secures some pressure from such curves in a portion of the screw and ribs, and the difference between the first construction and the last is a mere difference of degree, which produces an analogous and unpatentable result. Defendants' machine is not the machine illustrated, described, and claimed in the Baker patent. And while Baker does not limit himself to such structure, in the view herein taken of said patent he is not entitled to claim such a broad class of equivalents as would embrace the defendants' machine. The state of the prior art precludes him from claiming said construction, every feature of which is found in prior cutters, especially when it neither appropriates the form nor accomplishes the essential function of his device.

Counsel for complainant strenuously claims that the Baker patent is a pioneer patent. But the foregoing citations from the opinions of Judge Shipman show that the mechanical functions performed by the patent in suit were not, "as a whole, entirely new," but that Baker was "a mere improver upon a prior machine, which was capable of accomplishing the same general result." Machine Co. v. Lancaster, 129 U. S. 263, 275, 9 Sup. Ct. 299. Even the uniform cutting was obtained by Adams, as stated in his patent:

"And it will be seen that, as the openings have cutting edges, and pass the stationary cutters, the meat must be uniformly cut, and free from strings or long pieces."

I do not find, in the prior decisions of the courts, anything which indicates that Baker was a pioneer inventor. He made a simpler, cheaper, and better machine by the omission of certain preliminary cutters. The new evidence as to Adams serves a double purpose. It still further narrows the Baker invention, and supports the claim of noninfringement by these defendants, who, by practically adopting the Adams construction, and adding the forcing screw of Miles, have made a still simpler device consisting of two parts only. The defendants' machine, by reason of its selection and combination of elements shown in the prior art of meat choppers, by its close resemblance to such constructions, and by its radical departure in construction and operation from the vital and essential elements of the patented improvement, is so differentiated therefrom that it does not infringe.

These conclusions render it unnecessary to consider complainant's failure to prove its title to the patent in suit. Let the bill be dismissed.

PLATT v. BRYANT ELECTRIC CO.

(Circuit Court, D. Connecticut. February 14, 1896.)

No. 713.

PATENTS—INVENTION—PRIORITY—ELECTRIC SWITCHES.

The Platt & Orford patent, No. 427,521, for an electric switch for opening and closing electric circuits, and which relates to devices for insuring contact with the terminals thereof, and covers a combination whereby the contact bar is cam-actuated in one direction and spring-actuated in the other, *held* invalid, because apparently wanting invention in view of the prior state of the art, and because of priority of invention by one Bryant.

This was a bill by O. S. Platt against the Bryant Electric Company for alleged infringement of a patent relating to electric switches for opening and closing electric circuits.

Chamberlain & Newman, for complainant.
A. M. Wooster, for defendant.

TOWNSEND, District Judge. The bill herein charges infringement of the fourth claim of patent No. 427,521, granted to O. S. Platt and J. M. Orford, May 6, 1890, for an electric switch for opening and closing electric circuits. Complainant owns the patent, and defendant has infringed said claim. The alleged invention relates to devices for insuring contact with the terminals of such switches, and covers a combination whereby the contact bar is cam-actuated in one direction and spring-actuated in the other. The defenses are invalidity, because the patentees were not the first inventors of the patented device, because it was in public use and on sale for more than two years prior to their application, and because of the prior state of the art. The defendant makes its switches under patent No. 391,943, granted to Waldo C. Bryant, October 30, 1888. Of the elements enumerated in complainant's fourth claim, the contact bar, the washers, and the ferrules are substantially identical with those shown in defendant's prior patent. The terminals also were old. The only novel element in complainant's combination is the broadly U-shaped plates. They preferably comprise an inner plate of German silver, designed to furnish the required resiliency, and an outer plate of pure copper, on account of its high conductivity. Complainant admits that it is not limited by said claim to the use of either German silver or brass. Patent No. 398,560, granted February 26, 1889, to Weller and Rietzel, which was cited as a reference to the original claim for such plates, shows a combination of a plate of soft copper and a spring of phosphor bronze attached to the base of the switch, and designed to secure the advantages of conductivity and resilience. The use of materials differing in conductivity and resilience in other electrical devices was well known in the prior art. The patents to Warren S. Hill, No. 398,510, granted February 26, 1889, and No. 406,906, granted July 16, 1889, the applications for each of them being prior to the alleged invention of the patent in suit, show terminals of substantially the same construction as that of the patent in suit, and contact bars provided with inner plates of brass and outer plates of copper. These switches were made, sold, and publicly used as early as 1887. The contact bars moved in the arc of a circle. The contact bars of the patent in suit move vertically. The plates were bent around rectangular-shaped blocks of insulating material into the shape of a U, or a V with the point squared. The plates of the patent in suit were curved into this U-shape, not bent. In these respects alone is there any material difference between said devices. From these differences there result, in complainant's device, greater resilience, and such a flexible sliding contact with the rigid terminals as insures a simultaneous contact, not at a point, but along a horizontal line, and uniformly and evenly increasing in width until such contact is effected with the whole outer

