

of him who first discovers the principle, and, by putting it to practical and intelligent use, first makes it available to man." *Andrews v. Carman*, 13 Blatchf. 308, Fed. Cas. No. 371.

The assignments of error present no other question than that of the validity of the patent. They are not well founded, and the decree is accordingly affirmed, with costs.

EDISON ELECTRIC LIGHT CO. v. E. G. BERNARD CO. et al.

(Circuit Court, N. D. New York. May 5, 1898.)

1. PATENTS—INTERPRETATION.

The courts are not permitted to construe a patent by reconstructing it to conform to what it may think was in the mind of the patentee at the time.

2. SAME—MECHANICAL EQUIVALENTS.

On the preponderance of the evidence, *held*, that an electroplating bath is a "translating device"; that the articles placed therein to be plated are "connected in multiple-arc"; and that this arrangement is the equivalent of a multiple-arc lamp circuit.

3. SAME—ELECTRIC DYNAMOS.

Translating devices which require constant potential should be harnessed to a dynamo which produces constant potential; but it does not follow, because they are shown to be thus connected in the drawings of a patent, that the dynamo so described will secure constant potential, or tell others how to secure it.

4. SAME.

The character of the translating devices does not change the character of the dynamo, and an electrician does not become an inventor by merely attaching a series of lamps to a dynamo which had previously been used in connection with a series of articles to be plated by an electroplating circuit.

5. SAME.

The Edison patent, No. 264,668, for an improvement in regulating the generative capacity of dynamo-electric machines, is void, because of anticipation by the Brush patent, No. 217,677, for an improvement in dynamo-electric machines.

This was a suit in equity by the Edison Electric Light Company against the E. G. Bernard Company and others for alleged infringement of a patent for improvements in regulating the generative capacity of dynamo-electric machines.

This is an equity action, founded upon letters patent, No. 264,668, granted to Thomas A. Edison, September 19, 1882, for an improvement in regulating the generative capacity of dynamo-electric machines.

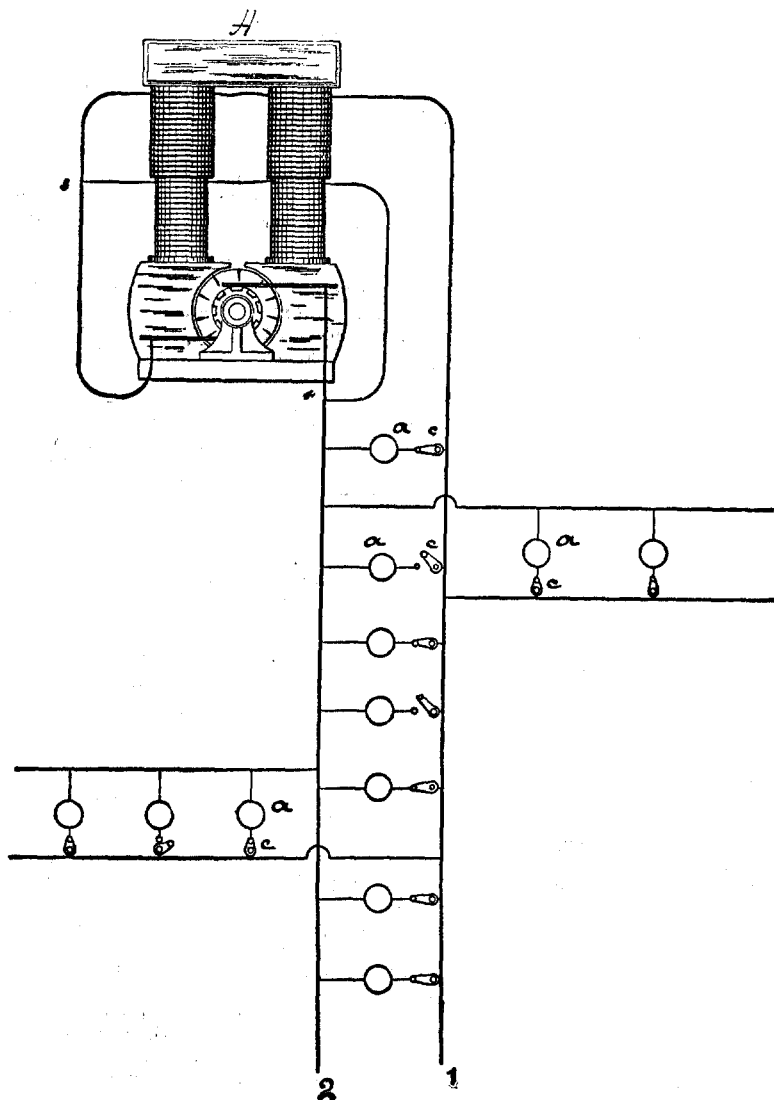
The specification says:

