the ownership of the one-half of this patent, which was conveyed to Risser & Co., nor as to who Risser & Co. are, nor as to the relation of the Racine Malleable & Wrought Iron Company, who are licensees. 'According to the averments of the bill, there is more of the title conveyed than originally vested in the patentee. For these reasons I think the complainants' title is defective, and that they are not entitled to the relief for which they pray.

Having reached this conclusion, it is not important to examine the question of the validity of the patent sued upon. Under the circumstances under which this opinion is written, the court is not able to give the time to the consideration of this question which it deserves; but, inasmuch as the parties have gone to large expense in preparing the case, and inasmuch as the exhibits and the evidence narrow down so closely the question of infringement, even in the short time available to the court this question can be determined. The complainants' expert attaches great importance to the curvature The patentee, in his specifications, seems likewise to of the bars. have attached great importance to the curved bars. In lines 92 to 95 in the specification, he says: "When the bit is secured in this way, the curved bars adapt themselves perfectly to the roof of the horse's mouth, and form a cross which leaves the tongue entirely free under the bit, while the cross-bars prevent the horse from getting his tongue over it." The J. I. C. bit, as shown in the patent drawings and exhibit, shows two horizontally curved bars, with the curvature uniform throughout. The complainants' exhibit of defendant's bit shows that these bars are straight. The curvature of the bit bars is certainly an essential part of Campbell's claims, and, in order to show an infringement, it was the duty of the complainants to show that the defendant's bit bars curved in the same way. and accomplished the same function. For it is well settled that "where one patent combination is asserted to be an infringement of the other, a device in one, to be an equivalent of a device in the other, must perform the same functions." Giving the word "curved" the ordinary definition of the dictionary, and remembering that the burden is upon the complainants to show an infringement, the court finds this proof unsatisfactory and defective The complainants' expert has not succeeded in reconciling his own testimony to make out from his own showing an infringement as the bill claims. There being, therefore, no proof of infringement, the bill must fail as to this part of the case.

A decree may be prepared accordingly, finding that the complainants' title is defective, and that there is no infringement, and the bill will be dismissed.

MORRIS BOX-LID CO. v. DAVIS PRESSED-STEEL CO. et al.

(Circuit Court, D. Delaware, December 3, 1896.)

PATENTS-VALIDITY AND INFRINGEMENT-CAR AXLE BOX LIDS.

The Morris patents, Nos. 379,712 and 423,795, for a car axle box lid, the main feature of which is a construction whereby the spring can be attached to the lid without the use of rivets, so that a broken spring can be replaced 78 F.-9

without removing the lid from the box, were not anticipated by the device of the Kinzer patent, No. ——. Claim 1 of the former and claims 4 and 5 of the latter are valid, and are infringed by the device of the Davis patent, No. 521,231, in which the location of the spring is changed from the outside to the inside of the box, without substantially varying the mode of operation or result. But claims 1, 2, and 7 of the second Morris patent, which are for a car axle box lid, as an article of manufacture, independent of the manner of attaching the spring thereto, are not infringed thereby, even if valid.

Otto B. Barnett and James H. Raymond, for complainant. Francis T. Chambers, for defendants.

WALES, District Judge. This is a suit by the Morris Box-Lid Company, a Pennsylvania corporation, and sole owner of the patents here sued upon, against Davis Pressed-Steel Company, a Delaware corporation, and Nathan Davis, its president, for infringement of claim 1 of letters patent No. 379,712, dated March 20, 1888, granted to George W. Morris, and claims 1, 2, 4, 5, 7, and 8 of letters patent No. 423,795, dated March 18, 1890, also granted to George W. Morris. Each of these patents is for a "car axle box lid," and was assigned to the complainant on the date of its issue.

