

## STOW v. CHICAGO.

{8 Biss. 47;<sup>1</sup> 3 Ban. & A. 83; 9 Chi. Leg. News, 425.}

Circuit Court, N. D. Illinois.

Sept., 1877.<sup>2</sup>

PATENTS—FUNCTIONS OF DEVICE—WOODEN  
PAVEMENTS—INFRINGEMENT—CONTRACTOR—LICENSE—ROYALTY.

1. A principal is not liable for the claim of a patentee under work done by a contractor who held a license, even though he has not paid his license fees or royalty.
2. If a device in use will perform a certain function or office, it is immaterial whether the patentee describes such performance, or even knew that it would so operate.
3. The use of wedge-shaped blocks in making a pavement is not patentable; that being the principle long since applied in laying cobble, stone pavements.
4. Uniformity of spacing, and the use of a strip to secure the same in laying a pavement, is not patentable.
5. A mere change of material, as from stone to wood, or vice versa, is not patentable.
6. Mere matter of judgment as to the amount of force to be used, is not patentable.
7. An English patent is a matter of public record in that country, and also in this country, by patent and by publication.
8. Omission of an element from a patent, so that the less number of parts will perform all the functions of the greater, is not an invention.
9. Degree of force, in ramming or swaging, is not patentable.
10. Sundry patents and processes for pavements commented upon.
- [11. A reconstruction of a machine so that a less number of parts will perform all the functions of the greater may be invention of a high order, but the omission of a part with a corresponding omission in function, so that the retained parts do just what they did before in the combination, is a mere matter of judgment, depending upon whether it is desirable to have the machine do all, or less than, it did before.]

[Cited in McClain v. Ortmyer, 33 Fed. 287.]

In equity.

Carter, Becker & Dale and J. N. Jewett, for complainant.

West & Bond, for defendant.

BLODGETT, District Judge. This is a bill in equity, charging the defendant with an infringement of four patents issued by the United States, and praying an account for damages and an injunction.

The patents described in the bill are: First. A patent dated December 10, 1867, and number 72,110, issued to the complainant [Henry M. Stow] and re-issued January 19, 1869, re-issue number 3,274, for an improved pavement. Second. Patent dated February 25, 1868, number 74,862, issued to the complainant for an improved street pavement Third. Patent dated April 6, 1869, number 88,765, issued to D. L. De Golyer, for an improvement in laying down block pavements, and of which complainant claims to be assignee. Fourth Patent dated December 31, 1872, number 134,404, issued to the complainant for an improvement in wood pavements.

The defendant denies any infringement, and also denies the novelty of the alleged improvements claimed in the patents.

The patent issued December 10, 1867, and re-issued January 19, 1869, is for a pavement composed of alternate tiers of square ended and wedge-shaped blocks, the latter, that is, the wedges, being driven down into the foundation bed of sand or earth; also, a pavement composed of blocks with the lower ends all wedge-shaped, and all driven or rammed down into a foundation of sand or earth.

From the proofs in this case it appears that the complainant has been paid for all the pavement in which this device has been used, except a block on Market street, between Randolph and Lake, and the intersection of Lake and State streets, which were laid

as samples under the direction of the complainant and his brother, W. H. Stow. There were some of these pavements put down on Clark street, but Mr. McBean testifies that he did this under a license from the complainant, and the defendant was not to be liable therefor. He states that he has not yet paid Stow, but that does not make the city liable. It, therefore, hardly seems necessary to consider this patent, but if deemed material to do so, I would be of the opinion that this patent was anticipated in part by an English patent issued to Stead in 1839. In 1839 David Stead received a patent in England, which is a matter of public record in that country, and also in this country, by patent and by publication, for a wooden pavement made of octagonal blocks set together, and as the blocks go together, they leave a square opening through which he drove a pile or wedge down into the earth or gravel, for the purpose, as he says, of laying his pavement firmly upon the earth in newly made embankments. The reason which the patentee gives for the operation or use of his device is not conclusive. A man may, in other words, invent an improvement producing results beyond what he knows or dreams of, and a better reason 196 may be given by a skilled person than the one assigned for the use of the device which is used or adopted. So, in this case, the driving down of these wedges into the earth under the blocks could be done just the same under the Stead device as it could be under the Stow device; although Stead does not allude to the driving of the wedge down there for the purpose of compacting the earth, yet it produces that result. His failure to state that as one of the reasons or results does not necessarily change the fact that there is no longer anything novel in the Stow device, from the fact that Stead anticipated him by a great many years.