"The object of this invention is to produce means by which the addition or removal of translating devices in the multiple-arc circuits of a system of electrical distribution shall cause immediately a proper regulation of the current energizing the field-magnet of the dynamo-electric machine supplying such system, and this without the use of adjustable resistances, or of any mechanism whatever, except the ordinary circuit controllers of the lamps."

Of the drawing the specification says:

"A is a dynamo-electric machine, from which lead the main conductors 1 2, in multiple-arc circuits from which are placed lamps or other translating devices, a, each provided with a circuit controller, c. The lower portion of the field magnet of the generator A is wound with wire, forming part of a multiple-arc circuit, 3 4, from the main conductors 1 2. This circuit is of high

resistance, so that only a small amount of current sufficient to primarily energize the field-magnet will pass through it. It may, if desired, be a circuit supplied from an external source instead of from the conductors 1 2. The main conductor 1 is brought up on one side and wound around the magnet, afterwards extending out parallel with the conductor 2. When translating devices are first put in circuit the magnet is sufficiently energized by means of the circuit 3 4; but as their number is increased the resistance of the main circuit is lowered, so that more current flows through the conductor 1 and the magnet becomes more and more energized. As devices are thrown out and the resistance of the main circuit increases, the energy of the magnet is lessened by the decrease of current in the conductor 1.



"It will thus be seen that the regulation of the machine is accomplished instantly and automatically by the throwing in and out of circuit of single translating devices, the addition or removal of each device having an immediate effect on the current passing through the field-magnet."

The claims are:

"(1) The combination, with a dynamo-electric machine and translating devices arranged in multiple-arc, of a field-circuit of constant resistance for primarily energizing the field-magnet, and another field-circuit whose resistance is varied by the addition and removal of translating devices, substantially as set forth.

"(2) The combination, with a dynamo-electric machine, of one of its main conductors forming a portion of the coils of its field-magnet, a circuit for primarily energizing such field-magnet, and translating devices arranged in multiple-arc or derived circuits, whereby the addition of each individual translating device causes a corresponding increase in the energy of the field-magnet, substantially as set forth.

"(3) The combination of a multiple-arc circuit containing a portion of the coils of the field-magnet of a dynamo-electric machine, a multiple-arc circuit containing the armature of said machine, and multiple-arc circuits containing lamps or other translating devices, all such multiple-arc circuits being derived from the same main conductors, and another field-circuit whose resistance is varied by the addition and removal of translating devices, whereby the addition or removal of any translating device causes an instant and corresponding regulation of the current energizing the field-magnet of the machine, substantially as set forth."

The earliest date assigned for the conception of the Edison invention is August 19, 1879. The machines made at the time of the patent and prior thereto did not operate in a satisfactory manner. They never were a commercial success. They have disappeared.

On the 22d of July, 1879, letters patent, No. 217,677, were granted to Charles F. Brush for an improvement in dynamo-electric machines. The application for this patent was filed March 11, 1878.

Brush says in the specification:

