left by the evidence, at best, uncertain. However this may be, I am constrained to find from the evidence that before any change was made, and before November 20, 1891, the date of the delivery of the copies to the librarian of congress, a substantial number of complainant's books containing the defective copyright notice were sold and distributed to the public. Such copies certainly contained no copyright notice, within the meaning of the law; a defective notice being, in contemplation of law, no notice whatsoever. I am also constrained to find, from practically undisputed evidence, that at least three copies of the fourth edition of complainant's book, containing such defective copyright notice, found their way into the public use without ever having had any change made in the copyright notice. In addition to this, a fair inference could be drawn from the facts of the case that many more copies might have been so published. The evidence satisfying me of these last conclusions of fact consists of statements of witnesses, exhibits in the case, original invoices of sale made by complainant's publishers, and other facts and circumstances attending the first introduction of the book to the public. Such being the facts, there was a clear failure to conform to the requirement of the law to give notice of the copyright "by inserting in the several copies of every edition published" such notice. For this reason it must be held that complainant could maintain no action for the infringement of her copyright, if she were otherwise entitled to it. The foregoing conclusions render unnecessary any consideration of the issue raised as to whether the defendant made unfair or unlawful use of complainant's book. The bill must be dismissed.

EDISON ELECTRIC LIGHT CO. v. ELECTRIC ENGINEERING & SUPPLY CO.

(Circuit Court of Appeals, Second Circuit. December 1, 1897.)

PATENTS—INTERPRETATION OF CLAIMS—INFRINGEMENT—ELECTRIC LAMP SOCKETS.

The Bergman patent, No. 311,110, for improvements in sockets for electric lamps, is limited to improvements in details of construction and arrangement of parts, and is, therefore, to be narrowly construed; and, as the fundamental idea of the patent is that all the parts except the sleeve for engaging the base of the lamp are to be located below the disk of insulating material, which is to be interposed between them and the lamp terminals, there is no infringement in a socket having all these parts located above the disk so as to involve a reorganization in detail of all the parts. 72 Fed. 274, affirmed.

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

This was a bill in equity by the Edison Electric Light Company against the Electric Engineering & Supply Company for alleged infringement of a patent for improvements in sockets for electric lamps. In the circuit court the bill was dismissed after final hearing (72 Fed. 274), and the complainant has appealed.

Richard N. Dyer, for appellant.

Alfred Wilkinson, for appellee.

Before WALLACE, LACOMBE, and SHIPMAN, Circuit Judges.

PER CURIAM. This is an appeal from a decree dismissing the bill of the complainant in a suit to restrain infringement of letters patent No. 311,110, dated January 20, 1885, granted to Sigman Bergman, assignor, for "improvements in sockets for electric lamps." The patent relates to "sockets for use with those incandescent electric lamps whose terminals are a screw-threaded ring and a plate on the base of the lamp, the lamp being screwed into the socket, and making contact with corresponding terminals within the same." The advantages effected are stated to be as follows:

"The socket, constructed as described, is of a neat appearance, is very compact, has no useless mass of insulating material, being merely a metal skeleton with just enough insulation to support the terminals, all the circuit connections being carried by the single insulating disk, instead of being divided among two or more insulating portions as heretofore. The circuit controller, for making and breaking the circuit upon the lamp tip, employs fewer parts, and is simpler in construction, than any heretofore used. While it is very efficient in operation, the whole may be put together or taken apart with great readiness, the parts being easily separated."

It is insisted for the appellant that the circuit court erred in the conclusion that claims 1, 3, and 4 of the patent were not infringed by the incandescent electric lamp socket manufactured by the defendant. The appellee has not appeared or filed a brief in the cause, and the discussion of the patent in the opinion of Judge Coxe, who decided the cause in the court below, is devoted almost exclusively to those features which are the subjects of claims 9 and 13, and which were obviously regarded by him as the important claims of the patent. It is apparent upon the face of the patent that it is for improvements in details of construction and arrangement of parts, which, broadly considered, were old in themselves, and old in combination in electric lamp sockets. There were two forms of sockets in common use for connecting the lamp terminals with the circuit terminals. In one the socket was provided with a screw-threaded sleeve to engage a screw-threaded band on the lamp plate, and in the other was provided with a screw-threaded stud to engage with a screw-threaded sleeve in the lamp base. In each form the socket was a metallic case containing a disk of insulating material, the circuit terminals, and parts constituting the circuit controller, adapted to unite the circuit terminals electrically with the lamp terminals when the socket and lamp were screwed together. The area of invention occupied by the patent is exhibited by the following observations in the opinion of Judge Coxe:

