Root Vs. Third Avenue R. Co.

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Root v. Third Avenue Railroad Company

No. 39

Argued November 7, 1892

Decided November 21, 1892

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APPEAL FROM THE CIRCUIT COURT OF THE UNITED

STATES FOR THE SOUTHERN DISTRICT OF NEW YORK

SYLLABUS

An inventor applied September 3, 1881, for letters patent for an "improvement in the construction of cable railways," the invention consisting in the employment of a connecting tie for the rails and supports for the slot irons by which both are rigidly supported from the tie and united to each other, the ties or frames being embedded in concrete, and the rails, the slot irons, and the tube being thus connected in the same structure. The invention was conceived in 1876 and used by the inventor in constructing a cable road which was put into use in April, 1878, and of which he was superintendent until after he applied for the patent, which was granted in August, 1882.

Held, on the facts:

(1) The use of the invention was not experimental.

(2) The inventor reserved no future control over it.

(3) He had no expectation of making any material changes in it, and never suggested or made a change after the structure went into use, and never made an examination with a view of seeing whether it was defective or could be improved.

(4) The use was such a public use as to defeat the patent.

(5) The case of *Elizabeth v. Pavement Co.,* 97 U. S. 126 , considered, and the present case held not to fall within its principles.

This is a suit in equity, brought July 12, 1886, in the Circuit Court of the United States for the Southern District of New York, by Henry Root against the Third Avenue Railroad

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Company, founded on the alleged infringement of letters patent No. 262, 126, granted August 1, 1882, to the plaintiff, for an "improvement in the construction of cable railways" on an application filed September 3, 1881.

The specification of the patent says:

"My invention relates to cable railways, and it consists in the employment of a connecting tie for the rails and supports for the slot irons by which both are rigidly supported from the tie and united to each other. In combination with this construction, I employ a substratum of concrete or equivalent material which will set or solidify and unite the whole into a continuous rigid structure, no part of which is liable to be displaced from its relation to the other, and also provide a support for the roadway. Previous to my invention, all cable railways had been constructed of iron ribs of the form of the tube, set at suitable intervals, to which the slot iron or timber, as the case may be, was bolted, and the spaces between these ribs filled with wood, to form a continuous tube. Outside, and independent of this tube, the rails were laid, supported on short ties or other foundations, and were connected horizontally with the iron ribs by short bolts or rods, but were liable to settle by the undermining of their foundation, without regard to the tube or the other rail of the track. This would frequently occur by the renewal of the paving outside of the track, the introduction of house connections with the main sewer, or other disturbances of the street. This settling would cause great inconvenience, as the gripping apparatus, which is carried by the rail through the medium of the car or dummy, must travel in a fixed position in the tube, thus making a frequent adjustment of the rails to the tube necessary. The space between the rails and sides of the tube was filled with sand, which could not be securely confined, as the joints in the tube were liable to open by settling, so as to require a frequent relaying of the paving or planking, and making the whole insecure and expensive to maintain. In my invention, the whole forms a single, rigid structure."

The following are the drawings of the patent, Fig. 1 being a cross-section and Fig. 2 a perspective view:

image:a

The specification says:

"A is the main tie, bent so as to embrace the tube, and it has fastened to the ends suitable formed plates or chairs, B, to which the rails, G, are fastened, or, if stringers are used, they may be fastened directly to the

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ties. The ties may be of various shapes, but in this case I have used old T-rail, turned bottom up, with but one curve or bend, as this requires but one heat, and is thus cheaper. C are upright supports for the slot irons, having one end secured to the tie at points each side of the bend, sufficiently separated to form the necessary width for the tube. D are tie-rods, connecting said supports with the main ties or frames, through the chairs, rails, or stringers, as the case may be. The rods, D, may be fixed or may be screw bolts, having two nuts at one end for the adjustment of the slot irons to or from each other during construction, or other equivalent means may be employed. E is the concrete, in which the ties or frames are imbedded at suitable distances to support the rails and slot irons, which form the top of the tube. This concrete forms a support for the ironwork, the bottom and sides of the tube, and a foundation for the paving, F, which fills the space between the rails and slot iron, thus forming an even and durable roadway, which cannot settle below the level of the rails or slot irons, or cause a side pressure on the tube, as is the case where the roadway is supported on sand or other independent foundation. As nearly all the weight of the traffic is on the rails, the tendency of the rails to go down is resisted by a deep girder, of which the bent tie forms the top and this continuous mass of concrete forms the bottom. I am aware that concrete, as a material for foundations, underground sewers, and conduits, has long been well known, and that concrete, brickwork, or ironstone pipe might be used to form the tube between the iron ribs of the well known construction without any particular invention, as these materials are as well known as wood; but it would be still subjected to all the danger of unequal settlement, and the short tie and stringer of wood require frequent renewal and adjustment to the level of the tube. It will be seen that a distinguishing feature of my invention is the connecting of the rails in the same structure as the slot irons and the tube, so that all the parts are maintained in their relative position, and whatever may occur to alter the place of