"My invention relates to dynamo-electric machines, and has for its object the maintenance in such machines of a 'magnetic field' while the machine is running, whether the external circuit is closed or open. In dynamo-electric machines as ordinarily constructed, no magnetic field is maintained when the external circuit is open, except that due to residual magnetism; hence the electro-motive force developed by the machine in this condition is very feeble. It is only when the external circuit is closed through a resistance not too large that powerful currents are developed, owing to the strong magnetic field produced by the circulation of the currents themselves around the field-magnets. Such machines are not well adapted to certain kinds of work, notably that of electroplating. For this purpose a machine arranged to do a large quantity of work at one operation may fail entirely to do a small quantity, because of the comparatively high external resistance involved in the latter case and the low electro-motive force of the machine at the start. Again, it is well known that during the process of electroplating, a very considerable electro-motive force is developed in the plating bath in a direction opposed to the current from the dynamo-electric machine. If, now, the current from the machine is momentarily weakened, by accident or otherwise, its magnetic field, and consequently its electro-motive force, are correspondingly reduced. If the latter falls below the opposing electro-motive force of the bath, it will be overcome by it, and the machine will have the direction of its current reversed. This accident often happens with plating machines, and is a source of much annoyance. It will now be obvious that if even a moderately strong magnetic field be constantly maintained within the machine, both of the above-described difficulties will be eliminated. Other useful applications of a 'permanent-field' machine will readily suggest themselves. I attain my object by diverting from external work a portion of the current of the machine, and using it, either alone or in connection with the rest of the current, for working the field-magnets. I prefer the latter plan of the two just above mentioned, especially for electroplating machines. If, now, the external circuit

be broken entirely, the magnetic field will in the former plan just mentioned remain unimpaired, and in the latter plan will remain sufficiently strong to effect the desired end.

"In applying my invention to dynamo-electric machines, I wind the cores of the field-magnets with a suitable quantity of comparatively fine wire having a high resistance in comparison with that of the external circuit and the rest of the wire on the machine. The ends of this wire are so connected with other parts of the machine that when the latter is running a current of electricity constantly circulates in said wire, whether the external circuit be closed or not. The high resistance of this wire prevents the passage through it of more than a small proportion of the whole current capable of being evolved by the machine; therefore the available external current is not materially lessened. When this device, which I have called a 'teaser,' is used in connection with field-magnets, also wound with coarse wire, as shown in Figure 1 of the drawings, for the purpose of still further increasing the magnetic field by employing the main current for this pur-

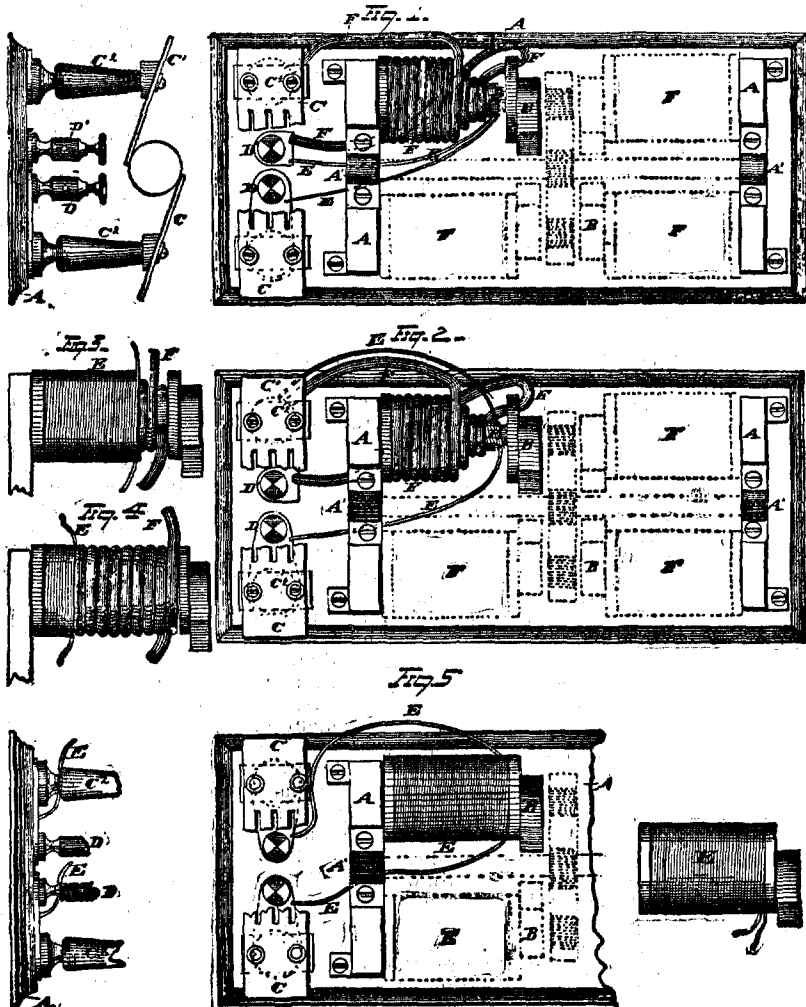
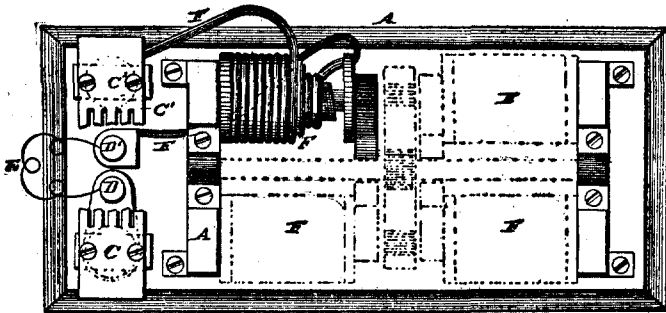