"When it is remembered that in 1884 and 1885 all experiments along this line had to deal with a well-known lamp, and an almost equally well-known form of socket, which of necessity was required to conform to the changes made from time to time in the lamp base, it is plain that the area of action was necessarily circumscribed. For years both lamp and socket had been of a conventional type. Admitting that the material of the disk and the details of construction were new, is it not manifest that the assembling of these well-known elements in an old form of socket to receive an old form of lamp did not involve any high order of inventive skill, and that the combinations thus formed must be restricted to the mechanism shown? * * * If the broad construction contended for by the complainant were permissible, the defendant would unquestionably infringe, but with the limited construction made necessary by the prior art, and by the language of the patent, it is equally manifest that the defendant does not infringe."

Omitting various details of construction set forth in the specification, the patent describes a socket in which all the circuit controlling parts are located below the insulating disk. The disk has a central aperture, with walls extending about the upper surface. Mounted upon the disk, and rigidly attached to it, is a screw-threaded metal sleeve for mechanically holding the lamp, and forming one of the circuit terminals. The insulating disk is mounted upon a metal post sufficiently above the bottom of the metallic case to give space for the circuit controlling parts. To the under side of the disk is attached a plate, having a binding screw for one of the line wires, which plate is connected with the screw-threaded sleeve on the upper side of the disk by screws passing from the flange of the sleeve through to this plate. The other terminal socket is composed of an S-shaped spring, which is secured at one end to a metal piece depending from the under side of the insulating disk, and projects at its other end up through the aperture in the center of the disk to its upper side. The controlling key turns in the sleeve carried by the upright metal post which supports the insulating disk. At its inner end the key has an insulating tip, which presses against the center of the spring, and a cam on the end of the sleeve, engaging with a pin on the key, gives the key an inward movement as it is turned by the hand. This cam has a notch at its end, which holds the key at the limit of its inward movement; but when the key is turned backward, and released from the notch, the spring snaps back with a quick motion. The spring thus forming the bottom terminal of the circuit is the movable element of the circuit controller. Its range of movement is controlled by the aperture in the disk through which it operates to break and make contact with the plate terminal of the lamp. A binding screw attached to the metal piece which holds the spring serves for the connection of the line wire with it.

The three claims now in controversy are as follows:

"(1) In a socket for an electric lamp, the combination of two circuit terminals, —one a sleeve adapted to make contact with the band or ring terminal, the other a spring movable into and out of contact with the bottom terminal of the lamp, —substantially as set forth."

"(3) In a socket for an electric lamp, the combination, with a disk of insulating material, of a contact sleeve for making contact with the band or ring terminal of the lamp, a contact piece for making contact with the bottom terminal of the lamp, and two terminals for the circuit wires leading to the socket, all said socket contacts and terminals being carried by the said insulating disk, substantially as set forth.

"(4) In a socket for an electric lamp, having two terminals for making connection with corresponding lamp terminals, the combination of a metal supporting portion and a disk of insulating material carried thereby and carrying all the terminals and contacts of the socket, substantially as set forth."

The question of infringement upon the present appeal is confined to sockets similar to the exhibit, "Thomson-Houston Key Socket."

An element of both the first and the third claims is the sleeve adapted to make contact with the band or ring terminal of the lamp. We have no hesitation in concluding that the screw-threaded stud engaging the screw-threaded sleeve in the defendant's socket is practically the same thing as the screw-threaded sleeve engaging

the screw-threaded lamp base of the patent. As regards this feature of difference, it seems obvious that the one socket is merely a reversal of the other, and that there is only a colorable variation in the operative parts of the structures.

The first claim is for a combination of the contact sleeve with the movable spring. In view of the prior state of the art, and of the description in the specification, the claim cannot be read broadly to cover any kind of a spring movable into and out of contact with the bottom terminal of the lamp. The prior art shows various arrangements of springs for bringing socket and lamp contacts into electrical connection, and it was old to employ a movable spring as a switch connection between circuits. The specification describes the spring as follows:

"The two bent springs, m, m^1, are attached by rivets to the piece E. [E being a metal piece secured by screws to the under side of the insulating disk.] One of these, m, passes through the central aperture in the disk, A, and has its end, m^2, bent horizontally, passing through a slot or opening, n, in the lower portion of sleeve, B, and resting, when the circuit is open, upon the upper side of disk, A. Spring m^1 is a re-enforcing spring, to assist the action of the spring m. Through the sleeve, f, passes the circuit controlling key, which is a metal rod, o, having a thumb piece, F, outside the socket, and an insulating tip, p, which presses against the spring m. The insulating tip removes the key from the circuit. The key has a pin, r, which passes through the oblique slot, s, in sleeve, f, so that when the key is turned it presses against spring m, and throws its bent end, m^2, up against the plate terminal, m^3, of the lamp, which, when the lamp is screwed in, rests upon the central elevation, b, b [raised walls surrounding the aperture of the disk on the upper side], which prevents the terminal from touching the flange, c. The connection formed when the circuit is closed is a reliable spring contact, and one which allows the lamp to be turned in the socket without breaking connections. To close circuit, the key is turned until pin, r, rests in notch, t, and to open circuit the key is turned back from said notch, when m, m^1, spring back, bringing m^2 down upon the disk, A, again."

In the defendant's socket there is no re-enforcing spring. The spring is not conformed to do its work in the disk aperture, or pass through any aperture in the disk. It has no end passing through a slot or opening in the lower portion of the sleeve. It does not rest, and is not brought down when the circuit is open, upon the upper side of the disk. Its range of movement is not controlled by anything which is the equivalent of a disk aperture.

One of the elements of claim 3 is the movable spring of claim 1, but termed "a contact piece for making contact with the bottom terminal of the lamp." The defendant's socket does not have this device of the patent for the same reason that it does not have the movable spring of claim 1.

An element of the fourth claim is "the combination of a metal supporting portion and a disk of insulating material carried thereby, and carrying all the terminals and contacts of the socket." The "metal supporting portion" is described in the specification as follows:

"The disk, A, is supported from below by means of the flat metal ring, C, from which a part, D, extends up, having horizontal projections, e, e, to which disk, A, is screwed. The sleeve, f, for the circuit controlling key, extends inwardly from the part D. The ring or plate, C, upwardly extending part, D, and sleeve, f, are preferably all made in one piece."

The defendant's socket does not have this metal supporting portion.

It is apparent from the description that the basic idea of the patent, as regards the arrangement of the parts, is that all of them, except the sleeve for engaging the base of the lamp, are to be located below the disk, and the disk is to be interposed between them and the lamp terminals. It is this arrangement which necessitated the metal supporting parts of the disk, the aperture in the disk, and the construction and arrangement of the spring so that it would do its work in the aperture. All the details of construction necessary to the co-operation of the parts, as they are described, are adapted with a view to this arrangement. In the defendant's socket all these parts are located above the disk. The new location involved a reorganization in detail of all the parts, and permitted a simpler arrangement and construction generally. The disk itself was simplified by dispensing with the wall aperture. The metal supporting portion was dispensed with. The spring was not required to conform to the necessity of doing its work through the disk aperture. Doubtless, the socket of the patent was an advance upon the preceding structures, because of its compactness and comparative simplicity of construction. So, also, was the defendant's socket. Both were improvements only in matters of detail. We conclude that none of the claims are infringed, and that the decree should be affirmed.

WALDER v. ULRICH.

(Circuit Court, D. New Jersey. October 27, 1897.)

PATENTS—ANTICIPATION—LOOM FOR MAKING FRENCH HARNESS.

The Urbahn patent, No. 289,872, for an improved loom for making French harness, is void, because of anticipation.

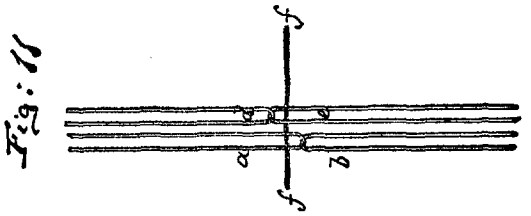
This was a suit in equity by Jacob Walder against Franz Ulrich for alleged infringement of a patent for an improved loom for making French harness.