The second patent is for a pavement composed of tiers or rows of wedge-shaped wooden blocks driven into a foundation of sand or earth, as there shown.

It is claimed that by this means the earth would be compacted. The spaces between the rows are then filled in with gravel.

It is sufficient, in regard to this patent, to say that there is no proof that the city has ever used it; but if it had been used, it may well be doubted whether the patent can be sustained, as his wedged blocks do not, it seems to me, differ in principle from the old cobble stone pavement, made of cobble stones with their sharp or pointed ends, or smaller ends, set downwards, and the whole rammed or driven into the sand or gravel on which it was laid. We all know, of our own knowledge, that is, every person who has seen a cobble stone pavement knows, that the process of making it was to set the cobble stones with their small end downward upon the ballast or gravel, covered with sand to fill the spaces between them, and then ram the whole structure down solid. Now, here is simply this difference: A man, instead of using the sharp ends of the cobble stones, sharpens wooden blocks and sets them together, and drives them down so as to make a solid foundation. It being conceded that the cobble stone pavements are so laid, the substitution of a new material is not patentable. This patent is also obviously anticipated in the second form of the original patent of December 10, 1867. Mr. Stow states that he claims a wooden pavement composed of blocks with the lower ends wedge-formed, and all driven down into a foundation bed of sand or earth. Now, here in 1867, the year before this patent, in his first patent, where he claims the alternate wedge-shape and square-ended blocks, he also describes and claims a series of wedge-shaped blocks, all driven down into the sand or gravel; so it seems to me that he has here, by the second patent, attempted to prolong the life of his first patent or first device, by taking a patent afterwards upon the wedge-shaped blocks, shown and

claimed with the wedge-shape and alternate square-ended blocks.

The De Golyer patent (the third) is one for a method of spacing distances between the blocks by the use of a removable strip or board of the thickness of the required spaces: that is to say, the way in which the blocks were set up against each other, and a board set between them while they were being set, and after they were set the board was removed so as to leave a space of the required distance between the rows or tiers of blocks.

This is fairly anticipated, in my estimation, by the patent of McDougal, where he had a spacing apparatus like this that was set between the blocks and was removable. But in point of fact, as the evidence shows in this case, the skillful workmen who lay these wooden pavements, no longer depend upon the spacing apparatus at all, but use their fingers and their eyes; and they become so skilled that they can readily make the spaces of a uniform width by the application of their fingers as they lay their blocks as well as by a spacing board, or any other device of that kind. And the case is fairly illustrated by the improvement in telegraphing. Formerly (we all know) the process of telegraphing by the Morse telegraph was by a reel upon which a paper was wound, and the action of the machine made a dot, or dots and lines. It was necessary to write out the words by this operation. But in course of time the operators became so skillful that the ear took the place of the paper and reels, and now no person is considered skillful enough to act as a telegraph operator unless the ear is sufficiently trained to enable him to dispense with the reel and paper. So here in the actual operation of the laying of these wooden pavements, the eyes and the fingers of the workmen dispense with the spacing apparatus. There is also no evidence in the record that I can find, and I have looked carefully through it, of any use by the

city of this special device. I find no proof that the city has ever adopted this removable spacing board as a matter of practice. But even if they had, such a mere mechanical device, such as is used by joiners in fitting floors together, or in fitting lattice work, or pickets on a picket fence, or any other place where uniform spacing is required, would seem to anticipate this device. In setting an ordinary picket fence, the joiner who sets the picket uses another picket or spacing board for the purpose of securing uniformity in the spacings.

This brings us to the consideration of the last patent issued to the complainant in December, 1872, and it is mainly upon this patent that the controversy in this case turns. The device covered by this patent is described by the patentee in the re-issue of his first (1867) patent as follows: "The nature of my invention consists in putting down a pavement of wood, or other suitable material, upon a foundation bed of sand or loose earth, and packing the sand or earth by means of wedge-blocks driven down into the same and forming a part or the whole of the pavement." He also says, in reference to 197 these wedge-blocks: "It will not be absolutely necessary to bevel the lower ends of the blocks No. 2, as even square-ended blocks will act as wedges." Also, that the blocks No. 2 may be of dressed stone, brick or wood, or of any suitable material that will bear driving down into the foundation bed.