Fig. 5



pose, in the usual manner, then the 'teaser' may be so arranged that the current which passes through it will also circulate in the coarse wire, thus increasing the efficiency of the device. This arrangement, illustrating one of the most common applications of my invention, is shown in Fig. 1 of the drawings. Instead of the teaser and helix F being constructed from wire of different gauges, the size of wire may be alike in both, or the teaser-wire may be coarser than the principal magnet-wire; but in these cases the waste of current through the teaser would be excessive, leaving comparatively little for use in the external circuit. Instead of the magnet being surrounded with both teaser and ordinary helix F, the latter may be omitted, and the teaser increased in gauge and length (thus still maintaining its high resistance) until it will of itself maintain sufficient magnetic field. This modified form of machine is shown in Fig. 5 of the drawings."

After explaining the drawings he says:

"It should be distinctly understood that I do not limit my invention to the form adaptable to any particular dynamo-electric machine, inasmuch as it is susceptible of a variety of modifications, whereby it may be applied to devices of various constructions without any material departure from its spirit and intent, or the essential principles of its construction and operation."

The claims of the Brush patent are as follows:

"(1) In a dynamo-electric machine, the wire or helix E, having a comparatively high resistance and kept constantly in closed circuit while the machine is running, in combination with the magnet-wire or helix F, as commonly employed.

"(2) In a dynamo-electric machine in which the coils around the field-of-force electro-magnets are included in the main or operative circuits, the combination of such main circuit with a constantly closed differential circuit of prescribed resistance, for the purpose of maintaining the flow of the current through the coils surrounding the electro-magnets in the machine when the main or operative (external) circuit is broken, substantially as shown."

The Brush dynamo was intended for use in electroplating devices. A number of machines were built under the Brush patent and were successfully operated long prior to the date of the Edison application. Some of these are operative machines at the present time. Two of them are in evidence.

The defenses are lack of novelty and invention, and noninfringement. The principal defense is lack of novelty, and it is based upon the Brush patent just quoted. The action was commenced December 23, 1893. It was argued February 8, 1898, and was finally submitted March 9, 1898. The record contains 2,453 printed pages, and the briefs 800 printed pages.

Edmund Wetmore and Richard N. Dyer, for complainant.

Henry A. Seymour, Robert S. Taylor, Charles A. Brown, and Seward Davis, for defendants:

COXE, District Judge. Although this record has been expanded beyond reason and precedent, it will be noted that the real issue is one of the simplest that can arise in a patent cause, viz.: whether the patent is invalidated by a single prior patent. The best evidence of what the patent covers is the patent itself. It states that it is for "a new and useful improvement in regulating the generative capacity of dynamo-electric machines." The claims are for the dynamo in combination with translating devices in multiple-arc; but as this arrangement of translators has been well known since 1875, invention cannot be predicated of this element of the combination; indeed, there is no pretense that it can be. If invention can be found at all, it must, therefore, be in the dynamo.

