BRUSH ELECTRIC CO. v. WESTERN ELECTRIC CO. (two cases).

(Circuit Court, N. D. Illinois. July 24, 1895.)

Nos. 21,545 and 22,211.

PATENTS FOR INVENTIONS—INFRINGEMENT—ELECTRIC LIGHTS.

Letters patent No. 219,208, issued September 2, 1879, to Charles F. Brush, for an electric light regulator, consisting of two or more pairs or sets of carbons in an electric lamp in combination with mechanism to separate such pairs dissimultaneously or successively, are not infringed by lamps made under patents No. 418,758, No. 502,535, and No. 502,538, issued to Charles E. Scribner, since such lamps do not contain mechanism constructed to cause the dissimultaneous initial separation of the carbons.

Suits by the Brush Electric Company against the Western Electric Company to restrain the alleged infringement of a patent.

Henry A. Seymour, Offield, Towle & Linthicum, and Wm. B. Bolton, for complainant.

Barton & Brown, for defendant.

SHOWALTER, Circuit Judge. In each of these causes the ground of action is an alleged infringement of patent No. 219,208, for an electric lamp or light regulator, issued September 2, 1879, to Charles F. Brush; said patent being the property of complainant company. In cause No. 21,545, it is insisted that electric lamps made by defendant company pursuant to patent No. 418,758, issued to Charles E. Scribner January 7, 1890, and afterwards assigned to defendant company, infringe the said Brush patent. In cause No. 22,211, it is insisted that lamps made by defendant company pursuant to patent No. 502,535, and lamps made by defendant company pursuant to patent No. 502,538,—each of said last-named patents having been issued to said Charles E. Scribner August 1, 1893, and afterwards assigned to said defendant company,—also infringe said Brush patent. Prior to the first of these suits, the complainant commenced a suit in the federal circuit court at Toledo, Ohio, for an alleged infringement of said Brush patent by lamps made by this defendant company under said patent No. 418,758, and used or dealt in by the defendants in that suit. 43 Fed. 533. It appears that this defendant assisted the defendants in that suit by paying the expenses, or some part thereof, incurred therein by or on behalf of said defendants. But this defendant was not a party to the record in the Ohio litigation. The jurisdiction of that court did not extend to, nor could its decree in favor of complainant rendered pending the first of the causes in this court in any way conclude, this defendant company. The records here—even that in the first of the causes—contain a mass of evidence which was not before the court at Toledo. But I do not understand complainant's counsel to insist that either of these causes can be determined on the theory of a prior adjudication. He merely insists that the opinion of the court in the Ohio case may be determinative, not only of one, but of both the present causes.

There are seven claims in the said Brush patent. On the contention of complainant, an infringement of each of these numbered

from 1 to 6 is shown in each of the present causes. But this contention rests upon a construction of the Brush patent, extending in common to each of said claims, which is earnestly disputed by the defendant. The controversy, so far as it involves in common each of the six claims, as contested in each suit, hinges upon this one point of construction.

If two carbon pencils, placed so that their points touch, and thus being part of an electrical circuit, be slightly parted at their points, the current will continue to flow over the open space, burning said points, and forming between them an arc of brilliant white light. This arc will persist while the current continues to flow, till, owing to the consumption of the pencil points, the distance spanned becomes so great that the current, unable to overcome the resistance, ceases, the carbon points stop burning, and the light disappears. If two parallel pairs of carbon pencils, with the points of each pair touching, are placed in an electrical circuit, so that in case either pair were removed the current would still pass through the other, such current will divide between the pairs. If such pairs be now separated at once, and by a common and uniform movement, the arc will appear between the points of but one pair. It is not practical to make the points of the carbons impinge so that the resistances through each pair shall be mathematically equal, nor is it practical to separate the points so that the parting on one side shall be identical in time with that on the other. The reason why the arc forms between one pair only may be said to be that the other pair in fact parts first, thus throwing the entire current through the pair between which the arc forms. While the partings may be, in appearance, simultaneous, they are not so in reality; or, if we say the partings are in fact simultaneous, then the resistance, being accidentally greater on one side, determines the formation of the arc on the other.