surface of the plates, whereby sparking is avoided. Did these useful improvements, in view of the advantages thereby secured, involve invention? If, in these respects, the structure of complainant were different from those of the prior art, a more difficult question would be presented. But some months prior to the alleged invention, Bryant, the patentee of defendant's patent, constructed a switch having flexible copper contacts attached to a base and vertically operating bars. As this element of vertical movement is the prime factor in securing the advantages to be derived from complainant's construction of curved plates, the other element of the broadly U-shaped plates is relatively subordinate, and comparatively unimportant. If there be a substantial difference between the prior art, as shown in the rounded plungers and bent plates of Weller and Rietzel, or the bent plates of Hill, and complainant's curved plates, and if curved plates possessed greater resiliency or caused a firmer contact, the skilled workman would adopt such a modification without the exercise of the faculty of invention, and without thereby securing any novel or nonanalogous results.

I have not referred to the claim that the metal ferrules upon the insulating material on the contact bar perform the novel and important function of taking up a portion of the electricity, and thereby cutting down the resistance of the circuit. The patent not only makes no reference to such function, but merely describes them as "preferably of conducting material surrounding the caps." The statement by complainant's expert of the method in which the alleged function is performed shows that, if true, the result, at most, is trifling and immaterial. Furthermore, if complainant's ferrule does theoretically or practically perform such function, it does not appear that the same function would not also be performed by the similar construction shown in defendant's patent. These conclusions, derived from a comparison of the claims of the patent with the state of the prior art, would dispose of the case were it not for the uncontradicted evidence of the commercial success of complainant's switch. It has therefore seemed necessary to examine the second defense, which, assuming that said device required invention, is based upon the claim that Bryant, defendant's assignor, was the first inventor thereof. The complainant claims that Platt and Orford studied over the subject together, and that on August 24 or 25, 1888, Platt first completed a switch embodying the invention covered by the claim in suit. The application for the patent in suit was made October 8, 1889. In December, 1888, Bryant completed a model embodying the construction herein claimed, and showed it to said Orford. January 14, 1889, the New England Electric Supply Company, through said Orford, gave Bryant a contract to supply it with 500 of said switches. But the existence of the alleged completed switch of August, 1888, was not otherwise proved than by the oral testimony of Platt and two pocket memoranda. Platt does not know what became of it, but his "impression is that we used parts of it to make other experiments later." He took no steps towards the development of said invention till July, 1889, when he made a model alleged to be exactly like that of 1888, as he says, "in

order to show Mr. Orford that I could make a practical switch, as well as for my own satisfaction." On the other hand, in the contract of January 15, 1889, with Orford and a Mr. English, Bryant says: "I hereby agree that the exclusive and entire sale of my switch" shall rest in the hands of said company. Orford was not called either to support Platt's claim of their prior conception and reduction to practice, or to explain said contract, or to corroborate the claim that Bryant worked under his instructions. This latter claim is unsupported by any sufficiently definite evidence. Complainant, therefore, has failed to prove either a prior completed conception or reduction to practice, or Orford's connection with the Bryant model. Walk. Pat. (3d Ed.) § 76, and cases cited. Let the bill be dismissed.

JACKSON et al. v. BIRMINGHAM BRASS CO. et al.

(Circuit Court, D. Connecticut. February 21, 1896.)

No. 770.

1. PATENTS—INFRINGEMENT.
   A patent covering a process for converting smooth, seamless, sheet-metal tubing into spheroidal bodies, by swaging and upsetting them by endwise compression between dies having the form of the body to be made, is not infringed by a process of forming spheres from corrugated tubes by compressing them endwise in dies of the proper shape, where the changes of shape are made solely by the folding or unfolding of the corrugations, without any upsetting of the metal.

2. SAME—ESTOPPEL—EXPUNGED DISCLAIMER.
   A patentee is not estopped by an original disclaimer which is afterwards stricken out, but the same may nevertheless be considered for the purpose of ascertaining the inventor's conception of the true nature of his invention, and what was new and what was old.

3. SAME—PROCESS OF FORMING HOLLOW SPHEROIDAL BODIES.
   The Jackson & Burkhardt patent, No. 378,412, for a method of forming hollow spheroidal bodies from sheet-metal tubes, construed, and *held* not infringed, as to claim 1.

This was a suit in equity by William H. Jackson and others against the Birmingham Brass Company and others for alleged infringement of a patent.

Witter & Kenyon, for complainants.

George A. Fay, C. E. Mitchell, and H. B. Brownell, for defendants.

TOWNSEND, District Judge. The complainants herein, by the usual bill, ask for an injunction and accounting because of the alleged infringement by defendants of the first claim of complainants' patent, No. 378,412, granted to them and John Burkhardt, February 21, 1888, for a "method of forming hollow spheroidal bodies from sheet-metal tubes." The claim in suit is as follows:

"The process herein described of forming hollow spheroidal bodies from thin sheet-metal, oblate at their extremities, which consists in first forming the metal into a tube, then placing a short section of said tube between two dies having the form of the body to be made, and compressing the tube in the said dies."