

rights for their use, were at once sought by manufacturers and metal workers; and it is unquestioned that the process had extended to an important share of the welding of metals throughout the country when the defendants entered upon its use. With an asserted invention of this character and utility, and operation under it firmly established since 1888, and to a considerable extent supplanting the older methods, I am satisfied that there is a sufficient showing of public acquiescence, and that "there arises such presumption of the validity of the patent as to entitle them to a preliminary injunction to restrain its infringement, unless the party sought to be restrained can clearly show its invalidity." *Blount v. Société Anonyme*, 3 C. C. A. 455, 53 Fed. 98; *Sargent v. Seagrave*, 2 Curt. 553, Fed. Cas. No. 12,365; *Sessions v. Gould*, 49 Fed. 855; 3 Rob. Pat. §§ 1185-1188.

The remaining question is whether the defense have given a clear and convincing showing (1) that the invention was merely the double use or analogous use in the art of a process previously known; or (2) that it was fully disclosed in previous publications or patents, and actually practiced, as a welding operation, prior to these patents, which should be held to overcome these presumptions, and the re-enforcing affidavits produced by complainants. Great research and ingenuity appear in this defense, but I am constrained to the opinion that neither proposition is maintained, to the degree required for preventing an injunction, and that their determination must be postponed to final hearing. They present the story frequently interposed against valuable patents, of laboratory experiments, of announcements, and of patents which may have come to the verge of this discovery; but the demonstrations are not clear, and the important fact stands in their way that they do not appear to have accomplished the electric weld which is shown by Thomson. The employment of heat and pressure for the operation of welding metals is old, and it was long known that heat could be obtained by the application of an electric current. These were not Thomson's discoveries; but he found a method for employing the electric current, localizing the heat at the joint to be welded, and applying simultaneously the requisite pressure, so that the separate pieces of metal could be properly united. I am not satisfied, for the purposes of this motion, that he was anticipated in this by Despritz, Joule, Plante, Cruto, or any of the patents shown, or by any experiments of Daft or Johnson. In this view the complainant is entitled to an injunction pendente lite against infringement of letters patent Nos. 347,140 and 347,141, and injunction will issue thereupon. With reference to letters patent No. 385,022, all determination will be postponed to final hearing.

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PAYNTER et al. v. DEVLIN et al.

(Circuit Court, E. D. Pennsylvania. May 22, 1894.)

1. PATENTS—NOVELTY AND INVENTION—STEAM-PIPE UNIONS.

In the construction of steam-pipe "unions," the substitution, for members having flat, hard-metal, ground surfaces, or unground surfaces

adapted to be used with rubber or leather gaskets, of members having concave and convex abutting surfaces, one of hard metal and one of soft, forming, in effect, a ball and socket joint not dependent for perfect contact on the accurate alignment of the pipes, constitutes patentable novelty and invention.

2. SAME—INFRINGEMENT.

The Paynter patent, No. 367,725, for a "union" for steam pipes, held valid and infringed.

This was a bill in equity by Edward P. Paynter and John K. Moore against Thomas Devlin and others, trading as Thomas Devlin & Co., for infringement of a patent. On final hearing,

Connolly Bros., for complainants.  
Hector T. Fenton, for defendants.

BUTLER, District Judge. The suit is for infringement of claim 1 of letters patent issued to E. P. Paynter, Jr., for steam-pipe "unions," numbered 367,725, dated August, 1887.

The claim reads as follows:

"A union for steam pipes, comprising a threaded ring or nut, a member having a seat of soft metal with a concave face, and an opposite member with a rounded or convex end, substantially as shown and described."

The validity of the patent and the charge of infringement are denied.

The plaintiffs' expert, Mr. Brown, has described the state of the art, and the invention claimed, so satisfactorily, that we will adopt what he has said on this subject:

"The invention of the patent in suit relates to what is known in the art as a 'union' for pipes. The purpose of a union is to join together the adjacent ends of two pipes through which steam, water or other gases or liquids are to traverse. The purpose of the union, besides joining together the ends of the pipes, is also to render the joint gas and liquid tight under all contingencies. The union upon which the invention of the patent in suit is an improvement consists of three parts, as follows: First, a head member, which is constructed to be screwed upon or otherwise attached to the end of one pipe; second, a tail member, which is constructed to be screwed or otherwise attached to the second pipe; and, third, a ring or nut which fastens the tail and head members together. This fastening ring or nut is slipped over either the tail member or the pipe to which said tail member is secured, and it joins the two members together by screwing upon the head member and drawing the two members tightly together by means of a flange forming part of the ring or nut which abuts against a flange of the tail member. When the tail and head members are thus drawn together by means of the fastening ring or nut, their respective ends are brought into contact with each other, and the perfectness and tightness of this contact determines the character of the joint thus made. If this contact is entirely perfect throughout its entire extent, then the joint would under ordinary circumstances be gas and liquid tight, so that no leakage would occur. An imperfection in the perfectness of the contact, however, would result in leakage. The utility, therefore, of a union of this character depends upon the character of the joint which is formed between the abutting ends of the head and tail members. Unions of this character are not intended to be permanent coupling devices between the pipes which they connect, but they are employed in cases where it may be from time to time necessary or desirable to disconnect the pipes which the union joins. Consequently, if the union is to possess merchantable utility, it must be one which will not only make a gas and liquid tight joint when put together for the first time, but it must also maintain the perfectness of the joint when repeatedly fastened and unfastened.

