaintiff as Richardson valves, being the same in pattern as those sold by it since it began business, are not constructed so that the area of escape from the huddling chamber is smaller than the area of entrance from the ground joint, but on the contrary, it is about twice as large; and that the plaintiff has never put a valve on the market with the orifice of escape from the huddling chamber smaller than the orifice of entrance into that chamber.

We see no reason, in the record, for disturbing the conclusions of the master and the Circuit Court, that the entire commercial value of the valves made and sold by the defendant was due to the improvement covered by the patent of 1866, and that the plaintiff's valves of commerce all of them contain the improvements covered by the patent of 1866. Moreover, the master reports profits only, and finds that the plaintiff has suffered no damages in addition to the profits to be assessed against the defendant. If there had been an award of damages, and the loss of trade by the plaintiff, in consequence of the competition by the defendant, had been an element entering into those damages, it would have been a material fact to be shown by the plaintiff that it was putting on the market goods embodying the Richardson invention; but, as the plaintiff recovers only the profits made by the defendant in using in its business the Richardson invention, it is immaterial whether or not the plaintiff itself employed that invention. The

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profits made by the defendant cannot be increased or diminished by any act on the part of the plaintiff; and the amount of them is not affected by the question whether during the same time the plaintiff did or did not use the patented invention.

In regard to the holding by the master and the court that all the profits of the defendant from the valves it made and sold were to be attributed to the employment by it of the improvement covered by the patent of 1866, we hold that, in view of what was determined in the former opinion of this court, and on the whole case, the safety-valves known to the art and open to be used by the defendant would not do the same work as the Richardson invention covered by the patent of 1866, or have any commercial value; and that, within the case of *Garretson v. Clark*, 111 U. S. 120, it appears, by reliable and satisfactory evidence, that the profits made by the defendant are to be calculated in reference to the entire valve made and sold by it, for the reason that the entire value of that valve, as a marketable article, is properly and legally attributable to the patented feature of the patent of 1866.

As to the assignment of error that the master did not ascertain what part of the profits derived by the defendant was due to the patented improvements covered by the two patents to Crosby, the master said, in his report, as before quoted: "The defendants claim that some of the profits which they have made are due to the peculiar form of their valves, but the form which they used in making their valves, was the form in which they clothed the Richardson invention, the life of their valves, and without that life the Crosby form is worthless." The defendant contends, that the master ought to have found, upon the evidence, that, with the exception of an allowance of a nominal sum for profits on account of the Richardson invention, the profits of the defendant accrued from its employment of the Crosby inventions. This contention was made before the master, and was overruled by him. There was some evidence before the master relating to the form of the Crosby valve, to the effect that it had an encased spring, and was readily attached and adjusted, and that those

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features of its construction were advantageous. The first patent to Crosby does not show any encased spring; and while the second patent to him shows an encased spring, its claims relate solely to the features which produce and regulate the recoil action of the steam. The master was correct, therefore, in saying that the patented improvements of Crosby embodied the form in which the defendant clothed the Richardson invention, the life of the defendant's valve, and without which the Crosby form was worthless. There is no evidence that any of the things patented by Crosby gave any advantage in selling the defendant's valve.

It appearing that the defendant's valve derived its entire value from the use of the Richardson invention covered by the patent of 1866, and that the entire value of the defendant's valve, as a marketable article, was properly and legally attributable to that invention of Richardson, the plaintiff is entitled to recover the entire profit of the manufacture and sale of the valves. *Elizabeth v. Pavement Company*, 97 U. S. 126, 139; *Root v. Railway Company*, 105 U. S. 189, 203; *Garretson v. Clark*, 111 U. S. 120; *Callaghan v. Myers*, 128 U. S. 617, 665, 666; *Hurlbut v. Schillinger*, 130 U. S. 456, 471, 472.

The defendant contends that the master and the Circuit Court erred in disallowing as a credit to the defendant in diminution of the profits reported, the sum of \$1978.34, it being contended that that was an expense suffered by the defendant in modifying and reconstructing certain valves to render them more perfect and more salable. These were valves made by the defendant and destroyed by it before sale, or after a sale and an exchange for other valves: which destroyed valves did not appear in the account on either side, thus becoming unsold valves. The expense thus referred to is one incurred in making experimental and defective valves.

In regard to this item, the master said in his report: "Item 7 is for modification and reconstruction of iron valves. The costs of the reconstructed valves have already been charged in the costs of valves for the periods in which the reconstruction, so called, took place. The old valves were destroyed and a salvage made of such parts as were of value or could be

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used, and new valves were made and their full costs charged in the accounts of defendants. This item 7 is a claim for the cost of the destroyed valves (whether with or without an allowance for salvage I am unable to say) and should not be allowed." In respect to this item, the defendant put in the following claim before the master: "Finding 8. The charge found in item 7, in heading IV of defendants' account filed with the master, is for the reconstruction and modification of safety-valves made by them. The work of this modification and reconstruction was in the direction of perfecting the characteristics of the safety-valves they were then producing. The result of such endeavor was that they produced a species of safety-valves, classified in the account as iron safety-valves, which was made and sold after that time by the defendants, the account of which has been fully rendered to the master, and on which he has computed profits in his consideration of them. In the labor and efforts of the defendants certain valves were rendered useless and were valueless except for junk, and certain parts of valves made for them and paid for were rejected, and the difference between the original cost and their value as old metal became a loss to the defendants. All these losses occasioned by the destruction of valves, by the replacing of valves in hands of buyers of valves by giving them new valves for old ones without additional charge, and by the destruction of parts of valves which could not be used because of the modification of the design, were a part of the expense suffered by the defendants in their valve business, in the producing and manufacture of a marketable safety-valve of the characteristics of the Crosby valve, and constituted a wastage in their business which their valve department suffered for the purpose of making more salable products. This loss was an item of expense which should be charged to the cost of valves as such, because it became a charge upon all the safety-valves thereafter made following the plan and models which resulted from such loss. Upon inspection of the records of the master, the defendants do not find that they have filed specifications of such loss, and, trusting to the belief that their account, with the testimony, was sufficient and