one will have no effect, unless the change is sufficient to affect the whole structure."

There are seven claims in the patent.

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The answer sets up in defense a denial of the allegation of the bill that the alleged invention was not in public use or on sale for more than two years prior to the application for the patent, and it alleges that the invention had been in public and profitable use in the United States for more than two years before the date of the application. It also sets up want of novelty and noninfringement.

There was a replication to the answer, proofs were taken, and the case was brought to a hearing before the circuit court, held by Judge Wallace, and a decree was entered dismissing the bill. From that decree the plaintiff has appealed.

The opinion of the circuit court, found in 37 F. 673, passed upon a single question. The Invention was put into use on the California Street railroad, a cable road in the City of San Francisco, on April 9, 1878, the road having been built by the plaintiff and put into regular operation at that time, and, as constructed, having embodied in it the invention described in the patent. The defendant contended that such use was a public use of the patented invention more than two years before the application, and that therefore the patent was invalid. The plaintiff contended, and now contends, that such use was an experimental use, and that the application was filed within two years after the plaintiff became satisfied that his invention was a practical success.

Section 4886 of the Revised Statutes, which was in force when this patent was applied for and issued, enacts that a patent may be obtained when the invention has not been "in public use or on sale for more than two years prior to the application;" and 4920 provides that it may be pleaded and proved as a defense in a suit at law or in equity on the patent that the invention "had been in public use or on sale in this country for more than two years before" the application, or had been

abandoned to the public.

From the time the cable road mentioned was put into operation, no change or modification was made in its plan or its details. In the summer of 1876, between May and the 1st of September, the plaintiff conceived the invention. Early in that year, certain persons in California obtained a franchise for the

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construction of a wire cable road on California Street in San Francisco, and the plaintiff was led to believe that he would be called upon as an engineer to construct the road. He immediately commenced studying up the matter, to be prepared to recommend a plan of construction whenever called upon. He testifies that he deemed it necessary in a cable road to get a smooth, even roadway and track, and the tube or tunnel way for the cable and its carrying machinery strong enough to resist any tendency towards the closing of the slot, to provide for the grip shank, and to make a structure as a whole so permanent and durable as to stand the wear and jar of heavy street traffic as well as of the car traffic which it was to carry, and that for that purpose he deemed it necessary to have a rib or yoke, with connections to the two rails and the two slot irons, so as to connect them permanently, such yoke to be imbedded in and supported by a surrounding mass of concrete to form a support and foundation for the ribs or yokes, the bottom and sides of the cable tube or tunnel, and a foundation for the paving of the roadway. He says that he explained this invention to several persons prior to September 2, 1876, and on that day discussed the subject and explained the invention in a general way at a meeting of the directors of the proposed road. Between that time and January 1, 1877, he made a model containing two of the ribs, with an outside casing and cover, and had the space between filed in with concrete, encasing the skeleton ribs and forming "the shut section" of the completed track and tube.

His invention was adopted by the projectors of the railroad, and active work was commenced upon the structure in July, 1877. The road cost, with the equipment, $418,000, and is about two miles in length, the roadbed and tunnel construction

having cost about $225,000. From April 9, 1878, it has been in regular and successful use as a street railroad, carrying passengers for pay. The plaintiff was superintendent of the road from that time until the date of his application for the patent, and afterwards until 1883.

