

**Case No. 7,797.** KING v. HAMMOND ET AL.

[4 Fish. Pat. Cas. 488; Merw. Pat. Inv. 110.]<sup>1</sup>

Circuit Court, N. D. Ohio.

April, 1871.

PATENTS—IMPROVEMENT IN BRIDGES—SIMPLICITY AND ECONOMY OF CONSTRUCTION.

1. Letters patent for “improvement in bridges,” as reissued to Zenas King, July 30, 1867, examined and sustained.
2. The channel iron of the King bridge presents in a single piece of metal what had been

before accomplished, if at all, only by the union of several distinct pieces or parts, attended with additional expenditure of material and labor.

3. The patent law [5 Stat. 117] protects simplicity and economy of construction, as against prior complex and expensive combinations.

[Cited in *Gottfried v. Phillip Best Brewing Co.*, Case No. 5,633.]

This is an action on the case, tried by submission before Judge SHERMAN, and brought to recover damages for the infringement of letters patent [No. 33,384,] for an improvement in bridges, granted to Zenas King and P. M. Freese, October 1, 1861, assigned to plaintiff, and reissued to him July 30, 1867 [No. 2,707]. The invention related to the introduction of stay plates between the exterior plates of a hollow iron girder, and is sufficiently referred to in the opinion. The claim of the original patent was as follows: "The peculiar formation or configuration of the arch A, the same being made to increase gradually in its vertical and lateral dimensions from the ends A' A" of the arch to its center or crown, in the manner described, for the purposes set forth." The claims of the reissued patent were as follows: "1. The construction and arrangement of the arch, when the same increases gradually in its vertical and lateral dimensions from the ends A' A" of the arch to its center or crown, substantially as and for the purpose set forth. 2. The construction and arrangement of the arched or curved stay plates or channel irons in combination with arched bridges, for the purpose specified."

W. H. Burridge and Willey, Cary & Terrell, for plaintiff.

Job Abbott and T. K. Bolton, for defendants.

SHERMAN, District Judge. This is an action at law, brought by the plaintiff, Zenas King, of Cleveland, in this district, against David Hammond and others composing the Wrought Iron Bridge Company of Canton, Ohio, for an alleged infringement, by the defendants, of reissued letters patent granted to plaintiff, bearing date July 30, 1867, for an improvement in bridges, the original patent having been granted to plaintiff and one P. M. Freese, October 1, 1861, the said Freese having since assigned his interest to plaintiff.

The defendants have filed the general issue, with notice of special matter served on plaintiff under the statute, and the case is submitted to the court without the intervention of a jury, on the pleadings, depositions, and various exhibits and models.

This invention, in its main and principal features, relates to the channel iron or stay plates, so constructed and arranged in relation to an arch that the said plates form a vertical and lateral support to the bridge, and said plates being constructed with a flange or rim on one or both sides, so as to have two or more, and conforming to the spring or sweep of the arch. And in addition, the said plates, by means of the flanges, admit of the side or top plates being so secured to them that a continuity in the structure of the bridge is attained. The said plates may be so formed or bent as to be either placed on the side, top, bottom, or other parts of the arch, of any form, without regard to the outer or inner

lines of the arch being parallel. The said plate or plates are arched, with a flange on one or both sides.

This being a general description of the invention as contained in the specification, so far as it is necessary to consider it as bearing on the question of infringement in the present case, we find that the second claim granted in the patent is for “the construction and arrangement of the arched or curved stay plates or channel irons, in combination with arched bridges for the purpose specified,” and the object of this main and distinguishing feature of the invention is stated in the specification as being “to make a bridge of the same strength, with less metal than is ordinarily used, by distributing the metal in proportion to the strain it has to bear, and thus lightening the bridge, or to make a much stronger bridge by employing the same amount of metal now employed. The importance of these advantages need not be elaborated, as they are well understood.”