Obviously this renders the maintenance of a perfectly tight joint a matter of difficulty as well as of importance. Prior to the date of the patent in suit a large number of expedients had been devised for the purpose of maintaining a gas and liquid joint in union. As far as I am aware, however, only two of these expedients have met with any general acceptance and adoption, and in order to explain the improvement introduced by the patent in suit it will be sufficient, I believe, to refer to these two widely adopted expedients.

"The first of these expedients to which I shall refer was to make the abutting ends of the two members of the union of hard metal and to grind them to exact trueness, so that when the two members were forced into contact their two abutting faces should exactly fit together. Several serious objections, however, exist in a union thus made. In the first place, it is a matter of considerable difficulty and one requiring considerable skill to thus grind the two abutting faces so that they shall fit with exact trueness. As a consequence a union thus made is expensive. Practically, also, it is impossible to secure the exact longitudinal axial alignment of the two pipes which are joined together. Ordinary pipes, such as are usually employed for the conveyance of gases and liquids, are roughly and economically made, so that they are rarely perfectly straight, and as the result the longitudinal axial alignment of two such pipes is difficult to secure. The result is that when the tail and head members of the union are placed upon the adjacent ends of two pipes, they are rarely exactly opposite to each other with their adjacent faces exactly parallel. The result is that when the two members of the union are brought tightly together by the action of the fastening ring or nut, contact is not made throughout the entire extent of the abutting faces of the two members of the union. The result is that one of two things usually happens; either a perfectly gas and liquid tight joint is not secured, or if it is secured, for the time being it is only done so by the partial indentation of the face of one member of the union into the face of the other member of the union at the place where the two members of the union first come into contact. The result of this indentation destroys the further utility of the union if the pipes are disconnected and it is sought to again use the union, since it is practically impossible to insure the two members so coming together again the second time under the precise conditions which existed when they were first brought together and so that the imperfection caused in the face of one member shall exactly coincide with the corresponding imperfection in the opposing member. In this connection, also, attention may be called to the fact that it is the usual practice of those who put up pipes to first place the pipes in position, and to then apply the union. In order to thus apply the union it is necessary to spring in succession the adjacent ends of the two pipes out of alignment in order to secure the members of the union to the ends of the pipes, and this springing the ends of the pipes out of alignment adds to the practical difficulty of securing the exact longitudinal axial alignment of the two pipes when the two members of the union are forced together by the fastening ring or nut. I might also add at this point that the fastening ring or nut fits loosely over the tail member of the union, so that it is possible to screw the same tightly upon the head member of the union without bringing the abutting faces of the two members of the union into contact throughout their entire extent, so that where ground faces are relied upon to render the joint tight the application of very great force to the fastening nut or ring is frequently necessary.

"In order to avoid and overcome the objections to ground faces which I have mentioned, the second expedient to which I have alluded has been resorted to. This second expedient consists in interposing between the abutting faces of the two members of the union, washers or gaskets of rubber, leather or fibrous material. Such washers or gaskets compensate for irregularities which may exist upon the abutting faces of the two members of the union, and also for variations from exact alignment of the pipes. New difficulties, however, result from the employment of such washers or gaskets. In the first place, the presence of a washer or gasket in a union doubles the number of joints to be kept tight. Instead of there being only one joint between the abutting faces of the two members of the union there are two joints introduced; that is to say, one between the annular washer and the tail member,

and a second joint between the annular washer and the head member of the union. In the next place, frequent fastening and unfastening of the union results in destroying the elasticity of the washer or gasket, and rendering it hard and incapable of conforming to irregularities in the abutting faces of the members of the union, the result of which is a leaky joint. In the next place, if a washer is employed having rubber in its composition the heat of the steam, if steam is passed through the pipes, destroys the integrity of the washer. In the next place, such washers or gaskets deteriorate rapidly under the action of the liquids or gases which traverse the pipes. This is particularly the case in some instances, as, for example, where ammonia gas or an ammoniacal liquid traverses the pipes. And, again, since these washers or gaskets are necessarily elastic, they are frequently expanded inwardly by the compression which they undergo so as to partially obstruct or throttle the internal passage through the union, thus interfering with the proper passage of the liquid gases.