The object to be gained in making and adjusting a lid to the journal box of a car is to make a lid of such material and with such attachments that it can be easily hinged to the box, and readily opened for the introduction of lubricating packing, and be securely closed against the entrance of dirt and cinders. It was customary at first to use cast-iron lids for the journal boxes, but these proved to be defective in several respects. They were heavy, causing excessive wear to the pintle or hinge bolts, and were easily broken in ordinary use, thus leaving the contents of the box exposed. The steel spring, which was riveted to the lid, cut or wore off the soft iron rivets, and a broken or defective spring could only be replaced after the lid had been removed from the box, and a new spring riveted on. To provide a lid that would be free from these defects was the aim of Mr. Morris, and after several experiments he succeeded in producing a lid for which he obtained letters patent No. 379,712, of March 20, 1888, which, for convenient reference, will be called the "first Morris" patent." The specification, after stating the object of the improvement, proceeds as follows:

"As the lid is often open for the hasty inspection of the condition of the journal and its lubricant, it is important that it should be light and easily opened and closed. For this purpose, I make the lid, B, of thin sheet steel or other suitable metal, stamped out in blank, as shown in Fig. 1, with corner edge projections, c, c, to form pintle-hinge eyes or scrolls, a lower edge projection, d, to form a handle, a loop, e, punched out so as to stand up from its outer face, and a punched-out slot, f, the loop and the slot being in a middle line.

"The journal box has a rounded projection, g, at its top, provided with a horizontal opening made to register with lid eyes to receive the pintle, h, which forms the hinge for the lid. The spring, C, is a narrow plate of steel of suitable thickness, and has a right-angled lip, i, formed at one of its ends, adapted to fit into the slot in the lid. The spring is applied to the lid by slipping its plain end up under the loop before the lid is hinged and fitted to the box; but the spring is only thus partially applied. After the lid is hinged and fitted to the box, then the spring is driven up from its lower angle-lip end through the loop until the spring lip reaches and is forced by the tension of the spring into the slot in the lid, and holds it fast. In this position the upper end of the spring will pass over



and bear upon a curved top part of the box over the hinge between the pintlehinge forming eyes of the lid, so as to give a sufficient tension to the bearing end of the spring upon the top of the box to hold the spring firmly and closely down upon the open face of the box. The spring is thus secured without rivets, and permits the easy opening and closing of the lid. * * * I prefer to form the spring-confining loop integral with the lid, but it may be a separate attachment thereto. When the lid is open, the spring acts to hold it in such position.

"I claim: (1) An axle-box lid stamped out of sheet steel, with a raised crossloop and a cross-slot stamped therein, and a plate-spring having a right-angled end, and fitted within said loop and within said slot, combined with an axle box having a top bearing for said spring, substantially as set forth."

The specification of the patent of 1888 has been given almost in full, because it is the foundation of the Morris patent of 1890, and will clear the way for a better understanding of the advance made by the latter. The validity of each patent has been assailed, but the defense chiefly relied on is noninfringement. It will be noticed that the prominent features of the first claim of the patent of 1888 are a lid made of sheet steel, with a cross-loop and a cross-slot stamped therein, and having a plate spring attached thereto without rivets, so that a broken or damaged spring can be readily replaced without removing the lid from the box. In other words, Morris had contrived a plan for permanently fixing a spring to the lid of a journal box without rivets, and which would keep the lid down when closed, and hold it up when open. That the new lid was an improvement on all that had theretofore been invented or put on the market hardly admits of a doubt, but its patentability is denied in view of the invention of Jacob Kinzer, to whom a patent was issued for a car axle box lid, February 4, 1879, which, it is claimed, anticipates the Morris lid. In his specification, Kinzer states that his "invention relates to an improved arrangement of a spring upon an axle box and lid, whereby the elasticity of the spring may be made operative in holding the lid to its box, or inoperative, at pleasure." Referring to the drawings, the lid and the box being hinged together in the usual way, the specification thus describes the improved "arrangement":



132

"The lid is held to its seat on the box by means of a spring, S, one end of which bears on the lid near its front edge, as at e, and the other end on a rest, n, made on the box over the hinge, and between the cars, a, a', while a third or intermediate bearing is provided by a flange, h, extending down from a cap or box, H, which is riveted to the lid, so as to cross or span the line of the spring. The pressure of this flange, h, upon the spring, the end bearings being fixed, will determine the tension of the spring; and the rest, n, being stationary, the end of the spring bearing on the lid will operate to hold the lid on the box. * * * 1 also make side walls, i, which bound the bearing, e, and the depression, e', on either side, and prevent the lateral displacement of the adjacent end of the spring."