His last specification is as follows: "In constructing my pavement I first grade the street, and cover it to a depth of not less than three inches with sand or loam, which I wet and pack with a maul or rammer until the whole is of sufficient compactness. I then strike the surface to a proper grade, and lay the blocks A. in rows transversely across the street, placing between the rows a removable strip of wood, B., of sufficient thickness to form the necessary space between the blocks, as shown. After a sufficient number of rows have been laid in this manner, I remove the strips and partially fill

the spaces with sand or gravel. I then drive the gravel or sand in said spaces into the sand foundation below by means of a swage maul or other suitable instrument, until the foundation under the blocks is sufficiently compressed. I then fill the spaces with gravel or sand, and cover with coal tar or other cement or with gravel or sand alone, and go over the whole with a smooth iron instrument to finish the surface. What I claim is a pavement composed of blocks laid in rows directly upon a sand foundation, with spaces between the rows filled with sand or gravel, which is swaged or driven into the said foundation substantially as and for the purpose specified."

We have a sample, or model rather, of the pavement as the complainant claims to make it; that is, square-ended blocks set upon sand, the spaces between them filled with gravel, and that packed or swaged down until it comes somewhat below the ends of the blocks. It will be noticed that while the patentee in his patent title names wooden blocks as the main material used in his pavement, yet he has described and claimed broadly a pavement composed of blocks laid in rows directly upon a sand foundation, with spaces between the rows filled with sand or gravel swaged or driven down into the sand. He names wooden blocks in his title; yet he does not, in his specification or claim, limit himself to the use of wooden blocks, but can use any kind of blocks. And it may well be suggested, I think, in view of the state of the art, whether this claim is not too broad, because the use of other material as well as, wood is so old in the art that it is at least questionable in my mind whether there is any novelty in making a pavement of blocks of any material set in sand or gravel foundation, with the spaces filled with gravel or sand. That, however, is a point not made in the trial, and I do not attach much importance to it. The question is, was this device new at the time this patent

was applied for? It seems to contain the following, as some of its elements: The street or roadway is to be brought to a suitable grade and shape, and covered to a depth of not less than three inches with sand or loam; second, the whole is then rammed until it is of sufficient compactness; third, upon the grade so formed the blocks are laid in rows transversely, or across the street, leaving sufficient spaces between the rows; fourth, these spaces are partially filled with sand or gravel, which is swaged or rammed until the foundation is sufficiently compact; fifth, the spaces are then wholly filled up with sand or gravel, or with sand and gravel and coal tar, so as to make the surface even with the top of the blocks.

There is nothing in the patent which makes it necessary for the constructor to use wooden blocks. He might, for aught that appears, use stone, concrete, or any other kind of blocks. And it is a matter of general knowledge that pavements have, for many years before this patent was asked for, been laid with stone blocks, set upon a road-bed prepared with sand or gravel, and I must insist that I can see nothing patentable in the idea of substituting wooden blocks for stone, which had heretofore been used. But even if he confined himself to the use of wood, the proof shows that Stead, in 1839, proposed to make a pavement of wooden blocks set on sand or earth foundation. In 1854, Nicolson took out his patent for a wood pavement, which he constructed by bringing the road-bed to the proper grade, upon which he laid a covering of boards; on these boards he set rows of wooden blocks; against each row he set a shorter row of thinner blocks, or a strip of board about half the height of the first row, and so he continued to set alternate rows of long and short blocks, or rows of blocks with an intervening strip of board between; and in the spaces between the rows of longer blocks, he applied gravel and coal tar, or other cementing matter, which



was rammed or swaged so as to make the whole firm and solid. The pavement in question, is the Nicolson device, or combination, with the board floor left out, and the spaces between the rows of main blocks filled with gravel, instead of partly filling the spaces with a strip of board or short blocks.

This patent was before his honor, Justice Field, of the supreme court, in 1868. The Nicolson patent is referred to in that case. He there referred to the state of the art at the time of the granting of the Nicolson patent in these words: "This pavement," that is the Nicolson pavement, "is not the entire invention of Nicolson. Wooden pavements were invented and in use in different parts of the world, many years before his attention was directed to the subject. He makes no claim of novelty in the use of blocks, or of the gravel and tar between or over them, nor of any of the separate parts that go to make up the structure. What he claims as his invention is the combination of the foundation of the pavement with the blocks or the 198 long blocks, and strips of board, these being bounded so as to form cells or channels, with wooden bottoms, for the reception of brick, stone or gravel and tar, as already described."