On May 7, 1878, complainant's assignor, Brush, patented a contrivance for feeding one carbon pencil towards the other, so as to preserve a practically uniform distance or length of arc between the burning points till the carbons should be consumed. In this invention the carbons were arranged in a vertical line, with their points touching. The lower carbon was fastened by a clamp in a holder projecting from the base of the lamp frame. The upper carbon was held in a clamp on the lower extremity of a holder which extended downward from the upper portion of the lamp frame through a tubular, soft-iron core of a solenoid, the helix of which was included in the main electric circuit, whereby the lamp was actuated; thence through a flattened, loosely-fitting ring, D; thence through a horizontal platform or floor on which said ring rested when the lamp was not in operation. To the lower extremity of this core was attached a lifter, C′, a projection at the lower end of which extended under one side of said ring, D. When the current passed through the carbons, the lifter engaging said ring tilted the same so that it clamped, and lifted the upper carbon rod, thus separating the carbon points so that the arc was formed. As the resistance grew greater, by the shortening of

the carbon rods in burning, the current became less energetic, and the upward pull of the lifter on the edge of the ring clamp, D, relaxed so that the upper carbon rod was permitted to pass imperceptibly downward, whereupon the upward pull became more energetic, the increasing energy of the current causing the said ring clamp, D, to tighten, and hold the upper carbon in the new position. Thus the process went on until the upper carbon was so far consumed that the holder could descend no further, the further descent of the rod being stopped by an enlargement at its upper end which at that period in the operation of the lamp engaged with the upper portion of the lamp frame. The space between the carbon stumps then increased without further feeding until the current could no longer overcome the resistance, and the lamp ceased to burn.

On September 2, 1879, Brush secured, as before stated, the patent in suit. To his invention as above described, he added a second pair of carbons, a second pair of carbon holders, and a second movable or feeding carbon rod. Each carbon rod passed down through its ring clamp marked, the one, C, and the other, C′, in the new patent. The lifter marked D in the new patent, was triangular in form, with a stirrup at the top, in which was fastened a lever which was to be operated by magnetic attraction. At each lower corner of said lifter, D, was an opening formed by two short projections, one above the other, each opening inclosing the edge of its appropriate ring clamp, C, or C′. The lower arm or projection of one of these openings was below the plane of the corresponding part of the opposite opening, so that, when the current passed through the carbons, as the lifter, D, was pulled up, it first engaged the ring clamp of the added carbon rod separating the added pair of carbons, and after an interval of continuous movement the ring clamp of the other carbon rod was engaged by the other corner of said lifter, D. The two rods continued thence to move together until the lifter, D, stopped, and the arc was formed between the carbons which were last separated. The latter pair of carbons being fed together, and continuing to burn until consumed, the added pair of carbons then part, and form the arc, and continue to burn until consumed in manner as stated in said first patent to Brush. After the first pair of carbons have been consumed, and have ceased to burn, the lamp, in parting and burning the remaining pair, is substantially identical with the invention described in said prior patent.

In 1874 one Mathias Day, acting on the observed fact above stated, —that when two parallel pairs of carbons, disposed in the same circuit so that the current divides between them, are separated simultaneously, an arc forms between but one pair,—constructed his lamp, wherein he consumed two pairs of carbons in alternate or reciprocal succession. This lamp, however, failed of commercial success, because, in such parallel carbons, so equally and simultaneously separated, the arc persists but a short time in one pair before alternating to the other.

The ideas of the Brush invention in suit were apparently these: (1) By separating the added pair of carbons first, he threw the entire current down the other pair, and thus determined that the arc should

form between said other pair, or pair last separated. (2) By separating the added pair at a greater distance apart than the other pair, he avoided accidental alternation in the arc between the two pairs. (3) By permanently holding the added pair in such separated relation, the first pair could be fed together, and consumed without stop.

In his specification, Brush says:

"My invention comprehends, broadly, any lamp or light regulator where more than one set of carbons are employed, wherein—say in a lamp having two sets of carbons—one set of carbons will separate before the other."

Again:

"The operation of my device, as thus far specified, is as follows: When the current is not passing through the lamp, the positive and negative carbons of each set, A, A', are in actual contact. When, now, a current is passed through the lamp, the magnetic attraction of the helices, E, will operate to raise the lifter, D. This lifter, operating upon the clamps, C and C', tilts them, and causes them to clamp, and lift the carbon holders, B, B', and thus separate the carbons, and produce the voltaic arc light. But it will be especially noticed that the lifting and separation of these carbons is not simultaneous. One pair is separated before the other, it matters not how little nor how short a time before. This separation breaks the circuit at that point, and the entire current is now passing through the unseparated pair of carbons, A'; and now, when the lifter, continuing to rise, separates these points, the voltaic arc will be established between them, and the light thus produced."

As already stated, after the first pair of carbons has been consumed, so that the first carbon rod holding the stump of the burned carbon ceases to feed, and the added pair of carbons thereupon part and burn, the lamp of the new patent, the special features of the new invention being now superfluous, is substantially identical with the lamp of said first patent. In the new patent (that in suit), Brush does not, in the specifications, describe, or, in the claims, refer to, the manner of burning the added pair, as being a part of his new invention. During the burning of the added pair, the lamp has become substantially the invention protected by the said first patent.