There is no evidence that the Kinzer lid was ever largely adopted or put to practical use, and it radically and plainly differs from the Morris lid of 1888 in many important particulars. The cross-loop of the Morris lid is not the equivalent of the cap, H, of the Kinzer lid, nor could it have been suggested by the latter. The cap, H, is put over the spring, and then riveted to the lid, and this must be done before the lid is hinged to the box, and the cap must be removed whenever it may be necessary to replace a broken spring. The Morris cross-loop is raised from the face of the lid, and is integral with it. The spring can be inserted under the loop either before or after the lid is hinged, and a broken spring can be removed, and a new one inserted, without unhinging the lid. The lower end of the spring in the Kinzer contrivance is held in place by friction, which prevents vertical displacement, and by the side walls, which prevent lateral displacement. The lower end of the spring in the Morris lid is securely anchored in the cross-slot, and cannot be driven from it by any ordinary means after the lid has been hinged. A reference to the specifications of these patents will make this perfectly plain. Other differences are that the Kinzer lid does not have a lot to receive the right-angled end of the spring which is thereby securely held from longitudinal movement, and that the Morris lid does not require the clumsy side walls of the Kinzer patent to prevent the lower end of the spring from lateral displacement. The slot in the Morris lid answers both pur-In the language of Mr. Davton, complainant's expert: poses.

"In the Kinzer construction the spring is held from upward movement, with respect to the lid, solely by friction. In the Morris construction the spring is held not at all by friction, but by direct abutting engagement of the lateral surfaces of the lip on the spring with the side walls of the slot."

But Morris did not stop here. Further observation and experiments led to the additional improvements which are embodied in the patent of 1890, and are stated in the specifications as follows:

"The objects of my invention are—First, to provide a lid for car axle boxes in which a spring for closing said lid, and for keeping it closed, may be secured so as to bear against the shoulder of the axle box at the inner side of said lid; second, to provide such a lid with a slot and a stop for inserting and securing said spring from the outside of the lid after the latter has been properly hinged in place; and, third, to provide such a lid with a bulge or swell which may fit over the shoulder of the axle box, and form a comparatively tight joint for excluding dust from the box."

The improvements thus made on the lid of the first Morris patent are very striking. In the latter the spring is placed on the outside of a flat lid, with the upper end bearing upon the shoulder of the car axle box, the whole of the spring being exposed to view, and unprotected. In the second Morris patent the shape of the lid is altered so as to provide a covering for the spring and its top bearing, thus more effectually excluding dust and grit from the box, and insuring greater safety to the spring. The raised cross-loop is dispensed with, and in its place a transverse slot at the lower end of the bulge is substituted. The spring is of the usual shape, having a lip at its lower end.



To quote from the specification of the second Morris patent:

"The lid is stamped out of a plate of malleable metal, and the bulge is formed with sharply defined and straight sides at its highest portion, so that it may form a comparatively tight joint with the shoulder or projection. The lid is first hinged in place by inserting the pintle through the eyes of said lid, and through the shoulder of the box; and the spring is thereupon inserted through the slot, M, and is guided upward by the passage or channel, L, in which it fits; and, when the upper end of said spring has reached the shoulder, the spring is driven upward until the lip engages the recess which forms the stop for the lower end of the spring."