Now, here is the judicial finding of his honor, Justice Field, on the state of the art at the time. Nicolson entered the field as an inventor in 1854, so that wooden blocks with the spaces or channels between them, filled with gravel and tar was then old, and had been used and adopted long before Nicolson's patent in 1854, and he only sustained Nicolson's patent upon the ground that it was a combination of the road-bed, ballasted and packed, with boards on top, the blocks set on the boards, and then the pavement filled in with coal-tar and gravel, as described in the Nicolson patent. That is, he sustained it as a combination, and such a combination as no person

before Nicolson had ever made, and a combination of useful elements.

In view of the state of the art, the question arises in reference to this patent that is now before us, can any person, after Nicolson has gone over the field and made and described his invention, dismember Nicolson's combination, and get patents for a part of the Nicolson combination? That is to say, can a party make an invention by omitting from a combination an element which performed a distinct office therein, and leaving the remaining ones to perform the same offices or functions without the omitted element that they did with it? Nicolson's improvements were found to consist of an improved foundation consisting of a board covering, laid on the old sand or earth foundation, and, in their best form, of a superstructure of alternate rows of vertical blocks and compacted filling, laid transversely or across the roadway. Is it invention to take the boards from under Nicolson's superstructure and remit it back to the common foundation? Is it not rather a mere matter of judgment with the constructor, whether he will use the improved or the common foundation? It seems to me that it cannot be that he has made an invention when he decides to leave out the improved foundation. Suppose a man to have invented a harness with a breeching, can it be invention for another man to take the breeching off and leave the remaining parts to perform the identical functions that they performed before? A reconstruction of a machine so that a less number of parts will perform all of the functions of the greater may be invention of a high order, but the omission of a part, with a corresponding omission in function, so that the retained parts do just what they did before in the combination, cannot be other than a mere matter of judgment, depending upon whether it is desirable to have the machine do all, or less than it did before.

Does this inventor do anything more than others have done before, or than any lazy operative that Nicolson might set to construct his pavement might do—that is, leave the boards out, and set the blocks directly on the ground, and run the spaces full of gravel? It seems to me that it does not rise to the dignity of an invention. Leaving out a member of this Nicolson combination cannot be the proper subject matter of a patent.

Stead, in 1839, laid his wooden blocks upon a road-bed of gravel or earth, and provided that in certain cases the spaces between the blocks should be filled or partly filled up. In 1864 Chappell procured a patent in which the condition of the art is thus described by him: “Wooden pavements have been constructed on the continent of Europe and in the United States, by laying wood blocks endwise of the grain, in parallel rows, with openings or channels between, into which gravel or gas tar was placed.” Now this is a description found upon the public records of the patent office years before this patent was used or applied for, in which the state of the art was described at that time, (in 1864,) by saying that pavements were well known on the continent of Europe, and in the United States, made of wooden blocks set endwise on the earth, and in parallel rows, with openings or channels between them, into which gravel and coal tar were placed. Again, the only thing that can be claimed as different in the Stow combination from what is described here by Chappell, is that he claims to ram his filling harder down into the sub grade, so as to compact the earth underneath. Now, is it a subject matter for a patent to strike a blow of ten pounds, instead of a blow of four pounds weight—a blow which shall drive this filling down into the ballast underneath, instead of leaving it at the top? Is it the subject matter of a patent to drive a nail home into the wood, so that it is below the surface, or to leave it sticking up

even? Much stress is laid by the complainant, in the testimony, upon the preparation of the road-bed by ramming or packing until the whole is of a sufficient compactness, before the blocks are set thereon. But Cowing, whose invention dates back to November, 1865, makes express provision for preparing the road-bed, by grading to the proper form and ramming the same solid, so that the idea of ramming the road-bed solid, making it compact before setting the blocks upon it, is an old idea, described by Cowing in 1865.

