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820/066/86

PATENTS ACT 1977

IN THE MATTER OF a reference to the
Comptroller under Section 8 by
Fulton (TI) Limited of a question
concerning the entitlement to
Patent Application 8201723 (published
and granted under the number 2091867)
in the name of Robert Bion and
Company Limited

and

IN THE MATTER OF an opposition thereto
by Robert Bion and Company Limited

DECISION

The referrers, Fulton (TI) Limited, referred to the Comptroller under Section 8(1)(a) the question of whether they are entitled to be granted, alone or with Robert Bion and Company Limited, hereafter 'the opponents', a patent issuing from patent application 8201723, or to any right in or under it. Specifically, they sought an order under Section 8(2)(c) to amend the application to exclude any reference to certain matter therein which they claimed to have originated, and coupled this with a request to be allowed under Section 8(3) to file a new application for the matter so excluded. Alternatively they requested that they should be named under Section 8(2)(a) as co-applicants.

Subsequent to the filing of the reference, a patent has been granted on the application under number 2091867, and by virtue of Section 9 the reference is therefore treated as having been made

under Section 37. No amendment of the pleadings in consequence of this to revise the nature of the order sought had been made prior to the hearing before me on 14 March 1986 at which Mr Guy Burkill appeared as Counsel for the referrers and Mr John Baldwin as Counsel for the opponents. However at the hearing Mr Burkill proposed that the referrers should be named under Section 37(2)(a) as co-proprietors of the patent, or alternatively that they should be granted under Section 37(2)(c) a licence or other right in or under the patent.

Before the hearing, and after the normal rounds of evidence provided by Rules 7(4) and (5) of The Patent Rules 1982, both parties sought to have admitted under Rule 7(6) further evidence in the form of statutory declarations and supporting exhibits. There being no objection from either side I formally admitted these items into the proceedings at the hearing. Further exhibits were also submitted by both parties at the hearing. Again no formal objections were raised and I admitted the items.

Patent application 8201723 was filed on 21 January 1982 by the opponents. It declared a priority date of 23 January 1981, the date of filing of an earlier application 8102122 by the opponents, later withdrawn. A Form 7/77 was filed naming Walter Robert Hardman Bion as inventor, and declaring the opponents' right to apply for a patent by virtue of an agreement. Application 8201723 was published under Section 16 on 4 August 1982 under Serial No. 2091867, and a patent was granted on 20 March 1985.

The invention is concerned with refrigerator heat exchangers of the type in which a tubing element for coolant fluid is attached to a perforated metal sheet. For convenience I will refer to this as the 'tube-to-sheet' type. The specification acknowledges that the use of an 'expanded' or 'louvred' metal sheet for such an application is known, but proposes replacing such a sheet by one having rows of spaced perforations, each formed by displacing

the material of the perforation and turning it back to one side of the sheet to lie around the periphery of the punched aperture.

The tubing is attached to the sheet along unperforated strips located between areas of perforations. In claim 1 as granted this attachment is achieved by spot-welding. The use of the particular form of sheeting is said to combine the advantages of simple construction, ease of production and good heat conduction and exchange properties with simple means of attachment to the tubing. Rigidity to bending and the absence of wastage of metal are also mentioned. The sheeting, referred to in the pleadings and evidence as 'Biomet', is a product of the opponents, and its manufacture, without the feature of the unperforated strips, is the subject of British patent No. 1312053 in the name of the opponents, published in 1973.

In the specification of the patent in suit the preferred method of spot-welding the tubing to the unperforated strips comprises carrying out the welding at localised points in the form of projections formed along the length of the strips by indentations, this feature forming the subject of appendant claim 3. The specification states, though, that it is possible to spot weld the tubing at spaced locations to the flat strip or to form the strip with a channel in which the tube is laid and then welded. The tubing may be positioned between and welded to two staggered lines of projections, or may be pressed into and to a major extent embraced by a deep channel. A second strip may sandwich the tubing, being welded or otherwise connected to the strip on the sheet. It appears to me that certain of these embodiments do not involve spot-welding, or even welding at all, and therefore lie outside the scope of claim 1. They are, however, apparently embraced by omnibus claims 8 and 9.

Claims 1 and 3 of the patent as granted read as follows:

- (1) A heat exchange unit for a refrigerator, the unit comprising a perforated sheet of metal material to

which a tubing element is attached, characterised by the sheet material having a plurality of longitudinally extending lines of regular spaced perforations, wherein the material of each perforation has been displaced and turned back to one side of the sheet to lie around the periphery of the punched aperture, the sheet further including un-perforated strips between areas of said longitudinal lines of perforations, the strips supporting the tubing which is attached thereto by spot-welding.