The lid here described differs more widely than does the lid of the first Morris patent from the Kinzer "arrangement." The only resemblance between the Morris lids and the Kinzer lid is that they belong to the same general class, and that each may be hinged to the box of a car axle. In all essential respects for the purpose for which they are designed, there is entire dissimilarity both in the result produced and in the method of producing it. The great superiority and improved practical utility of the Morris lids entitled them to the protection of patents. The Kinzer lid has, it is true, a rivetless spring, but it was a failure. Morris was the first to invent a method by which a spring could be permanently attached to a lid without the use of rivets, that has proved to be a success, as is abundantly proved by its extensive adoption by car builders throughout the United States.

The claims of the second Morris patent of which infringement is charged are:

"(1) A car axle box lid, which consists of a plate of stamped malleable metal formed at the middle of its upper portion, with a bulge or swell, which terminates in a curved part at its upper edge, at which point the latter is split at J^2 , J^2 , each side of said swell, whereby the upper corner-edge parts are adapted to be turned to form the hinge eyes, substantially as described.

"(2) A car axle box lid, which consists in a plate of stamped malleable iron formed at the middle of its upper portion, with a bulge or swell, which increases in height towards the upper edge, and has the upper edge curved inward, with two transverse hinge eyes upon the upper edge and at both sides of said bulge or swell, and formed with a transverse slot at its lower end, and with a transverse slot or recess below said slot, substantially as described."

"(4) The combination of a car axle box formed with a perforated shoulder or projection at the upper edge of its opening, a lid formed at the middle of its upper portion with a bulge or swell, which increases in height towards the upper edge, and has said upper edge curved over said shoulder or projection, formed with two transverse hinge eyes upon the upper edge, and at both sides of said bulge, having a slot at its end, a pintle or hinge bolt passed through the eyes and the perforated shoulder, and a flat spring inserted through the slot, having its lower end secured by a suitable stop, and its upper end bearing against said shoulder or projection of the axle box, substantially as described.

"(5) The combination of a car axle box formed with a perforated shoulder or projection at the upper edge of its opening, a lid formed at the middle of its upper edge, with a bulge or swell, which increases in height towards the upper edge, which is curved over said perforated shoulder, formed with two transverse hinge eyes upon the upper edge and at both sides of said bulge, a slot at its lower end, and with a transverse recess below said slot, a pintle or hinge bolt passed through said perforated shoulder or projection, and through the transverse eyes of said lid, and a flat spring passed through the slot of said lid, and having its lower lipped end secured in the recess below said slot, and its upper end bearing against said shoulder or projection, substantially as described."

"(7) As a new article of manufacture, the herein-described cover or lid for car axle boxes, consisting of a blank pressed or stamped so as to form an upper central swell or bulge, substantially as and for the purpose described.

"(8) As a new article of manufacture, the herein-described lid or cover for axle boxes, consisting of a blank pressed or stamped so as to form an upper central swell or bulge, a lower transverse slot, and a recess or slot below said transverse slot, forming a stop, substantially as set forth."

The alleged infringing article is made under letters patent No. 521,231, dated June 12, 1894, and issued to Nathan A. Davis, for a lid for car axle boxes, and is used and sold by the defendants. This lid is identical in shape, form, and material with the Morris lid of

1890, with the exceptions that it does not have the transverse slot, through which the spring is inserted from the outside, and the recess below the slot in which the angled end of the spring is anchored. The specifications of the Davis patent describes a lid formed with a bulge to fit over the shoulder of the box, the shoulder being used as a socket for the bolt that holds the lid to the box. The corners



of the lid are pressed into shape to form hinge eyes. A stirrup is secured on the inside of the cover, and to hold the cover shut a spring is employed, one end being held by the stirrup, and the other end bearing against the face of the shoulder of the box. To secure the spring firmly on the cover, and to prevent its lateral displacement, a socket is pressed in the cover below the stirrup by which a shoulder is formed at the end of the socket, and the spring, being made with a turned-up end, is adapted to be fitted under and below the stirrup. When in position, the spring fits easily in the socket, and is securely held there by the turned-over end of the spring fitting neatly between the socket and the stirrup. The shoulder of the socket also forms a stop against which the end of the spring abuts, and prevents the spring from jarring down and freeing its upper end from the bearing on the shoulder of the box. The curved end of the spring is "hooked over the stirrup, and then brought into the groove in the inside of the lid, in which position the engagement of its hooked end with the stirrup of the lid effectually prevents it being driven upward, while the lower wall or end of the groove prevents its being forced downward, and the sides of the groove prevent its being moved to one side or the other." Among the advantages claimed for the Davis lid are that it is provided with an easily adjustable spring, which can be applied when desired without riveting and bolting, and which, when applied, is wholly within the axle box.

