2008-1415

In The

# United States Court of Appeals

For The Federal Circuit

## NORGREN INC.,

*Appellant,*

v.

## INTERNATIONAL TRADE COMMISSION,

*Appellee.*

and

## SMC CORPORATION and SMC CORPORATION OF AMERICA,

*Intervenors.*

**ON APPEAL FROM THE UNITED STATES INTERNATIONAL TRADE COMMISSION IN INVESTIGATION No. 337-TA-587.**

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# REPLY BRIEF OF APPELLANT

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## INTRODUCTION

Three issues are argued by Intervenor SMC in their brief: 1. The ALJ in his ID correctly construed *generally rectangular ported flange* as requiring projecting rims on each of its four sides; 2. The ALJ in his ID incorrectly construed *pivotally mounted side* by not requiring the term to include the limitations of *no loose parts* and *a hinge-like mounting*; and 3. If this Court construes *generally rectangular ported flange* as Norgren would have it (without the read-in limitation of *four projecting rims*), the '392 invention should be found to be obvious in violation of 35 U.S.C. § 103.

SMC is wrong about all three issues. SMC has no argument whatever that excuses the ALJ of committing the cardinal claim construction sin of reading in a limitation, *four projecting rims*, not found in the asserted claims and not compelled by any claim construction tenet. SMC would have this Court do what the ALJ avoided doing in regard to adding the limitations of *no loose parts* and *hinge-like mounting* to the term *pivotally mounted side*: i.e. again reading in limitations not found in the asserted claims and not compelled by any tenet of claim construction. SMC would also have this Court enter a finding of obviousness despite the record's lack of the factual predicate to make such a finding.

The ITC confines its argument to the single claim issue *generally rectangular ported flange.* In Its brief, as in SMC's, the text is strangely silent on the primary issue in this case: this Court's prohibition against reading limitations from the specification into the claims absent specific exceptional circumstances such as the invention only works in one way or the specification contains a clear and unequivocal disavowal of scope. Neither the ITC nor SMC makes an argument that either of these exceptional circumstances is present (or any other possible excuse for reading in limitations) because none exists.

## GENERALLY RECTANGULAR PORTED FLANGE

### A. Neither SMC nor the ITC Claim any Exception to the Rule Against Reading in Limitations from the Specification

Both the ITC and SMC cite to the specification and its description of the preferred embodiments to support their argument that the flange must have projecting rims on all of its four sides. Norgren does not dispute that most of the preferred embodiments (figures 1, 3, 4 & 5) show either a flange with projecting rims on all four sides (figures 3 & 4) or channels in the depicted clamps that suggest a flange with projections on four sides. Ironically, the ITC focuses on figure 6 which does not show four projections. Figure 6 is a "cut-through" view of a compressed air pipe fitting designed to connect via the invented clamp with a fluid-flow element

(an "FRL"). This view shows **2**, not 4 projections. Since two of the sides of the flange in figure 6 are not shown, it is pure speculation, unsupported by the specification (Col. 4, ll 27-33), that this flange has projections on the sides not shown.