The object of the patentee was to produce means, assuming the translators to be lamps, by which the turning on and off of the lamps shall cause immediately a proper regulation of the current energizing the field-magnet of the dynamo without the help of any other mechanism. In short, the dynamo was expected automatically to adjust its generative capacity. The translating devices shown in the drawings are lamps, but the claims are not limited to lamps, and there is no canon of interpretation familiar to the court which will justify a construction so narrow. The claims do not speak of lamps. The words are "translating devices," and there can be no doubt that any translating devices arranged in multiple-arc are within the claims, which unquestionably cover motors, plating baths, heaters and other similar devices. The drawing shows a rudimentary dynamo of the conventional Edison type. It is the same dynamo which appears, *mutatis mutandis*, in a large number of patents which emanated about the same time from the patent office. The dynamo of the drawing has compound windings, a vertical field-magnet with pole pieces at the bottom and a field wound with two coils—a shunt coil of high resistance and a low resistance coil in series with a lamp circuit. The shunt circuit may, if desired, be supplied from an external source. The main conductor is brought up on one side and wound around the magnet afterwards extending out parallel with the outer conductor of the exterior circuit.

The specification states that when translating devices are first put in circuit the magnet is sufficiently energized by the interior circuit, but as the number of translators is increased the resistance of the exterior circuit is lowered, and as they are thrown out the resistance of the main circuit increases and the energy of the magnet is lessened by the decrease of current in the main conductor. This is practically all there is of the specification. Considering the far-reaching all-absorbing claim which is now asserted for this patent, it must be admitted that the specification is most meager and unsatisfactory. It is almost a skeleton. If it were expressed in the full, clear and concise terms required by law, it is fair to presume that the expert witnesses, at least those on the same side of the controversy, would agree as to its scope and meaning. It will be observed that it says nothing about "constant potential," or, except inferentially, the means of securing constant potential. All details as to the size of the field-magnets, the relative size of the coarse and fine wire and the length and

number of coils of fine wire are omitted, and yet it is maintained that sufficient information is conveyed to enable an electrician to construct the highly organized and efficient machines of the present.

The combination of the first claim contains the following elements: (1) A dynamo. (2) Translating devices arranged in multiple-arc. (3) A field-circuit of constant resistance for primarily energizing the field-magnet. (4) Another field-circuit whose resistance is varied by the addition and removal of translating devices. The elements of the other claims are substantially similar, and in view of the conclusion reached it is unnecessary to consider them in detail. Claim 3 differs from the other two in that the shunt circuit must be supplied from the main conductors. It will be seen that the first claim is not for a dynamo of the Edison type or for the system of electric lighting adopted by him, but, on the contrary, that it is broad enough to cover, and does cover, any dynamo having the described characteristics in combination with any translators in multiple-arc.

The Brush patent relied upon by the defendants was applied for 17 months before, and was granted 1 month before, the earliest date fixed for the alleged Edison invention. The Brush patent is for an improvement in dynamo-electric machines, and has for its object the maintenance in such machines of a magnetic field while the machine is running whether the external circuit is closed or open. Without analyzing the patent in detail, suffice it to say that the description is specific, carefully drawn and clearly illustrated by six diagrams. The dynamo of the patent is a compound wound dynamo having a shunt and series coil, the former of high resistance and the latter of low resistance. In some of the figures the series coil is wound over the shunt coil; in others the shunt is wound over the series, and in another figure the two coils are wound on opposite ends of the same core. The dynamo is designed to generate and maintain a sufficiently constant electro-motive force and produce an amount of current always corresponding to the amount needed by the devices in the working circuit. Mr. Brush shows his machine in combination with electroplating in multiple-arc, and Mr. Edison shows his in combination with electric lighting in multiple-arc. This is the principal distinction between the two. If the one multiple-arc circuit be the equivalent of the other, then it cannot be denied that every element of the patent in suit is found singly and in analogous congeries in the Brush patent, and that they are described there so as to be more readily understood, at least to the uneducated lay mind, than in the Edison patent. Not only is this clear from the Brush patent, but the proof shows that a number of machines were built pursuant to its directions and were commercially used more than two years prior to the date of the application for the Edison patent. These machines exist at the present day, and what is quite remarkable, and almost unique in patent litigation, is the fact that, in an art which has progressed with giant strides, machines made nearly 20 years ago are not only operative, but practically as successful as when first built. Two of these working dynamos have been introduced in evidence, one by the complainant and one by the defendants. Each is capable of doing the same work now as in 1880. All of the Brush

dynamos were originally used in electroplating devices. That a plating bath is a translating device, that the articles placed therein to be plated are connected in multiple-arc, and that such an arrangement is the equivalent of a multiple-arc lamp circuit seems to be established by an overwhelming preponderance of evidence. Not only do the expert witnesses called for defendants testify to this, but so also does the principal expert witness for the complainant whose vast fund of information regarding matters electrical is well known to this court. Not only so, but the proposition has received judicial sanction in the "Feeder Case," where the court of appeals for the Third circuit say:

"In the art of electroplating, as practiced long before 1880, we find an arrangement of circuits substantially the same as that of the patent in suit. Here a large number of articles to be plated simultaneously are suspended in the bath by separate wires attached to a metallic rod placed across the top of the tank; that is to say the articles are arranged in multiple-arc with respect to the electric current." *Westinghouse v. Electric Light Co.*, 11 C. C. A. 342, 63 Fed. 588, 594.

It must be conceded, therefore, that if the claims of the patent in hand are to be construed according to the plain letter of their meaning, without importing therein limitations and refinements not found in the patent, but suggested by subsequent and more accurate knowledge, the patent is invalidated by the Brush patent and the machines made in accordance therewith.

But it is argued that the patent is for a peculiarly regulated compound wound dynamo which secures constant, or nearly constant, potential in combination with incandescent lights arranged in multiple-arc or other analogous devices requiring the same constant potential. In brief, that it is for the Edison dynamo in combination with the Edison system of electric distribution. It is maintained that the Edison patent discloses all this and the Brush patent does not disclose it. Even though this position could be maintained it is still a question whether it involved invention to secure more accurate regulation after the Brush patent had told the electrician how to secure regulation sufficiently perfect to be successful in the electroplating art. It would then seem to be a mere matter of winding within the knowledge of the skilled electrical engineer. But a sufficient answer is that the courts are not permitted to construe a patent by reconstructing it to conform to what the court may think was in the mind of the patentee at the time.

Assuming that the dynamo shown in the Edison patent could be used for electroplating, and was so used in place of the Brush dynamo, it would not have conveyed to the art any information for producing constant potential which was not conveyed by the Brush dynamo. Translating devices which require constant potential should be harnessed to a dynamo which produces constant potential, but it does not follow, because they are shown thus diagrammatically connected, that the dynamo so described will secure constant potential or tell others how to secure it. The Edison patent, as before stated, says nothing regarding constant potential and gives no information as to the means of securing it which is not found equally well stated in

the prior patent. The claims are perfectly clear and intelligible, and there is no precedent for reading into them limitations not found in the patent. *White v. Dunbar*, 119 U. S. 47, 7 Sup. Ct. 72; *McClain v. Ortmyer*, 141 U. S. 419, 12 Sup. Ct. 76; *New Home Sewing-Mach. Co. v. Singer Mfg. Co.*, 68 Fed. 224.

It is doubtful if Mr. Edison had in mind at the time he applied for the patent all of the improvements, perfections and refinements which are now asserted. In 1879 the art of electric lighting was in its infancy. With the modesty which is usually found in men of genius Mr. Edison frankly admits his lack of knowledge upon the subject now under discussion. He says: "As I knew nothing about dynamo machines, I tried to get information from electricians and books." His memory is also vague as to the success of the compound wound dynamos. He recollects that there was a great deal of trouble with the machines, and that none of them worked, but he attributes their failure to variations in the speed of the engine that operated them. Mr. Brush, on the other hand, thoroughly understood compound winding in connection with other devices in the art of electric lighting, and had proceeded far in the successful construction of dynamos. Were it important to inquire which of these two men would be most likely to produce a working machine having the necessary characteristics, there can be little doubt that Mr. Brush would be chosen. But such an inquiry seems irrelevant. The patent law cannot be administered along such lines as these. Patents are formal grants controlled by carefully drawn statutes and strict rules, and must be construed as other similar documents are construed. The court is not permitted to inquire what the patentee might have done or was capable of doing. The question is, what did he do? Conjecture and speculation are out of place in interpreting the claims of a patent. But even if the claims be limited to incandescent lamps in multiple-arc circuit it would seem that they are met by the Brush dynamos. Several tests of these dynamos in connection with lamps were made, one of them being made at the argument. The court makes no pretention to anything but a most superficial knowledge of this complex subject which can hardly be mastered after the engrossing study of years, but it seemed to the court that the test demonstrated what the defendants sought to prove. The machine regulated automatically and maintained a constant electro-motive force within permissible limits of variation. There was no noticeable variation in the lamps from no load to full load. The other experiments described in the record appear to have been similar in character and to have had similar results. The court cannot resist the conclusion that the claims, construed as they must be construed, are invalidated by the Brush patent and the dynamos built thereunder. A Brush plating machine if made now for the first time would infringe these claims; being, in fact, made before, it anticipates them.