The defense is that the Davis lid does not infringe either of the patents in suit, because, (1) the Davis lid cannot be inserted to operative position after the lid is hinged to the box, which is a special object of the Morris invention; (2) that, whereas the Morris inventions consist of certain improvements for applying a spring to the outer face of the lid, the defendant's lid embodies a construction which requires the application of the spring to the inner face of the lid; and (3) that the Morris lid and spring are permanently secured together when brought into operative position, while the defendant's lid and spring are in no sense secured together, except when the spring is under the tension exerted by the horn of the box. And it is confidently asked whether infringement can be found where such obvious differences exist. But these differences do not relate to the main inventions of the Morris patents. The great improvements made by Morris were the means by which a spring could be attached to a box lid without the use of rivets, and thus allow a broken spring to be replaced without removing the lid from the box. This was the main feature of the first Morris patent. The next advance was to combine a rivetless spring which was inserted through the outside of a bulged and hooded lid, through which the spring could be inserted from the outside, and which, when closed, would more effectually protect the contents of the box from dust and grit. This was the improvement made by the second Morris patent, which is chiefly for a combination invention.

Now, the complainant claims that the defendants have only transposed the spring wholly from the outside to the inside of the box lid, while retaining the same three bearing points for the spring, namely, for its upper end the horn or projection of the journal box, the stirrup and shoulder at its lower end, with an intermediate point between the two. The stirrup in the Davis lid takes the place of the recess on the Morris lid for mooring the angled end of the spring, and these are the equivalents of, and were suggested by, the Morris constructions. Keeping in mind that the important feature of each of the Morris patents is the means by which a rivetless spring is attached to the box lid, the only inquiry as to infringement by the defendants of the Morris devices is whether the Davis lid uses the same or equivalent methods to obtain the same result. An examination of the comparative drawings contained in complainant's exhibits show very clearly that Davis has made an ingenious attempt to avoid infringement by placing the spring on the inside of the lid, and thus has done no more than to change the location of the spring, which operates in substantially the same way as the Morris contrivance. The fact that the Morris spring can be attached to the lid after the latter has been hinged to the box, while the Davis spring lacks this advantage, is of no consequence, since it is admitted that in practice the spring in the Morris lid is attached before hinging.

The defendants also deny that there is any novelty in the mode of anchoring the lower end of the spring in the Morris lid, the same or analogous devices, it is alleged, having been previously adopted and used in snap hooks and letter clamps. On examination, however, of the patents relating to snap hooks and the letter clamps, the mode of placing and holding the spring in position will be found to be different from that employed by Morris. In the letter clamp the spring is secured at both ends, and in the snap hooks the spring is wedged into its place. While it is true that Morris was not the first, broadly, to make use of a spring with a right-angled end for the purpose of engaging in a slot or a depression, to anchor the spring against longitudinal movement, he was undoubtedly the first one to see the adaptability of applying the spring in that manner to a car axle box lid, and thus applied it to a new purpose to produce a new result, which are evidences of invention.