It appears that the main defense on which the defendants rely is want of novelty; or, in other words, it is claimed by the defendants that the invention secured by the patent was not original with the patentees in the original patent, and various prior patents issued in foreign countries, and claimed to have been there published, and in which it is claimed that the substantial features in the invention at issue between the parties were anticipated, are produced in evidence. If this be so, and these foreign patents are found, either all or any of them, to have contained the invention in controversy, and if it further appears that said foreign patents had been previously described in any printed publication in this or any foreign country, then, of course, the patent would be void for want of novelty, under sections 24 and 25 of the patent laws, as now revised and consolidated. It does not appear to be claimed that this invention was in public use, or known or described in this country, prior to the application for the original patent. Hence, our inquiry as to the question of novelty is limited to an investigation of these foreign patents.

First, then, on examining the specification and drawings of the French patent, dated September 18, 1851, granted to Cadiat and Ougey, of Paris, for an improvement in the construction of bridges, and published in the Records of Invention in 1857, I do not find that the channel irons, as described in the King patent, are contained. The specification and

drawings represent what are more familiarly known as angle irons, being a separate iron, and the office of which is to unite two or more plates, either at the top, bottom, or side, and secured in positions in relation to the said plates by means of bolts, rivets, or other equivalents. In all forms of this construction there is an increased weight of material, and requiring additional labor and cost, instead of a diminution of all these, which is accomplished by the King invention.

The next exhibit referred to is the English patent, granted to G. F. and J. Jones, dated May 11, 1861. But it appears that the application of King & Freese, under which their original patent was issued, was filed as early as 1859. This dispenses with a further examination of this patent, it being subsequent in point of date to the King & Freese application; but it is plain, by reference to the drawings, that this English patent, being for armor-plated vessels, does not describe the channel irons of the King & Freese invention.

Next in order is the English patent granted to George Naysmith, dated September 4, 1848. The exhibit of Naysmith's patent shows a peculiar construction of plates for floors of buildings, the ends of which are supported in the walls of the building. The nature of this invention, as set forth in the specification accompanying and forming part of the exhibit, shows fully that it is inapplicable to making a bridge upon the principle as developed in the construction embraced in the complainant's patent.

The next is the German patent granted to Fairbairn, October 5, 1846. This is substantially the same in its construction as others before mentioned, where angle irons are used for connecting plates, by means of rivets or bolts, in the construction of bridges. The channel iron shown in the patent of the complainant is not found in this exhibit. And the same may also be pertinently said of the exhibit, "The Construction of Bridges," published at Stuttgart, Wurtemberg, in 1854, in which no channel iron is shown, the plates being connected with angle irons, rivets, and bolts.

To sum up my examination of these prior alleged inventions, I would say that in my judgment they do not, any of them, embrace the valuable invention and improvement set forth in complainant's patent. The channel irons which he describes, I find to be new and original with King & Freese, as described in their original application, and properly claimed in the reissue. The channel iron of the King bridge presents in a single piece of metal what had been before accomplished, if at all, only by the union of several distinct pieces or parts, which was attended with great additional expenditure of material and labor, and consequent cost. It dispenses with angle irons and numerous rivets, and in one solid, firm construction, complete in itself, furnishes this essential feature of an iron arch bridge.

It certainly can not be the doctrine of the patent law that an invention, apparently so valuable for its simplicity and increased economy, should be antedated by more complex

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and expensive combinations, which do not contain the essential feature of the King invention.

I hold, therefore, it not being necessary for the purposes of this case to give the patent any broader construction, that it is an infringement to construct arch bridges with arched or curved stay plates or channel bars, consisting of two flat plates placed edgewise and parallel with each other, and two channel bars or irons made with flat ribs, with edge flange, or flanges on one or both sides at right angles to the web, whether said channel bars are used vertically or horizontally In connection with the plates. On the whole case, I render judgment for the plaintiffs for the sum of \$5,380, that being the amount of damages agreed upon in case I should find the issues in favor of the complainant.

<sup>1</sup> [Reported by Samuel S. Fisher, Esq., and here reprinted by permission. Merw. Pat. Inv. 110, contains only a partial report.]