But the learned counsel for the complainant insist:

"That even assuming the Brush plating dynamo to be a compound-wound dynamo within the scope of the Edison patent, there was, under all the circumstances shown by the record in this case, invention involved in the employment of such a dynamo in combination with a multiple-arc system of

electrical distribution, on account of the discovery that such a dynamo, when the shunt and series coils were properly proportioned, would secure automatically the peculiar regulation to compensate for variations in the load which is required by such a system."

The doctrine of *Potts & Co. v. Creager*, 155 U. S. 597, 15 Sup. Ct. 194, is invoked in aid of this contention. As has frequently been pointed out, this case has created no new rule upon the question of double use. The case was peculiar upon the facts, which presented an entirely different condition of affairs from that developed in the case in hand. It has always been the law that invention must be denied to one who merely takes a device which has been used in the same or in an analogous art, and uses it in new environments to accomplish a similar result. *Stearns & Co. v. Russell*, 29 C. C. A. 121, 85 Fed. 218, and cases cited. It requires only the skill of the mechanic in the particular art to make the transfer from one branch thereof to another branch. An engineer who has used his engine to operate a series of looms knows enough to connect his driving wheel with a series of knitting machines, and a competent electrician who has used a dynamo successfully with one series of translating devices should be able to use it in connection with another series of translating devices. In other words, the character of the translating devices does not change the character of the dynamo, and an electrician does not become an inventor because he attaches a series of lamps to a dynamo which had been used in connection with a series of heaters.

The complainant's proposition, if sustained, would lead to the conclusion that Mr. Brush, after having obtained his patent in which the dynamo is described as suitable for an electroplating circuit, could have attached the same dynamo to a well-known lamp circuit and have obtained another patent for that, and so on, as often as he changed the character of the translators. Even though this work required enlargement, adjustment and some change in the winding, it would still be a question of degree within the realm of the skilled mechanic. An electrician would know how to adjust the machine to do the required work and adapt it to the new environment. An illustration is found in the record. Mr. Edison says that the first dynamo made by him did not work because of variation in the speed of the engine occasioned by poor governing "as a compound-wound machine should have a regular speed to utilize the invention; but after a while the demand for close regulation was met, and engine builders were enabled to build engines that were very reliable, and then the conditions for the employment of compound machines were met." It will hardly be pretended that the engine builder who produced better regulation as the demands of the market required it was entitled to a patent. It would seem also that a skilled electrician would know how to adjust the Brush compound wound dynamo to the new conditions of an incandescent lamp circuit the moment the two were brought together. It would be like operating a carriage with a motor which had previously propelled a boat, or using a bullet mold for making pills. To restrict the Brush patent to electro-

plating would be as unfair as to restrict Edison's to electric lighting. The one illustrates his dynamo in connection with the first-named translating devices, and the other with the second-named devices. As before stated the patent cannot be limited to any one multiple-arc system of electrical distribution, but if it could be, invention is not involved in changing one series of translating devices for another. It seems probable that, if this controversy related to any other machine for generating and regulating power, contention would cease the moment a device was discovered in the prior art as near to the patented machine as Brush is to Edison. The mystery and uncertainty which surrounds everything relating to electricity, and the feeling of admiration, almost akin to reverence, for those men who have subdued this unknown and dangerous force and made it do the world's work, make the court diffident about applying those principles which are axiomatic in the patent law. There is always the apprehension that injustice may be done through failure to comprehend the abstruse and difficult problems presented. This fear has been augmented in the present instance, and the difficulties of understanding the problem involved have been vastly increased by a record into which has been dumped haphazard everything which either party believed had a bearing not only upon the point in issue, but upon the general subject of electrical distribution. But even were there more doubt as to the correctness of the conclusion reached, the court should still hesitate to enforce a patent in the sixteenth year of its age, and thus lay the entire art under tribute, when the public has had a right to assume that such a system as the defendants are using would not be molested. The bill is dismissed.