It follows from what has been said that the Davis contrivance for attaching and securing the spring to the inside of a car axle box lid is a mere evasion of, and to that extent infringes, the patents in suit. But it is in evidence that bulged or hooded lids, made of cast iron, and applied to car axle boxes, were in use long prior to the dates of the patents in suit. This fact is clearly established by the testimony of Mr. Dayton, the complainant's expert:

"×Q. 16. * * * To resume, I will ask you with reference to the patent of March 18, 1890, whether or not you understand that Mr. Morris was the inventor of a box lid having the general conformation of the lid illustrated and described by him, apart from the material or way in which that box lid was produced. A. I understand that he was not the first to make a lid of that general form, apart from its manufacture from sheet metal. XQ. 17. Mr. Morris says (lines 22 to 34 of the specification) that the objects of his invention are threefold, and first he says: 'to provide a lid for car axle boxes in which a spring for closing said lid, and for keeping it closed, may be secured so as to bear against the shoulder of the axle box at the inner side of said lid.' You understand, do you not, that lids fully answering this description were old at the time of Mr. Morris' invention? A. They were old in patents at least. $\times Q$. 18. And you understand, do you not, that the third of Mr. Morris' objects, viz. 'to provide such a lid with a bulge or swell which may fit over the shoulder of the axle box, and form a comparatively tight joint for excluding dust from the box,' was also old? A. In cast-metal box lids, yes. $\times Q$. 19. The second and only remaining object which Mr. Morris states himself to have had in view was 'to provide such a lid with a slot and a stop for inserting and securing said spring from the outside of the lid after the latter has been properly hinged in place.' Do you understand that lids such as Morris refers to, apart from the question of the material of which they are made, had ever had this capacity before? A. I do not. $\times Q$. 20. And you clearly understand, do you not, that the defendant's lids do not have this capacity? A. I do." It is also in proof that the method or art of stamping various kinds of articles from sheet steel was well known and in use before Morrie made his box lids from that material, and it is well settled that the mere substitution of one material for another is not a patentable invention. Roofing Co. v. Smeeton, 9 U. S. App. 489, 4 C. C. A. 379, and 54 Fed. 385; Kilbourne v. W. Bingham Co., 6 U. S. App. 65, 1 C. C. A. 617, and 50 Fed. 697. In the last-cited case the court says:

"The use of wrought steel or iron in lieu of cast metal is a mere substitution of materials, which, whatever the degree of superiority given to the manufacture thereby, is not patentable."

It only remains to point out those claims which, in the opinion of the court, are infringed by the defendants. Claim 1 of the first Morris patent clearly comes within this category, since it specifically names the new devices for securely fastening the spring to the lid without the use of rivets. "The gist of the second Morris patent," as expressed in the opinion of the complainant's expert, "is the box lid having the bulge or swell to inclose the spring, and also having a mutual conformation of the lid and the spring, substantially as stated, whereby the spring once in place is securely held against any possible displacement, solely by said conformation of parts, and without rivets or similar fastenings."

Claims 4 and 5 of this patent include the old housing or bulge, combined with the spring-securing devices of the first Morris patent, and are clearly infringed by the defendants, who use a lid of the same form, with equivalent devices for attaching the spring. Without passing on the validity of claims 1, 2, 7, and 8, which are for a car axle box lid as an article of manufacture, independent of the manner of attaching the spring thereto, it is enough to say that there is not sufficient evidence to sustain a charge of infringement of these claims, because the defendants' lid does not have the transverse slot and the anchoring recess below, which are the only novelties in the Morris lid per se. The mode of forming the hinge eyes, if it can be ranked as an invention. is anticipated by Morris' patent No. 192,254, of June 26, 1877.

Let a decree be prepared in accordance with the foregoing opinion.

THOMSON-HOUSTON ELECTRIC CO. v. OHIO BRASS CO. et al. (two cases).

(Circuit Court, N. D. Ohio, E. D. July 18, 1896.)

Nos. 5,510 and 5,511.

1. PATENTS-CONTRIBUTORY INFRINGEMENT.

Parties who make, and advertise for sale in their catalogue, as an independent device, one part of a patented combination, which part is valuable only in connection with the other elements of the combination, are guilty of contributory infringement.

2. SAME-PRELIMINARY INJUNCTION.

Preliminary injunction granted against infringements of the Van Depoele patents, Nos. 424,695 and 495,443, covering electric trolley switching devices.