- (3) A heat exchanger in accordance with claim 1 or 2, characterised by the un-perforated strips including a longitudinal series of protruberances formed by indentations, the tubing being secured to the strips at the location of the protruberances by spot welding.

It emerged at the hearing that the issues to be decided centred principally upon who it was conceived the idea of forming protruberances in un-perforated strips in the sheet. It will be seen that the strips feature in claim 1 whereas the protruberances are relegated to claim 3. However most of the evidence and certainly most of the argument at the hearing was directed to the question of who proposed the use of the protruberances and I propose therefore to deal with that first.

The referrers freely admit that Mr Bion, Managing Director of the opponent company, first proposed welding tubing to his company's Biomet sheeting to make refrigerator heat exchangers. The main thrust of their case for relief is, however, that their own Managing Director Mr Cooper originated the idea of using projections to facilitate the welding (so-called 'projection welding'). They claim that Mr Cooper was therefore joint inventor with Mr Bion of the invention the subject matter of the patent in suit. Mr Burkill described that as the placing

together of two halves of a jig-saw puzzle in order to make a complete picture. It is on the strength of Mr Cooper's alleged contribution to the picture that the referrers claim as their preferred relief that they should be made co-proprietors of the patent. The opponents contest this, claiming that it was Mr Bion who first proposed the use of projections, and suggested it to Mr Cooper.

In addition to the evidence on file, I also had the advantage of hearing both Mr Cooper and Mr Bion under cross-examination as to their respective understandings of the facts.

Both parties' interests in matters related to the issue in dispute prior to the first discussions between them (the coming together of the two halves of the jig-saw, if Mr Burkill's analogy is valid) emerge from the evidence, and do not appear to be in dispute. In particular, the referrers have established that they had been active for some years in the development of heat exchangers for refrigerators, including the tube-to-sheet type. In July 1979 they had purchased three resistance welding machines, and although these were initially intended for 'tube-to-wire' heat exchangers, in which the coolant tube is simultaneously spot-welded to an array of wires set transversely to the tube runs, the possibility of using them for the tube-to-sheet type was also being examined between September 1979 and June 1980. In one of the exhibits (BCS 42) filed during the course of the hearing the referrers have established that in March 1980 Mr Cooper indicated in correspondence with a representative of another member company of the TI Group that the referrers were at that time considering tube-to-sheet heat exchangers using spot or projection welding to attach the tubing to the sheet. None of these developments, however, involved the use of the opponents' Biomet material. In the meantime, and quite independently, the opponents had been considering the possible use of their Biomet sheeting for refrigerator heat exchangers. For example, as early as September 1977 Mr Bion

wrote to Kings Patent Agency suggesting spot-welding tubing to Biomet for this purpose.

Since the order of events at and immediately following the first discussions between the parties is crucial to the determination of who originated the idea of using projection welding to secure tubing to Biomet sheeting, it will be convenient to set out a brief schedule of events for the critical period as derived from the evidence.

- 24 July 1980 The first substantive contact between the parties took place. Mr Bion and Mr Croft, co-directors of the opponent company, visited the referrers' premises at Telford and met Mr Cooper and Mr Selley, the referrers' Works Director, to discuss the possible use of Biomet for refrigerator heat exchangers.
- 27 July 1980 The referrers made an enquiry about a batch of the opponents' material.
- 30 July 1980 Mr Cooper visited a Mr Griffin, of British Federal Welder and Machine Co Ltd at Dudley, to discuss the configuration of projections required for the projection welding of tubing to sheet material. Mr Griffin gave Mr Cooper a copy of British Federal's data sheet on projection welding.
- 18 August 1980 Mr Cooper wrote to Mr Bion enclosing a sketch of a proposed configuration for projection welding tubing to Biomet, including a detail from the British Federal data sheet. It is not

established that the opponents actually saw this before 4 September 1980, by which time Mr Croft received a copy of it from the referrers.

This much is uncontested between the parties, and establishes that prior to July 1980 both parties had been thinking independently about the possibility of tube-to-sheet heat exchangers. The referrers had been considering how to attach the tubing to sheet material, and had considered, inter alia projection welding. The opponents had been thinking of using Biomet in this general application, and had considered spot welding. On 24 July 1980 the two trains of thought came together for the first time. By 18 August at the latest Mr Cooper was considering using projection welding to attach tubing to Biomet, and by 4 September at the latest the opponents had received documents from the referrers showing welding projections on Biomet.