NOTE.

Motions have been made by both parties to strike out testimony. Most of these are based on technical grounds and relate to testimony having little bearing upon the main point in issue. It will not do to strike out the entire testimony covered by these motions, as some of it is relevant and is objected to only on the ground that it was not taken at the proper time. Portions of the testimony criticised contain some pertinent matter and the court does not feel called upon to attempt to separate the wheat from the chaff. As I have frequently had occasion to observe, these motions are inconsequential, they lead to no result and are useful only as they affect the question of costs. Should I enter upon a critical examination of the testimony included in these motions and strike out such portions as are irrelevant, no useful purpose will be subserved. The truth is that both parties are equally at fault for the abnormal size of the record. The difficulty is, of course, largely with the system, but it certainly seems as if counsel could prevent a great part of the tautology, discursiveness, repetition and tedious and aimless dissertations with which these records abound.

This case presents the most flagrant instance of elephantiasis in patent litigation which has come under my observation. To impose such a record upon a court overwhelmed with work is hardly defensible; instead of aiding the cause of truth it obstructs and delays it. Not only is it unnecessary, but, as the counsel who last addressed the court for the defendants expressed it, it is unjustifiable from a "humanitarian" point of view as well. The courts of this circuit have animadverted so frequently and so severely of late upon this practice that it is doubtful if it can be prevented by anything the court can say. The only protection the court has against such records is to deny costs for the irrelevant portions. I have no doubt that at least half

of the defendants' record could have been omitted not only without detriment but with unquestioned benefit to their defense. My impression now is, therefore, that they should recover only half their costs.

THOMAS ROBERTS STEVENSON CO. v. McFASSELL.

(Circuit Court, E. D. Pennsylvania. June 18, 1898.)

No. 47.

1. PATENTS—INVENTION—COOKING RANGES.

There is no invention in changing the location of the circulating boiler of a cooking range so as to place it horizontally upon a supporting frame attached to the top of the range, and in proper connection with the circulating pipes leading to and from the water-back in the fire chamber, thereby dispensing with any brickwork, or in rearranging the warming shelf and other parts, having entirely independent and separate purposes, to conform to this change in structure.

2. SAME.

The Hayes patent, No. 310,276, for an improvement in ranges and stoves, is void for want of invention.

This was a suit in equity by the Thomas Roberts Stevenson Company against Harry W. McFassell, Jr., for alleged infringement of a patent for improvements in ranges and stoves.

Henry E. Everding, for complainant.
Joshua Pusey, for respondent.

DALLAS, Circuit Judge. This is a suit upon letters patent No. 310,276, dated January 6, 1885, issued to Isaac Haves, for "a new and useful improvement in ranges and stoves." The specification and claim are as follows:

"My invention consists in constructing a portable cooking range, in which the circulating boiler rests in a horizontal position upon a supporting frame secured to the top of the range, with circulating pipes connected to the boiler and with the water-back in the fire chamber, the object of which is to dispense with brickwork, and thus lessen the cost, and to economize space, and render the parts easy of access in case of repairs or cleaning. My invention is also applicable to ordinary cooking stoves. Reference is had to the accompanying drawings, in which Fig. 1 is a front view of my improvement in portable ranges. Fig. 2 is an end view of the same. Fig. 3 is a perspective view of the supporting frame in which the boiler rests. The portable range, A, Figs. 1 and 2, has inclosed ends and back, and is provided with the ordinary fire chamber, oven, and water-back, with circulating pipes, B, B', leading to the boiler. The supporting frame, Fig. 3, consists of the uprights, C, C', the upper ends of which are made semicircular in form to accommodate the boiler, D. The said uprights, C, C', which may be of any suitable height, are secured at their lower ends, a proper distance apart, to the top of the range, and are also connected to a plate, E, which extends across, and serves as a guard on the back of the range. The boiler, D, which rests in a horizontal position on the uprights, C, C', is connected to the water-back in the fire chamber, as above stated, and has its upper surface covered with a warming shelf, F, the ends of which are made to project downward and fit over the boiler, and are secured to the uprights. What I claim, and desire to secure by letters patent, is the combination of the portable range, A, uprights, C, C', plate, E, warming shelf, F, boiler, D, and pipes, B, B', substantially as shown and described."