A. v. Briesen, for complainant.

A. G. N. Vermilya, for defendant.

KIRKPATRICK, District Judge. This is a bill in equity, filed to obtain an injunction restraining the infringement of letters patent No. 289,872, granted December 11, 1883, to A. Urbahn, and by him assigned to Jacob Walder, the complainant, for an improved loom for making French harness. French harness has been long known and most extensively used in the art of weaving. It consists of a large number of heddles, each of which is composed of two interlooping threads, looped alternately equidistant above and below the plane of the center of the harness. A reference to Fig. 11 of the drawings of the patent shows a double thread suspended from the upper part of the heddle frame, through which a similar doubled thread that connects with the lower part of the heddle frame passes, the two doubled threads so interlocking and holding one another taut and secure. Every warp thread of the loom in which said harness is to be em-

ployed is first passed through the loop of one of these double-headed threads, where the point of interlocking is above the center line, and then through the loop of another, where the interlocking is below the center line; being thereby prevented, beyond certain limited play, from moving up or down, except as the two heddles which are raised or lowered simultaneously are moved. The necessity of bringing the supporting loops of the warp threads into exact alignment rendered the making of French harness by hand exceedingly difficult, and, from the requirement that each doubled thread be tied over and around the heddle frame or to a rig band of tape, there arose a liability to an irregularity in the plane of the loops and a variable tension on the heddle frames. The complainant's claim of invention relates to looms for making the kind of harness above described, and it consists more particularly in the combination of two shuttles traveling in circular interlocking tracks, with certain reciprocating pins; the shuttles being arranged to lay their respective threads around said pins, and thereby interlock the threads. "For example, one shuttle carries the thread, a, and the other the thread, b. The thread, b, will be carried through the track described by the shuttle laying the thread, a, and thus the two threads will be caused to interlock."



To accomplish satisfactory results, a machine for making French harness must be able to interloop the threads alternately above and below the center line of the heddle, to give them equal tension, and provide the means for uniting the threads firmly and uniformly at the ends. It was desirable that the heddles, instead of being fastened independently of each other to the heddle frame, should be woven into a selvage, which should take the place of the heddle frames. For this purpose, the complainant's machine provided warp threads extended along both sides, shuttles to carry the heddle threads and lay them around the reciprocating pins in the center, and which on their way back and forth should pass between the side warp threads in such manner as, when beaten up by two reeds on opposite sides moving together, they would be fastened so as to incorporate them into the fabric which has been called the "selvage." In laying their threads around the pins, the shuttles travel in eccentric tracks, and the amount of thread paid out by each is regulated by a light spring pressing against the bobbin, which is that part of the shuttle on which the thread is wound. The patentee states that "the main feature of my invention in my estimation, so far as I am acquainted with looms, is the use of the two shuttles traveling in interlocking paths, in combination with the inner abutting or loop-forming pins or needles, a^2 and b^2. How the motion of these parts is obtained seems immaterial."

Fig. 5

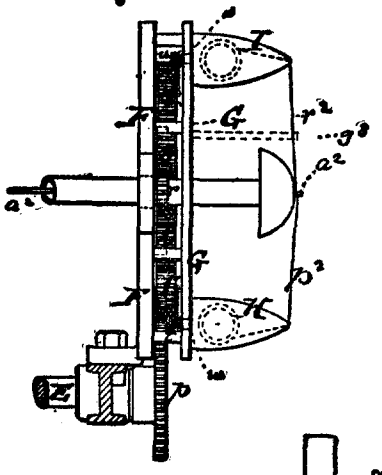
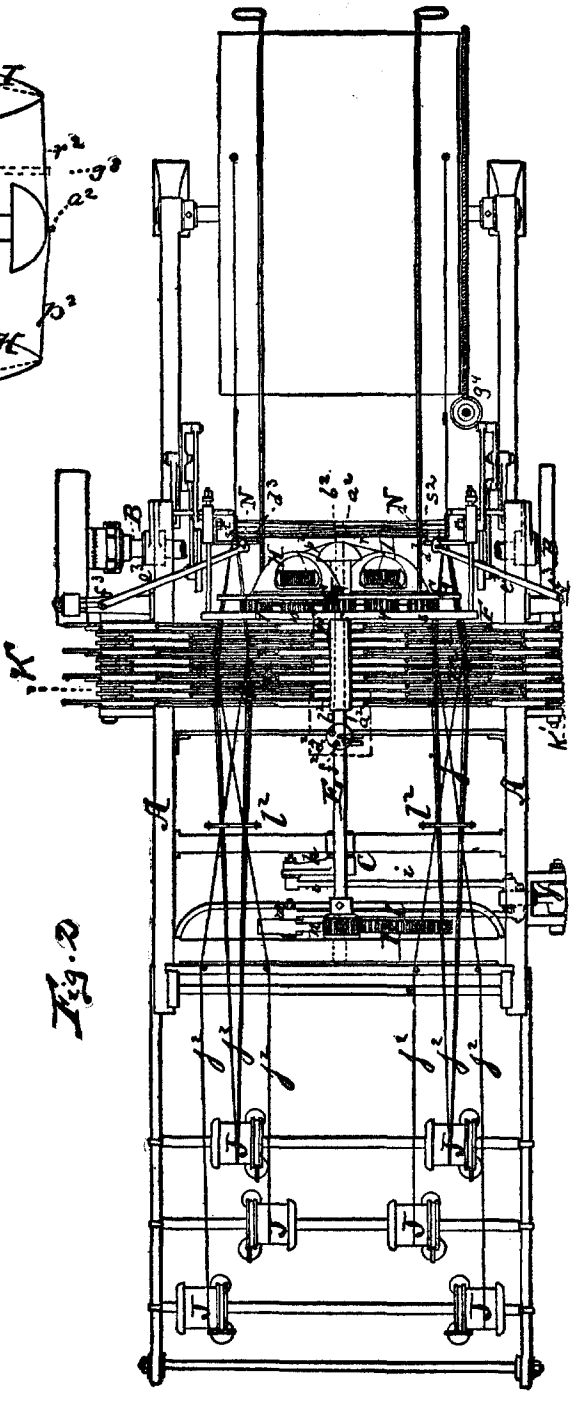