In explanation of his delay in applying for the patent, he testifies that before he began the construction of the road, one

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of the projectors expressed a doubt in regard to the durability of such a structure, and a fear that the jar of street traffic, as well as that of the cars, would in time loosen the ribs and separate them from the surrounding concrete, and the structure would thus fail; that doubts were expressed also by others; that while the plaintiff believed that there was more than an even chance of its proving a durable and desirable structure, he still had some doubt in his own mind, which was somewhat increased by the doubts expressed to him by others, in whom he had confidence; that, as causes which would contribute to the destruction of the road, there were (1) the moving of cars over a rail connected to ironwork without the intervention of any wood; (2) the street traffic of trucks and teams, to which such a structure would necessarily be exposed; (3) the changes of temperature, and (4) the effect of time, and the danger of water following down the different members of the iron work, and the rust separating them from the concrete, and that there was no way of determining these matters but by a trial in a public street through a long period of time.

He was asked whether his own doubts as to the durability of the structure were present at any time after the road was in operation, and if so, when and by what they were caused. He answered "Yes," and said that during the spring of 1879, the road was extended from Fillmore Street to Central Avenue by a wooden structure not nearly so durable or costly as the original road; that in preparing for the extension, he had occasion to dig out and around, so as to expose some of the old structure; that he saw therein some indication of the loosening of the yokes in the concrete, and that he had some little fear at that time that some trouble might arise

in that respect. He further testifies that the reason he did not apply for the patent within two years from the time when he first put the structure into use was that if it proved weak or undesirable, he did not want any patent, and he did not feel certain enough of that fact until the year 1881.

But it does not appear that he expressed his doubts to the projectors of the road, either before its construction was commenced, or during its construction, or while he remained its

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superintendent after it was completed, or that he communicated to anyone what he noticed during the spring of 1879, or that he entertained any fear arising therefrom.

MR. JUSTICE BLATCHFORD delivered the opinion of the Court.

The circuit court truly says, in its opinion:

"Manifestly the complainant received a consideration for devising and consenting to the use of an invention which was designed to be a

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complete permanent structure, which was to cost a large sum of money and which he knew would not meet the expectation of those who had employed him unless it should prove to be in all respects a practically operative and reasonable durable one. If he had entertained any serious doubts of its adequacy for the purpose for which it was intended, it would seem that he would not have recommended it in view of the considerable sum it was to cost. At all events, he did not treat it as an experimental thing, but allowed it to be appropriated as a complete and perfect invention, fit to be used practically, and just as it was, until it should wear out, or until it should demonstrate its own unsuitableness. He turned it over to the owners without reserving any future control over it, and knowing that, except as a subordinate, he would not be permitted to make any changes in it by way of experiment, and at the time he had no present expectation of making any material

changes in it. He never made or suggested a change in it after it went into use, and never made an examination with a view of seeing whether it was defective, or could be improved in any particular."

It is contended by the plaintiff that the principles recognized by this Court in *Elizabeth v. Pavement Co.,* 97 U. S. 126 , establish the patentability of the plaintiff's invention notwithstanding its embodiment in the California Street railroad. But the circuit court held that the proofs in the present case did not show a use of the invention substantially for experiment, but showed such a public use of it as must defeat the patent. The court further said that the facts were in marked contrast with those in *Elizabeth v. Pavement Co.,* because there the use was solely for experiment.

In *Elizabeth v. Pavement Co.,* the original patent was granted in August, 1854. The invention dated back as early as 1847 or 1848. Nicholson, the inventor of the pavement in question in that case, filed a caveat in the Patent Office in August, 1847, describing the invention. He constructed a pavement, by way of experiment, in June or July, 1848, in a street near Boston, which comprised all the peculiarities after wards described in his patent, the experiment being successful.

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The pavement so put down in Boston in 1848 was publicly used for a space of six years before the patent was applied for, and it was contended that that was a public use within the meaning of the statute. This Court, speaking by Mr. Justice Bradley, said that it was perfectly clear from the evidence that Nicholson did not intend to abandon his right to a patent, he having filed a caveat in August, 1847, and having constructed the pavement in Boston by way of experiment for the purpose of testing its qualities; that he was a stockholder in, and treasurer of, the corporation which owned the road in Boston where the pavement was put down, and which corporation received toll for its use, and that the pavement was constructed by him at his own expense, and was placed by him there in order to see the effect upon its of heavily loaded wagons, and of varied and constant use, and also to ascertain its durability, and liability to decay. It was shown that he was

there almost daily, examining it and its condition, and that he often walked over it, striking it with his cane. This Court held that if the invention was in public use or on sale prior to two years before the application for the patent, that would be conclusive evidence of abandonment, and the patent would be void, but that the use of an invention by the inventor, or by any other person under his direction, by way of experiment and in order to bring the invention to perfection, had never been regarded as a public use of it, and it added:

"The nature of a street pavement is such that it cannot be experimented upon satisfactorily except on a highway, which is always public. When the subject of invention is a machine, it may be tested and tried in a building, either with or without closed doors. In either case, such use is not a public use within the meaning of the statute so long as the inventor is engaged, in good faith, in testing its operation. He may see cause to alter it and improve it, or not. His experiments will reveal the fact whether any and what alterations may be necessary. If durability is one of the qualities to be attained, a long period, perhaps years, may be necessary to enable the inventor to discover whether his purpose is accomplished, and though, during all that period, he may not find that any changes are necessary, yet

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he may be justly said to be using his machine only by way of experiment, and no one would say that such a use, pursued with a *bona fide* intent of testing the qualities of the machine, would be a public use within the meaning of the statutes. So long as he does not voluntarily allow others to make it and use it, and so long as it is not on sale for general use, he keeps the invention under his own control, and does not lose his title to a patent. It would not be necessary in such a case that the machine should be put up and used only in the inventor's own shop or premises. He may have it put up and used in the premises of another, and the use may inure to the benefit of the owner of the establishment. Still, if used under the surveillance of the inventor, and for the purpose of enabling him to test the machine and ascertain whether it will answer the purpose intended, and make such alterations and improvements as experience demonstrates to be necessary,

it will still be a mere experimental use, and not a public use, within the meaning of the statute. Whilst the supposed machine is in such experimental use, the public may be incidentally deriving a benefit from it. If it be a grist mill, or a carding machine, customers from the surrounding country may enjoy the use of it by having their grain made into flour, or their wool into rolls, and still it will not be in public use within the meaning of the law. But if the inventor allows his machine to be used by other persons generally, either with or without compensation, or if it is, with his consent, put on sale for such use, then it will be in public use and on public sale within the meaning of the law. If now we apply the same principles to this case, the analogy will be seen at once. Nicholson wished to experiment on his pavement. He believed it to be a good thing, but he was not sure, and the only mode in which he could test it was to place a specimen of it in a public roadway. He did this at his own expense, and "

brk:

with the consent of the owners of the road. Durability was one of the qualities to be attained. He wanted to know whether his pavement would stand, and whether it would resist decay. Its character for durability could not be ascertained without its being subjected to use for a considerable time. He subjected it to such use, in good

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faith, for the simple purpose of ascertaining whether it was what he claimed it to be. Did he do anything more than the inventor of the supposed machine might do in testing his invention? The public had the incidental use of the pavement, it is true, but was the invention in public use, within the meaning of the statute? We think not. The proprietors of the road alone used the invention, and used it at Nicholson's request by way of experiment. The only way in which they could use it was by allowing the public to pass over the pavement. Had the City of Boston, or other parties, used the invention, by laying down the pavement in other streets and places, with Nicholson's consent and allowance, then indeed the invention itself would have been in public use within the meaning of the law; but this was not the

case. Nicholson did not sell it nor allow others to use it or sell it. He did not let it go beyond his control. He did nothing that indicated any intent to do so. He kept it under his own eyes, and never for a moment abandoned the intent to obtain a patent for it. In this connection it is proper to make another remark. It is not a public knowledge of his invention that precludes the inventor from obtaining a patent for it, but a public use or sale of it. In England formerly as well as under our patent act of 1793, if an inventor did not keep his invention secret, if a knowledge of it became public before his application for a patent, he could not obtain one. To be patentable, an invention must not have been known or used before the application; but this has not been the law of this country since the passage of the act of 1936, and it has been very much qualified in England. *Lewis v. Marling,* 10 B. & C. 22. Therefore, if it were true that during the whole period in which the pavement was used, the public knew how it was constructed, it would make no difference in the result. It is sometimes said that an inventor acquires an undue advantage over the public by delaying to take out a patent, inasmuch as he thereby preserves the monopoly to himself for a longer period than is allowed by the policy of the law; but this cannot be said with justice when the delay is occasioned by a *bona fide* effort to bring his invention to perfection, or to ascertain whether it

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will answer the purpose intended. His monopoly only continues for the allotted period in any event, and it is the interest of the public, as well as himself, that the invention should be perfect and properly tested before a patent is granted for it. Any attempt to use it for a profit, and not by way of experiment, for a longer period than two years before the application would deprive the inventor of his right to a patent.