The patentee says, further, in the specification of the patent in suit:

"The lifter, D, in the present instance, is so formed that when it is raised it shall not operate upon the clamps, C, C', simultaneously, but shall lift first one and then the other (preferably the clamp, C, first, and C', second, for reasons which will hereafter appear). This function of dissimultaneous action upon the carbons or their holders, whereby one set of carbons shall be separated in advance of the other, constitutes the principal and most important feature of my present invention."

In his drawings, and in describing the mechanism and the action thereof of the patent in suit, Brush shows only two pairs of carbons; but in other places in his specifications, and in his claims quoted below, he speaks of two or more pairs of carbons. It will be seen that by affixing additional arms to the lifter, D, additional clamp rings, holding additional carbon rods and pairs of carbons, might be operated. In such case the clamp rings would be engaged in rapid succession by the upward movement of the lifter, D, and the arc would form, as before, between the pair of carbons last separated. So that in such case, as Brush puts it in his claims, the separations would take place "dissimultaneously or successively." The word "successively" is here synonymous with "dissimultaneously"; the lat-

ter term having been coined to imply more definitely the unity of movement which characterizes the separations, whether between the members of two pairs, or between the members of more pairs than two. I have said that the clutch lever, D, might be made to effect separations between the members of more than two pairs; but, for the purpose of thinking and reasoning about the case, we do not go astray if we think of one pair to be last separated, and then burned, and of one added pair to be more widely separated, and thereupon maintained in such separated relation pending the burning of the other pair. The claims in controversy are as follows:

"(1) In an electric lamp, two or more pairs or sets of carbons in combination with mechanism constructed to separate said pairs dissimultaneously, or successively, substantially as and for the purpose specified. (2) In an electric lamp, two or more pairs or sets of carbons in combination with mechanism constructed to separate said pairs dissimultaneously, or successively, and establish the electric lights between the members of but one pair, to wit, the pair last separated, while the members of the remaining pair or pairs are maintained in a separate relation, substantially as shown. (3) In an electric lamp having more than one pair or set of carbons, the combination, with said carbon sets or pairs, of mechanism constructed to impart to them independent and dissimultaneous separating and feeding movements, whereby the electric light will be established between the members of but one of said pairs or sets at a time, while the members of the remaining pair or pairs are maintained in a separated relation, substantially as shown. (4) In a single electric lamp, two or more pairs or sets of carbons, all placed in circuit, so that when their members are in contact the current may pass freely through all said pairs alike, in combination with mechanism constructed to separate said pairs dissimultaneously, or successively, substantially as and for the purpose shown. (5) In an electric lamp wherein more than one set or pair of carbons are employed, the lifter, D, or its equivalent, moved by any suitable means, and constructed to act upon said carbons or carbon holders dissimultaneously, or successively, substantially as and for the purpose shown. (6) In an electric lamp, wherein more than one pair or set of carbons are employed, a clamp, C, or its equivalent, for each said pair or set; said clamps, C, adapted to grasp and move said carbons or carbon holders dissimultaneously, or successively, substantially as and for the purpose shown."

The observable interval between the point of time at which the separation between the added pair of carbons takes place, and the point of time at which the separation of the other pair takes place,—the purpose being to determine the arc between the pair last separated,—is the dissimultaneousness found in each of said six claims.

With all respect for the learned writer of the opinion in the Toledo case, and for the learned counsel for complainant, the formula of words "dissimultaneous arc-forming separation," does not carry any definite meaning. The adjectives "simultaneous" or "dissimultaneous" are words of comparison. The former means that two or more occurrences or happenings are identical in time; the latter, that they are successive,—that is to say, with an interval between each two in succession. The arc-forming separation which takes place between the first pair of carbons to burn, and the arc-forming separation which takes place several hours later between the added pair of carbons, are certainly successive, and, loosely speaking, dissimultaneous, but these separations lack the unity or continuity of movement implied in the term "dissimultaneous" when used in this patent. As already said, Brush coined the word "dissimultaneous"

to express the momentary but observable interval—the slight but noticeable noncoincidence in time—between the separation of the added pair of carbons and the separation of the other pair in a unitary and continuous movement due to mechanism as invented by him and described in the patent in suit, in contrast with an apparently simultaneous separation due to any mechanism appropriate for the latter purpose. The patentee said, further, in his specification:

"I do not, in any degree, limit myself to any specific method or mechanism for lifting, moving, or separating the carbon points, or their holders, so long as the peculiar functions and results hereinafter to be specified shall be accomplished."