Fig. 2



The claims of the patent which are said to be infringed are as follows:

Claim 1: "The combination of the two shuttles, H and I, and mechanism, substantially as described, for moving them on tracks that cross each other in the same plane, with the pins or needles, a^2 and b^2, and mechanism, substantially as described, for moving said pins, and for moving the warp threads around which said shuttles are carried, substantially as herein shown and described."

Claim 2: "The shuttles, H and I, combined with mechanism, substantially as described, for moving them on tracks that cross each other in the same plane, in combination with the pins or needles, a^2 and b^2, and mechanism, substantially as described, for moving said pins or needles, mechanism for moving the warp threads, j^2, substantially as described, stretchers, N, N, and reeds, S^2, and means for operating the same substantially as specified."

The elements which are in combination in claim 1 are these: The two shuttles, H and I; the mechanism for moving them on the tracks that cross each other in the same plane; the pins or needles; mechanism for moving said pins; mechanism for moving the warp threads around which said shuttles are carried. The function of these several elements I find from the specification of the patent to be as follows: That of the shuttles to carry the bobbins from which the thread forming the heddles is unwound; that of the mechanism for the motion of the shuttles to move them on the tracks that cross each other in the same plane. The function of the pins is to form an abutment around which the thread carried by each shuttle is laid, and the mechanism for moving the pins is to cause them alternately to project in and be removed out of the path of the threads carried by the shuttles, H and I. A reference to the file wrapper shows that the original application for this patent was rejected at the patent office, because some of the claims were anticipated by the French patents issued to Tournier, No. 26,457, dated August 22, 1860, and No. 109,335, issued August 30, 1875, and another claim anticipated by United States patent No. 145,056, dated December 2, 1873; the patents issued to Tournier were for "improvements in the manufacture of heddles for weaving by means of looms modified for that purpose." Amendments were made upon the demand of the patent office. Claim 1, as originally filed, was amended so as to read as follows: "The two shuttles, H and I, combined with each other, with mechanism substantially as described for revolving them in tracks that cross each other in the same plane, and with means substantially as described for supporting and moving two sets of warp threads substantially as specified,"—and finally rejected; and claim 2a, for the combination of the shuttles, H and I, with mechanism substantially as described for moving them on tracks that cross each other with the pins or needles, a^2 and b^2, and with mechanism substantially as described for moving said pins or needles, was erased. The other claims were changed in form, and made more limited, so as to meet the requirements of the patent office, and avoid infringements upon machines of which the office had knowledge. It also appears that the separate claim for the combination of two shuttles traveling in circular interlocking tracks was abandoned. Among the erased claims we find the shuttles, H and I, combined with each other, mechanism for moving them on tracks that cross each other, the pins or needles and the mechanism for alternately producing them to form

the abutment around which the shuttles laid their thread. By the erasure of his claims to these combinations, the patentee has admitted that they were not his invention, and he cannot now claim them as his own. Lane v. Park, 49 Fed. 454; Railroad Co. v. Kearney, 15 Sup. Ct. 871; Knapp v. Morss, 150 U. S. 221, 14 Sup. Ct. 81. Hence it appears that all of the elements of claim 1 of the patent were old. Shuttles H and I, with suitable mechanism for moving them on tracks that crossed each other, had been combined with two sets of warp threads, and also with pins or needles and mechanism for moving them. The only additional requirement made by claim 1 of the patent is that the shuttles shall be moved on tracks that cross each other in the same plane.