The setting the blocks and then filling and ramming the crevices with earth or gravel, was a provision also made by Cowing. The only difference is that the Cowing blocks were not set in line so that channels extended across the street in continuous lines. Cowing does not expressly direct us to ram or swage the gravel down into the sand or gravel ballast underneath; but he provides for ramming the filling, which would, of necessity, drive it down to some degree into the ballast, and the degree of ramming can hardly be made the subject matter of a patent. We must assume that Cowing intended to have 199 his filling sufficiently rammed to make a firm and solid pavement, and that is all Mr. Stow proposes. How much swaging or ramming would be needed to make the filling penetrate the foundation must depend entirely upon the degree of compactness to which the road-bed was brought before the blocks were set. That is to say, if he pounds or rams, or in any other way or method compacts the road-bed underneath, or if the road-bed upon which the blocks are set is solid enough so that it needs no compacting, then he need not, in order to make a solid pavement, ram his filling below the blocks at all. At all events, the only difference between Stow and Cowing, in the matter of swaging or ramming, is one of degree. So, also, the patent of Van Cowp & Hodgman provides for ramming the filling between the blocks until the same is thoroughly

compacted. Now, where is the difference, except in degree, when in the Van Cowp & Hodgman patent they provide for ramming the filling between the blocks until the whole is thoroughly compacted? Mr. Stow certainly would not do any more than that. All he wants to do is to ram the filling until he makes a solid roadway, and Van Cowp & Hodgman propose to do that. I might go through in detail with all the various patents, ante-dating the complainant's patent, which are in evidence by the defendant, but for want of time I must content myself with the remark that several patents besides these I have specially described, seem to have anticipated the complainant both in the idea of setting the blocks directly upon an earth or sand foundation, and also of filling the spaces between the blocks with gravel or sand, packing or ramming them firmly in such spaces. Aside from these patents we have the Nicolson patent of 1854, which was only sustained because it was a new combination of useful elements; but after Nicolson instructed the public how to make a pavement of his construction, it does not seem that another man could have a patent for using a part of the same as he used it. It seems to be obvious that the degree of packing to which the filling between the Stow blocks is to be subjected depends largely upon the foundation upon which the blocks are set. The sand or loam dressing, which he provides for, is to be first compacted as hard as possible before the blocks are set, and if sufficiently compact to sustain the blocks, then no ramming down below the ends of the blocks is necessary or possible, and the invention would therefore practically be inoperative.

Among the defendant's exhibits, is the Prescott patent of the issue, June 20, 1871, which is almost identical with complainant's patent, issued in December, 1872, eighteen months afterwards. It is almost identical in description with the Stow specification. Prescott says his pavement is composed

of a series of blocks having their intermediate spaces filled with concrete, the concrete being caused to extend down below the lower line of the blocks into the road-bed, for the purpose of forming the gravel spacing as described. He specifies that the concrete is placed or driven down into the interstices between the blocks, and extends three or four inches below the surface of the roadbed or street-bed, so as to effectually prevent water from going under the blocks, and also prevent water from accumulating and running under the pavement. Then he describes the mode of laying it, as precisely the Stow method, by setting blocks endwise. But I find in the proofs a more insuperable answer to this patent than any which I have named, and it is a fact which I consider abundantly substantiated by the evidence that this precise form of wooden pavement was used in this city as early as 1864. Mr. J. K. Thompson, and other witnesses, whose testimony is in the record, have all testified that in 1864 the city of Chicago laid a pavement at the end of the viaduct on North State street, where it forms a junction with Kinzie street, in which the precise combination of the blocks with the spaces between filled in with gravel, and the whole rammed, was used. This was in 1864, and the patent in question was not issued until 1872. In 1871 or 1870, the witness seems to be a little in doubt which, when the La Salle street tunnel was built, a portion of the road-bed in the tunnel was laid with the same kind of pavement that was used at the junction of Kinzie and State streets, by a combination of blocks and gravel filling, without the boards, as now claimed by Stow. Now, here is the proof of the state of the art by other inventors; here is the proof of the use of precisely this Stow invention in the city of Chicago, as early as 1864, nearly eight years prior to this patent, and it seems to me there is no ground of novelty for this patent to stand on. The patentee must be considered

as anticipated in every feature of his patent by those who had in fact, taken out patents, or those who had used a pavement similar in character before he entered the field.

In this view the bill will be dismissed for want of equity.

{On appeal to the supreme court this decree was affirmed. 104 U. S. 547.}

<sup>1</sup> {Reported by Josiah H. Bissell, Esq., and here reprinted by permission.}

<sup>2</sup> {Affirmed in 104 U. S. 547.}

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