The specification and claims were evidently prepared with the idea that the mode of movement, to wit, the rapid, successive, and continuous separations between the pairs of carbons terminating in the arc between the pair last separated, could be secured to Brush, regardless of the mechanism by which this mode of movement should be produced. In Brush Electric Co. v. Ft. Wayne Electric Light Co., 40 Fed. 826, Judge Gresham held—answering the contention that the first, second, third, and fourth claims were for functions or results, and hence void—that mechanism such as described in the drawings and specifications, or a substantial equivalent, was an essential element in each of said claims. I am not called on to determine as between these constructions, but the conclusion reached, apparently, in the Toledo case, that no one of these claims contains the element of dissimultaneous, or successive, separations between the members of each pair of carbons for the purpose of forming the arc between the pair last separated, seems to me unsound. The patentee says:

"In the lamp, as shown in the drawings, the support, K, is in the form of a tube surrounding the carbon holder, B, and this support, K, is made of such a length that when the carbons, A', shall have been sufficiently consumed, a head upon the carbon holder, B, will rest upon the top of the support, K, whereby the weight of the carbon holder, B, and its support, K, shall at all times, and under any circumstances, be supported by the lifter, D."

In other words, and without going again over the mechanism, the lamp is constructed so that the carbons, A, shall first burn. By reason of the support, K, being carried on the upper carbon holder of the first pair of carbons to burn, and of the greater distance between the two carbons of the added pair, said added pair could not be burned first. It is, in other words, the characteristic feature of this lamp—the very purpose signified by its construction—that the position of the first arc shall be determined before lighting, as between the two pairs of carbons. Yet, in the opinion in the Toledo case, this is declared to be "a wholly immaterial and useless feature." Even if it were in fact immaterial which pair of carbons burned first,—supposing it to be true that if the carbons were separated simultaneously, instead of dissimultaneously, the lamp would still operate,—the fact remains that the patentee took from the government claims in which the dissimultaneous separations are the special feature. Moreover, the feature of dissimultaneous arc-forming separations—referring here to the interval of hours between the arc-forming sep-

aration of the first pair to burn and the arc-forming separation between the added pair—is not in any one of the claims. In order to make out a case of infringement, the former element must be gotten out of, and the latter must be gotten into, each claim. This, in my judgment, cannot be done. The lamps made under patent No. 418,758 do not contain mechanism constructed to cause the dissimultaneous initial separations of the carbons, nor do the lamps made under patent No. 502,535, nor do the lamps made under patent No. 502,538. I hold, therefore, that no infringement is made out in either suit. The order will be, in each case, that the bill be dismissed for want of equity.

EXCELSIOR COAL CO. v. OREGON IMP. CO.[1]

(Circuit Court of Appeals, Ninth Circuit. June 27, 1895.)

No. 196.

INFRINGEMENT OF PATENTS—COAL SCREENS AND CHUTES.

The Roberts reissue, No. 7,341, for an improvement in coal screens and chutes, consisting principally in a reservoir between the receiving hopper and the delivery chute, *held* not infringed by an apparatus which has no reservoir, but uses a gate near the end of the chute by which the flow of the coal can be controlled. Black Diamond Coal Min. Co. v. Excelsior Coal Co., 15 Sup. Ct. 482, 156 U. S. 611, followed.

Appeal from the Circuit Court of the United States for the Northern District of California.

This was a bill in equity by the Excelsior Coal Company against the Oregon Improvement Company for alleged infringement of reissued patent No. 7,341, dated October 10, 1876, to Martin R. Roberts, for an "improvement in coal screens and chutes." The circuit court dismissed the bill, and complainant appeals.

John L. Boone, for appellant.

Sydney V. Smith, for appellee.

Before GILBERT, Circuit Judge, and KNOWLES and BELLINGER, District Judges.

BELLINGER, District Judge. This is a suit to enjoin the infringement of a patent for an improvement in coal screens and chutes. The court, in the decree appealed from, refused to grant the relief prayed for and dismissed the bill of complaint. The improvement, styled by the parties an "apparatus," consists of a receiving hopper, a reservoir, a screen, and a chute, so arranged in a portable machine that coal can be continuously dumped into the hopper from a swinging tub, while at the same time it is delivered screened into carts from the chute. The especial feature of the apparatus, which permits this to be done, is the interposition of a reservoir between the receiving hopper and the delivery chute. It is the employment of this reservoir that enables the machine to "accomplish the new operation, mode, result, and effect." The respondent's apparatus is a large, stationary machine, composed of long V-shaped hoppers, with gates at the lower side at intervals,

[1] Rehearing pending.