There has been much difference of opinion expressed by the experts in the case, and discussion in briefs of counsel, in regard to the true meaning and interpretation of the phrase "in the same plane," as used in this connection. After a careful reading of the patent and specifications, and the testimony of the witnesses, as disclosed in the record, I am unable to come to any other conclusion than that it refers to the plane in which the shuttles are when their tracks cross each other. The record in this case discloses the prior existence, not only of two French devices for manufacturing harness of the kind made by the complainant's patented machine, but also another machine made by Urbahn for the complainant, Walder, in 1879, a working model of which has been produced, and called the "Urbahn 1881 Model." This machine was intended for the manufacture of French harness. Under the agreement for its construction, Walder was to pay for all work and material necessary to build the machine; Urbahn was to furnish the design and give his superintendence. If the machine turned out to the satisfaction of Walder, he agreed to pay Urbahn $500 for the same. When the machine was completed and in working order, Walder not only paid the agreed price of $500, but added $10 extra, "to show his entire satisfaction" with it. This machine was not patented, but remained in use in Walder's shop for two or more years; and Walder had another machine made after its pattern, and Walder says he showed it with pride. That it was a complete operating machine is not denied. That harness that was made on it was sold and used. Walder and Urbahn now say that complaints were made of the defective character of the harness, but no witness is produced who had bought the harness and says that he was not able to use it, while Eckerman swears that the harness turned out was as good as that made on the patented machine.

Upon an examination of the model of this anticipating machine, it will be found that it has in combination the two shuttles, H and I, in no way differing from those in the patented machine; that it has pins like those of the patent, and mechanism for moving them in substantially the same way. The shuttles are moved by mechanism on circular tracks, in the same plane, in such a way that the threads will be laid around the pins so as to interlock. It also has mechanism for moving the warp threads substantially as shown in the patent. The difference between the "1881 Model" and the patented machine is stated by the complainant's expert to be this:

"The one distinctive difference between the first Urbahn machine and the machine of the patent in suit is that in the early machine the shuttles did not move in interlocking tracks or paths, but moved in the one identical track or path."

In this opinion the defendant's expert is found to be in accord. He says:

"The first Urbahn machine differed from the machine of the patent in suit in the arrangement of the tracks or races in which the shuttles move, and in the mechanism by which they are caused to move; * * * the rest of the mechanism being in all substantial respects * * * identical with the machine of the patent in suit."

In both machines the shuttles moved in the same plane. To form the heddle in the old machine as well as the machine of the patent, it was necessary that the threads should be interlooped, and this could only be effected by the shuttles crossing each other's tracks or paths. Both the mechanisms of the old machine and the machine of the patent accomplish the same result, substantially the same way. The old "1881 Model" carries the weft or heddle threads through the warp on the sides, to and around the pins interlooping the threads as they go, and then brings them back to their own warp, and carries them through again. The patented machine does no more.

It is insisted on the part of the complainant that the produce of the 1881 model was an unsalable fabric, and that this was due to the faulty construction of the machine in the use of the single track on which the shuttles moved. Both of these propositions are denied by the defendant; but, if they be granted, I am of the opinion that with the knowledge of the mechanism of the 1881 model, which was free to the world, it required no more than mechanical skill to make the changes which would result in the patented machine in suit. All the elements of the patented machine were in combination in the 1881 model, and it did not require invention to substitute two shuttles moved on tracks that cross each other in the same plane, for the purpose of interlooping the threads which they carry, for two similar shuttles moving in the same plane on one track, in such manner as that the threads which they carry shall, by the crossing of each other's tracks, be similarly interlooped. Having come to the conclusion that the "Urbahn 1881 model" machine, which was free, was in anticipation of the one described in the complainant's patent, and contained in combination all the elements of complainant's claims, it is needless to consider what relation the Huber machine or the French machines bear to the patented machine in suit. For the reasons given, the bill must be dismissed.

J. L. OWENS CO. v. BRADLEY et al.

(Circuit Court, D. Minnesota, Fourth Division. November 10, 1897.)

PATENTS—INTERPRETATION AND INFRINGEMENT—COCKLE MACHINES.

The Lucas patent, No. 274,797, for an improvement in machines for separating cockle from grain, consisting in an endless belt carrying parallel slats downward over an inclined screen, so as to hold back the grain and cause it to roll in slight banks above the slats, and thereby allow the small seeds