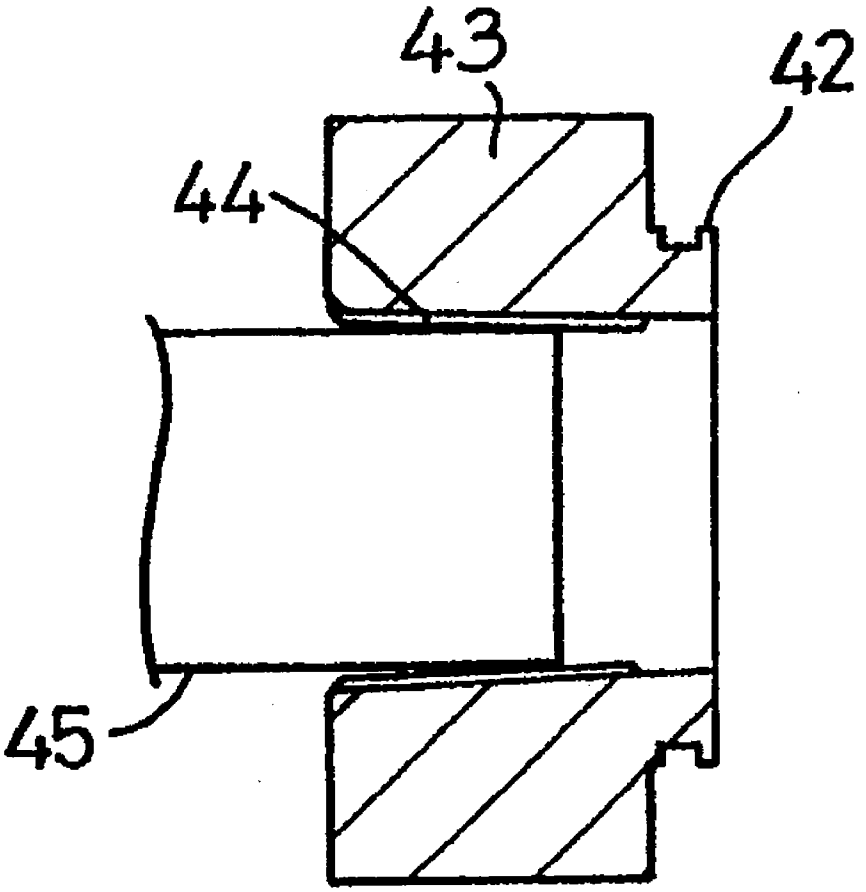
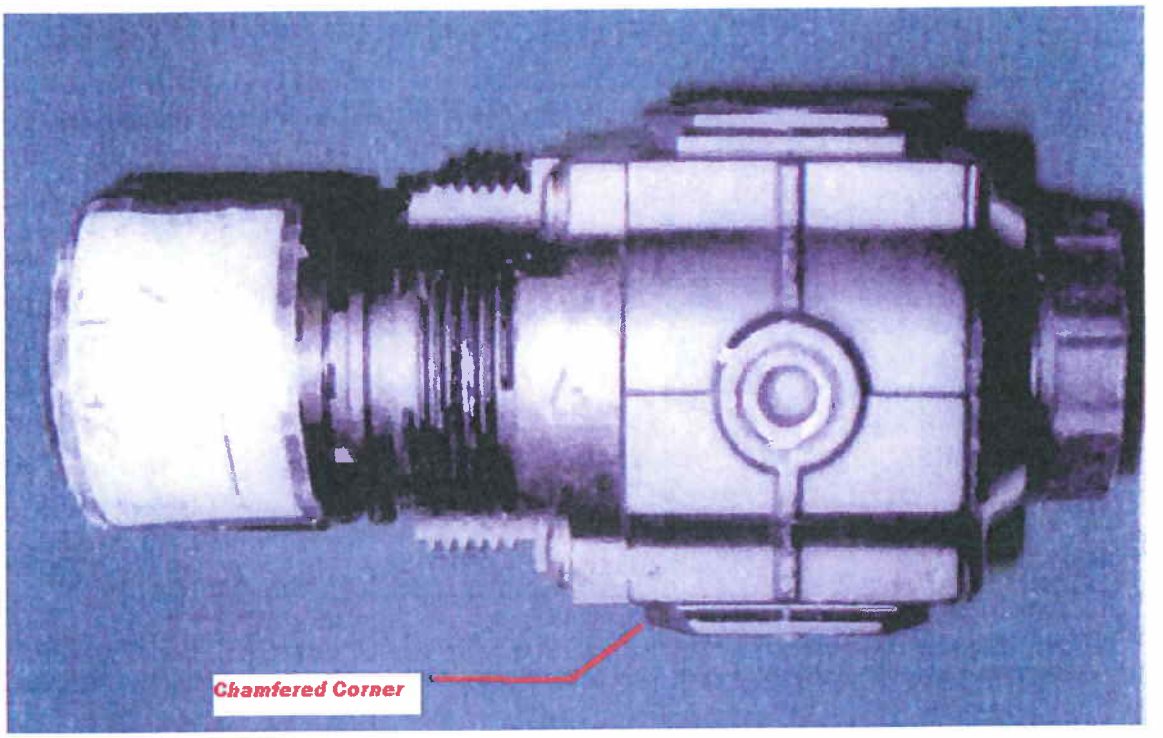