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proper in such respect, they evidently neglected so to do. Moreover, the examination of Mr. Crosby, the defendants' superintendent at that time, by the complainants, upon that item of their account, shows only the items of loss in part. This latter incomplete showing, which is now first noticed by the defendants, was evidently overlooked, and thus the facts making up the character of the loss were not properly and fully laid before the master for his consideration. On this account the defendants respectfully submit a statement of facts, and request that they may introduce testimony, if necessary, in proof thereof." Here follows the statement. "Whenever valves have been accounted for as returned and the master has deducted the returned valves from the sales and costs the account then shows itself free from any profits on such valves. The cost to the defendants of such valves remains as a part of the expenses they have incurred in the making of valves, and which, when they were destroyed, became a direct loss to them and their business. It is for this actual loss so sustained, decreasing their profits, which they now ask to have allowed. The loss is inseparable from their whole valve business and belongs to it."

To this view, the master replied as follows, in his report: "It is clear, upon this statement, that no allowance should be made to defendants for the sixty-nine valves which they made and destroyed without selling or consigning them. The thirty-eight valves which were originally sold to Babcock & Wilcox were accounted for both in costs and sales, but when new valves were sent them to replace the returned valves, the new valves were not included in defendants' accounts, either in costs or sales. The twelve brass valves were returned and so treated in the account. The result, therefore, is substantially this, that the defendants made some one hundred and nineteen valves which they subsequently destroyed, with some castings which they concluded not to use. I find no sufficient reasons for modifying my former disallowance of item 7 in each case."

In regard to this item, the Circuit Court said: "As for the objection to the findings of the master respecting expenses to be allowed for certain valves destroyed, which forms the sub-

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ject matter of the first exception, I think the master was right in the conclusion he reached. The defendants were not charged on valves which were subsequently destroyed, or, if so, they were not charged upon the new valves which replaced them. See master's note 29, page 43 of master's report. The master properly disallowed the cost of destroyed valves."

Without going into details, it is sufficient to say that we concur in the conclusion that the defendant was not charged for valves which were subsequently destroyed, or, if so, it was not charged upon the new valves which replaced the destroyed valves.

As for the contention that the destroyed valves ought to form a credit against the profits actually realized by the defendant on other valves, it is sufficient to say that the only subject of inquiry is the profit made by the defendant on the articles which it sold at a profit, and for which it received payment, and that losses incurred by the defendant through its wrongful invasion of the patent are not chargeable to the plaintiff, nor can their amount be deducted from the compensation which the plaintiff is entitled to receive. *The Cawood Patent*, 94 U. S. 695; *Elizabeth v. Pavement Co.*, 97 U. S. 126, 138; *Tilghman v. Proctor*, 125 U. S. 136.

The Circuit Court allowed interest on the \$40,344.59 from the date of the filing of the master's report. The defendant assigns this as error, and contends that interest should have been allowed only from the date of the decree. In support of this view, the case of *Mowry v. Whitney*, 14 Wall. 620, 653, is cited. But we regard it as established by the cases of *Illinois Central Railroad v. Turrill*, 110 U. S. 301, 303, and *Tilghman v. Proctor*, 125 U. S. 136, 160, that the ruling as to interest made by the Circuit Court is proper. In the latter case, it is said: "By a uniform current of decisions of this court, beginning thirty years ago, the profits allowed in equity, for the injury that a patentee has sustained by the infringement of his patent, have been considered as a measure of unliquidated damages, which, as a general rule, and in the absence of special circumstances, do not bear interest until after their amount has been judicially ascertained; and the provision introduced

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in the patent act of 1870, regulating the subject of profits and damages, made no mention of interest, and has not been understood to affect the rule as previously announced. *Silsby v. Foote*, 20 How. 378, 387; *Mowry v. Whitney*, 14 Wall. 620, 651; *Littlefield v. Perry*, 21 Wall. 205, 229; Act of July 8, 1870, c. 230, § 55, 16 Stat. 206; Rev. Stat. § 4921; *Parks v. Booth*, 102 U. S. 96, 106; *Railway Co. v. Root*, 105 U. S. 189, 198, 200, 204; *Illinois Central Railroad v. Turrill*, 110 U. S. 301, 303. Nothing is shown to take this case out of the general rule. At the time of the infringement, the fundamental questions of the validity and extent of Tilghman's patent were in earnest controversy and of uncertain issue. Interest should therefore be allowed as in *Illinois Central Railroad v. Turrill*, just cited, only from the day when the master's report was submitted to the court (which appears, by the terms of his report and of the decree below, to have been October 7, 1884) upon the amount shown to be due by that report and the accompanying evidence."

Delay caused by the court, or not attributable to the plaintiff, in coming to a conclusion on the master's report, where the amount found by that report is confirmed, ought not to deprive the plaintiff of interest on the amount found by the master. Under such circumstances, the account ought to be considered as liquidated on the day when the master's report is filed. This is in analogy to the allowance of interest on the amount of the verdict of a jury from the date of the verdict to the date of the judgment, in accordance with the statutes of many States, and among others of Massachusetts. Pub. Stats. c. 171, § 8.

The decree of the Circuit Court is

Affirmed.

The CHIEF JUSTICE and MR. JUSTICE GRAY were not present at the argument, and took no part in the decision of this case.