It is necessary to look more closely at the accounts of the meeting of the 24 July. Both parties agree that it took place, and that during the course of it Mr Bion proposed the use of Biomet for tube-to-sheet heat exchangers, with the tube welded to the sheet. There is disagreement, however, as to who proposed that the welding should be effected by welding the tube to projections, or indeed as to whether this technique was discussed at all on that occasion. Mr Cooper has stated that he made this suggestion after explaining to Mr Bion that the 'mash-welding' technique (Mr Cooper's terminology) which he alleges the latter had proposed would create problems of distortion and excessive power consumption and would be unsuitable for his own company's welding equipment. Mr Bion states, on the contrary, that he proposed what he referred to as 'spot welding' during the course of the visit, but that the possibility of using projections was not raised on that occasion. Both Mr Cooper and Mr Bion maintained their respective versions of the meeting under

cross-examination.

Apart from these conflicting accounts of the meeting the only evidence that purports directly to establish that Mr Cooper did in fact first raise the idea of using projections on 24 July 1980, as the referrers allege, is exhibit BCS 5, being some sketches which Mr Cooper states that he made on the cover of his file during the 24 July 1980 visit. This exhibit is not self-proving as to the date on which it was drawn, but the opponents have not denied that it may have been during Mr Bion's visit to Telford. Mr Baldwin sought to make a point in relation to the quality of the sketches, observing that anyone who, like Mr Cooper, claims skill at drafting, would not have produced such unsatisfactory sketches if he had wanted to illustrate projection tube-to-sheet welding. However, having seen the original sketches, and having also seen a first-hand example of how Mr Cooper in the witness box was able to produce a rapid sketch to illustrate a point he is making verbally, I accept Mr Burkill's contention that exhibit BCS 5 was made in that way, and reject Mr Baldwin's point.

Nevertheless it must be concluded that, even on the assumption that the sketches were in fact made on 24 July 1980 in the presence of Mr Bion, their evidential value is limited, because of their crude nature. During cross-examination Mr Cooper stated that the lowermost of the sketches in fact constitutes two superimposed drawings, one very faint showing sheeting wrapped round tubing, and another, stronger one showing projection welding. Mr Cooper acknowledged Mr Baldwin's suggestion that the latter could be interpreted as showing tubing secured to a sheet by 'blobs of weld', to use Mr Baldwin's phrase, but stated that in fact he had drawn it as showing projections. I conclude that the most that can be said of BCS 5 is that it is consistent with the interpretation that Mr Cooper drew it at the meeting on 24 July 1980 to illustrate projection welding, but that it certainly does not by itself establish that this occurred.

On the other hand, Mr Bion's account of events following the 24 July 1980 visit is somewhat confused partly because of his initial assertion that he and Mr Croft had a further meeting with Mr Cooper on 31 July 1980, this time at a hotel in Ironbridge. The statement was subsequently withdrawn in the face of evidence that there was only one meeting, on 24 July 1980, partly at Telford and partly over lunch at Ironbridge. Mr Bion also states that sometime very shortly after his visit of 24 July 1980 to the referrers' premises he visited a Mr Robinson at a company called Subutec, where he learned that welding gave optimum heat transfer between metal members, and that he subsequently conceived the idea of using projections. There is no confirmation of this by Mr Robinson, and the remaining evidence fails to substantiate either the fact of or, equally importantly, the timing of his visit to Subutec. Mr Bion states that, having thought of using projections, he telephoned this idea to Mr Cooper. The timing of this phone call, which Mr Cooper states that he does not recall, is in considerable doubt, since Mr Bion's recollection of it is confused by his admittedly mistaken memory of the supposed meeting on 31 July 1980. Mr Bion claims though, that Mr Cooper only visited Mr Griffin at Federal Welders to discuss projection welding after having received his (Mr Bion's) telephoned suggestion of projections. For this contention to be correct the call, and therefore also Mr Bion's visit to Subutec, must have occurred between 24 and 30 July 1980, but there is no evidence to support this. Mr Bion conceded on a number of occasions during cross-examination that he had a very poor memory for dates, and this is borne out by the evidence. He also admitted that his memory of the original 24 July 1980 meeting, nearly six years earlier, was hazy, despite the fact that to a very large extent his argument depends upon a detailed recollection of what was and what was not said on that occasion.

I have no doubt whatever that Mr Bion's account of events in and around July 1980, in both written and oral evidence, represents his sincere belief as to what happened, and I accept entirely the honesty of his attempt to recall events. I am forced to

conclude, nonetheless, that his recollection of dates and meetings is most unreliable, and of very limited evidential value. I also note that during cross-examination he conceded that his "knowledge of welding is very little." Accordingly even if Mr Bion's alleged visit to Subutec had been substantiated it is doubtful that this would have established positively that he thought of using projections without prompting from Mr Cooper, either on 24 July 1980 or subsequently.