We think that the present case does not fall within the principles laid down in *Elizabeth v. Pavement Co.* The plaintiff did not file a caveat, and there is no evidence that he did not intent to abandon his right to a patent. It does not appear that any part of the structure was made at his own expense, or that he put it down in order to ascertain its durability or its liability to decay, or that what he says he

noticed in the spring of 1879 led him to make any further examination in that respect, or to test further the fear which he says he had at that time, or that what he then saw led him to think that the structure was weak or undesirable. It cannot be fairly said from the proofs that the plaintiff was engaged in good faith, from the time the road was put into operation, in testing the working of the structure he afterwards patented. He made no experiments with a view to alterations, and we are of opinion, on the evidence, that sufficient time elapsed to test the durability of the structure and still permit him to apply for his patent within the two years. He did nothing and said nothing which indicated that he was keeping the invention under his own control.

In *Smith & Griggs Mfg. Co. v. Sprague,* 123 U. S. 249 , 123 U. S. 256 -257, it was said, Mr. Justice Matthews speaking for the Court:

"A use by the inventor, for the purpose of testing the machine in order by experiment to devise additional means for perfecting the success of its operation, is admissible, and where, as incident to such use, the product of its operation is disposed of by sale, such profit from its use does not change its character; but where the use is mainly for the purposes of trade and profit, and the experiment is merely incidental to that, the principal, and not the incident, must give character

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to the use. The thing implied as excepted out of the prohibition of the statute is a use which may be properly characterized as substantially for purposes of experiment. Where the substantial use is not for that purpose, but is otherwise public, and for more than two years prior to the application, it comes within the prohibition. The language of 4886 of the Revised Statutes is that"

"any person who has invented or discovered any new and useful . . . machine, . . . not in public use or on sale for more than two years prior to his application, . . . may . . . obtain a patent therefor."

"A single sale to another of such a machine as that shown to have been in use by the complainant more than two years prior to the date of his application would

certainly have defeated his right to a patent, any yet during that period in which its use by another would have defeated his right he himself used it for the same purpose for which it would have been used by a purchaser. Why should the similar use by himself not be counted as strongly against his rights as the use by another, to whom he had sold it, unless his use was substantially with the motive and for the purpose, by further experiment, of completing the successful operation of his invention?"

In that case, *Elizabeth v. Pavement Co., supra,* was cited with approval, and it was said, p. 123 U. S. 264 :

"In considering the evidence as to the alleged prior use for more than two years of an invention, which, if established, will have the effect of invalidating the patent, and there the defense is met only by the allegation that the use was not a public use in the sense of the statute, because it was for the purpose of perfecting an incomplete invention by test and experiments, the proof on the part of the patentee, the period covered by the use having been clearly established, should be full, unequivocal, and convincing."

The Court came to the conclusion that the patentee unduly neglected and delayed to apply for his patent, and deprived himself of the right thereto by the public use of the machine in question, and that the proof fell far short of establishing that the main purpose in view, in the use of the machine by the patentee, prior to his application, was to perfect its mechanism and improve its operation.

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So too, in *Hall v. MacNeale,* 107 U. S. 90 , 107 U. S. 96 -97, it was contended that the use there involved was a use for experiment; but the Court answered that the invention was complete, and was capable of producing the results sought to be accomplished; that the construction, arrangement, purpose, mode of operation, and use of the mechanism involved were necessarily known to the workmen who put it into the safes, which were the articles in question; that, although the mechanism was hidden from view after the safes were completed, and it required

a destruction of them to bring it into view, that was no concealment of it or use of it in secret; that it had no more concealment than was inseparable from any legitimate use of it, and that, as to the use being experimental, it was not shown that any attempt was made to expose the mechanism, and thus prove whether or not it was efficient.

In *Egbert v. Lippmann,* 104 U. S. 333 , 104 U. S. 336 , the Court remarked:

"Whether the use of an invention is public or private does not necessarily depend upon the number of persons to whom its use is known. If an inventor, having made his device, gives or sells it to another, to be used by the donee or vendee, without limitation or restriction or injunction of secrecy, and it is so used, such use is public, within the meaning of the statute, even though the use and knowledge of the use may be confined to one person."

Without examining any other of the defenses raised, we are of opinion that the bill must be dismissed for the reason stated by the circuit court.

Decree affirmed.