"The improvement introduced by the patent in suit is designed to overcome all of the difficulties which I have alluded to, and in my opinion the patented improvements are exceedingly effective in accomplishing their objects. The union of the patent in suit comprises, as is usual, head and tail members, and a fastening ring or nut. On referring to the drawing of the patent in suit, it will be seen that the head member is lettered A, the tail is lettered C, and the fastening ring or nut is lettered B. The improvement consists in the relative construction of the abutting faces of the two members of the union in a union of this character. One of the members of the union has its abutting end made convex, and the other member has its corresponding abutting face made concave, so that when these two abutting ends are brought together a joint analogous to a ball and socket joint is produced. As the result of this construction the abutting faces of the two members are brought exactly together, even if the two pipes to which they are attached are not in alignment. Also the abutting face of one member of the union is made of soft metal, while the abutting face of the other member of the union is of hard metal. As the result of the employment of soft metal for one face of one member, when the two members are brought together the soft metal yields sufficiently to accommodate itself to any irregularity which may exist in the abutting face of the opposing member. The soft metal which is employed may be lead or any of the well-known soft alloys, which are usually composed of lead, tin and antimony. The hard metal constituting the opposing face is conveniently and usually the metal of which the union is composed, such as malleable iron, which is the material commonly employed. The soft metal which is employed may be regarded as taking the place of the old annular gasket or washer, but it has conspicuous and marked advantages over such gaskets or washers. In the first place, this soft metal face can be permanently secured to one member of the union so that it is always in place when needed, and so that no joint susceptible of possible leakage is formed between it and the member to which it is secured.

"Again, the soft metal does not deteriorate under the action of such liquids or gases which are conveyed through the pipes. And still, again, it is always ready to accommodate itself to irregularities in the face of the opposing member, irrespective of any variation in the position thereof.

"In the particular embodiment of the invention which is illustrated in the patent in suit, the head member of the union, which in the patent is called the female member and is lettered A, is the member which is provided with a concave abutting face, and this concave face is furnished with or formed of the soft metal which is lettered D. And the tail member of the union, which is called in the patent the male member and is lettered C, is provided with the convex end or abutting face, which is of hard metal."

The proceedings in the patent office show that the letters were granted after a careful examination of the state of the art, in which nearly everything urged here was considered. Without entering upon a discussion of the subject, it is sufficient to say that we have not found anything which repels the presumption arising from these proceedings.

The device is very popular and has largely displaced all others previously in use. Its utility is not questioned; nor is its novelty denied, except in a patentable sense. The novelty consists in the spherical form of the connecting parts which make the joint, and the arrangement of the hard and soft metals; principally in the former, which renders the device especially adaptable to pipes out of axial alignment, and to repeated use. In our judgment it shows invention, and was justly entitled to a patent.

The defendants' manufacture, complained of, is not materially different. It is a combination of the same elements, for the same use, and accomplishes the same result. It shows immaterial mechanical differences, but nothing more. As we have seen, the plaintiffs' consists of a head piece with convex exterior surface of hard metal, a tail piece with interior concave surface of soft metal, and a coupling nut. The defendants' has a head piece with convex face of soft metal, and a tail piece with concave face of hard metal, and the coupling nut. The only difference consists in a slight transposition of parts, and is immaterial in any possible construction of the claim.

The defendants' effort to justify their conduct under a subsequent patent, which they own, is unavailing; and would be if their manufacture was covered by this patent. But we think it is not so covered, that the patent describes and claims an essentially different device.

Let a decree be prepared in favor of the complainants accordingly.

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#### MAITLAND v. GIBSON.

(Circuit Court, E. D. Pennsylvania. June 19, 1894.)

##### 1. PATENTS—COMBINATION—ELECTRIC-LIGHT FIXTURES.

In view of the prior state of the art, there is no invention in a combination comprising an electric-light fixture supported from the piping of a house, and electrically insulated therefrom by an insulating joint.

##### 2. SAME.

The Stieringer patent, No. 259,235, for an "electrical fixture," held to be without patentable combination, as respects claims 1, 7, 8, and 9.

##### 3. SAME—MECHANICAL UNION OF PARTS.

The Stieringer patent, No. 294,697, for a combined gas and electric light fixture, held void as to claims 1, 2, 8, and 9, as showing a mere mechanical union of parts, without patentable combination.

This was a bill in equity by George Maitland against Alfred C. Gibson for infringement of certain patents for electric-light fixtures. On final hearing.

Dyer & Seeley and D. H. Driscoll, for complainant.  
Hector T. Fenton, for defendant.

DALLAS, Circuit Judge. This bill charges the defendant with infringement of two patents granted to Luther Stieringer,—No. 259,235, dated June 6, 1882, for "electrical fixture," and No. 294,697, dated March 4, 1884, for "combined gas and electric light fixture."