It is true that Mr Bion's account of the 24 July 1980 meeting is supported by Mr Croft's written statement, but it is contradicted by Mr Selley's. Since neither of these gentlemen were cross-examined I have no grounds for giving greater weight to either one of their conflicting versions of events, and regard their testimonies as cancelling one another out. I am therefore obliged to settle the issue essentially on the relative strengths of the testimonies of Mr Cooper and Mr Bion, and their supporting exhibits.

I conclude that the referrers' assertion that at an early date Mr Cooper was aware of the possibility of using projections, and had communicated this to the opponents' representatives, is a more likely indication of what occurred than the opponents' claim that Mr Bion devised the idea himself and suggested it to the referrers. The timetable is important in this consideration, and in my view the referrers' evidence concerning Mr Cooper's discussion with Federal only six days after his original meeting with Mr Bion and Mr Croft, and his subsequent communication with the opponents, is more persuasive than the opponents' evidence which alleges, without support, that Mr Bion had visited Subutec, devised the idea of projections and communicated this to Mr Cooper, all necessarily within that six day period. I would observe that I would have reached this conclusion even without the assistance of the late-filed evidence that showed that, some months before meeting Mr Bion, Mr Cooper was already contemplating using projection welding for tube-to-sheet heat

exchangers, but that evidence clearly reinforces my view. On the balance of probabilities, therefore, I find that the referrers have established that, either at the 24 July meeting or very shortly thereafter, Mr Cooper did suggest the use of projections to the opponents.

The further question of where the idea of incorporating unperforated strips in the sheets of Biomet originated was touched upon only briefly at the hearing, and then only in Mr Burkill's concluding address, when he suggested that the evidence points to this having been Mr Cooper's idea. It is unfortunate that the significance of this feature escaped attention until such a late stage in the proceedings when the cross-examination and opening addresses of Counsel had been concluded. Nevertheless, in view of its presence in the main claim it is proper that I should give the matter my full consideration and in doing so I have scrutinised the evidence to determine whether there are any references to the feature as being known to one or other party before 23 January 1981, the declared priority date of the application.

So far as I have been able to ascertain, there are only three such references, one in Mr Cooper's first declaration at paragraph 10, another in Mr Bion's first declaration at paragraph 20, and the third in Mr Cooper's third declaration at paragraph 3. Mr Cooper states that he suggested the use of the plain strips at the 24 July meeting and that they were shown in the sketch sent on 18 August to the opponents. Mr Bion merely states that the patent application incorporated his proposal "to spot weld the tubular element to perforated material which additionally incorporates unperforated strips". I do not think it is clear beyond doubt that he is laying claim to the idea of the provision of unperforated strips, but even if his statement is construed to have that meaning it does not succeed in establishing his knowledge of this feature earlier than 24 July 1980, or even 18 August 1980. Moreover, although there is no

evidence on this point, I think it must be regarded as highly likely, if not inevitable, that the only practical way to provide projections would be in unperforated strips. Mr Cooper's declaration and the evidence of the sketch he sent to the opponents on 18 August 1980 certainly link the two features together and, taking the evidence as a whole, I conclude that Mr Cooper suggested the unperforated strips at the same time as he suggested projections. Once again therefore, on the balance of probabilities, I find that the referrers have established their authorship of the feature of unperforated strips also.

As I have already stated, the feature of the projections does not occur in claim 1, appearing only in claim 3 and, by implication, in the omnibus claims. It appears in the description only in respect of the preferred embodiment, and alternative methods of securing the tubing to the sheet are disclosed. In my view, therefore, the origination of this feature alone would not carry with it entitlement to co-proprietorship of the patent.

The unperforated strips, on the other hand, are an essential feature of the invention claimed in claim 1. It therefore follows from my second finding above that I regard Mr Cooper as having contributed an essential part of the invention. To return to Mr Burkill's jigsaw analogy, I accept that there were two distinct halves to the final picture that represents the invention - the application of Biomet to tube-to-sheet heat exchangers, contributed by Mr Bion, and the use of unperforated strips (with or without projection welding), contributed by Mr Cooper.

In the result, therefore, I find that the referrers have established their right to be included under Section 37(2)(a) among the persons registered as proprietors of patent 2091867, and I order that the register of patents shall be amended accordingly.

I award the referrers, Fulton (TI) Limited, the sum of seven hundred and fifty pounds (£750) as a contribution to their costs, this sum to be paid by the opponents, Robert Bion and Company Limited.

Dated this 12th day of May 1986

D C L BLAKE
Superintending Examiner, acting for the Comptroller



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