Fig. 6

The ITC makes another obvious mistake about the specification's depiction of flanges on page 25 of its brief when it refers to the projecting

rim as "continuous" around the flange's periphery. Neither the written description nor any drawings show a continuous rim. SMC's exhibit on page 24 of its brief labeled *Norgren Generally Rectangular Ported Flange* is similarly inaccurate. As the photo of a Norgren FRL below shows each corner is chamfered resulting in 4 distinct rims. (A7020)




The ITC's erroneous description of figure 6 and its mistake about a continuous rim, notwithstanding, the major problem for both the ITC and SMC is that they provide no reason to violate the cardinal rule of claim construction prohibiting reading in limitations from the specification. *Liebel-Flarsheim* Co. v. *Medrad, Inc.*, 358 F.3d 898, 910 (Fed. Cir. 2004). This Court has created a rare exception to this basic rule only when the invention

works in the way described for the preferred embodiment, i.e. the function of the invention necessarily compels adding a limitation not found in the asserted claims. *Wang Labs. Inc. v. America Online, Inc.*, 197 F.3d 1377, 1383 (Fed. Cir. 1999). In other cases, this Court has made an exception when the language of the specification evinces a clear intention by the patentee to disavow the scope of his invention. *Home Diagnostics, Inc. v. Lifescan, Inc.*, 381 F.3d 1357-8 (Fed. Cir. 2004). A third exception may arise if the patentee abandoned scope during the prosecution of the patent to avoid reading on prior art. *Salazar v. Procter & Gamble, Co.*, 414 F.3d 1342, 1344 (Fed. Cir. 2005).

**B. Four Projecting Rims are not Necessary for the Invention to Function as Described in the Patent**

In its opening brief, Norgren, pointed out that the "urging together" function of the clamp required in claims 1 & 4 was accomplished in the preferred embodiments by tapered walls that received projecting rims from *only two* of the flange's four sides (col. 3, ll 47-52) (sides 1c and 3 of figure 1). The other two sides of the flange (sides 1a and 1b) had no described function at all. SMC makes no argument that there is a functional reason that the invention must have projecting rims on 4 sides as opposed to just 2. The ITC, on the other hand, argues that because they are shown, they must

have a necessary function.[1] The ITC never says what that function or contribution might be. This argument is, of course, absurd, and would create a gaping hole of an exception to the rule of not reading in limitations. If anything that's drawn in an illustration is vital to an invention's function and, hence must be read into a claim, then there really is no rule against reading in.

What is apparent from both the specification and Claim 4 is that the invented clamp can accomplish its stated function of forming a fluid-tight connection between the flanges of two FRLs with only *2* projecting rims or *peripheral sections* of the flanges. In both col. 3, ll 45-53 and Claim 4, the pivoting side of the clamp and its opposite side are equipped with *internally tapered walls* (see figure 2) that *engage* **2** peripheral sections of each flange. The *peripheral sections* of the flanges are on opposing sides and correspond to the *tapered walls* in a tongue-and-groove type connection. In the process of the clamp closing by means of the tightening bolt, the *tapered walls* force (or *urge*) the *peripheral sections* of the two FRLs together to form a fluid-tight seal. No role is ever assigned to the other two sides of the flanges and no particular configuration is necessary for the clamp to work.

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[1] "*the other projecting sides are no less 'necessary' to the clamp's operation in this embodiment, or they would not have been drawn in*" pp 42-43 of the ITC brief

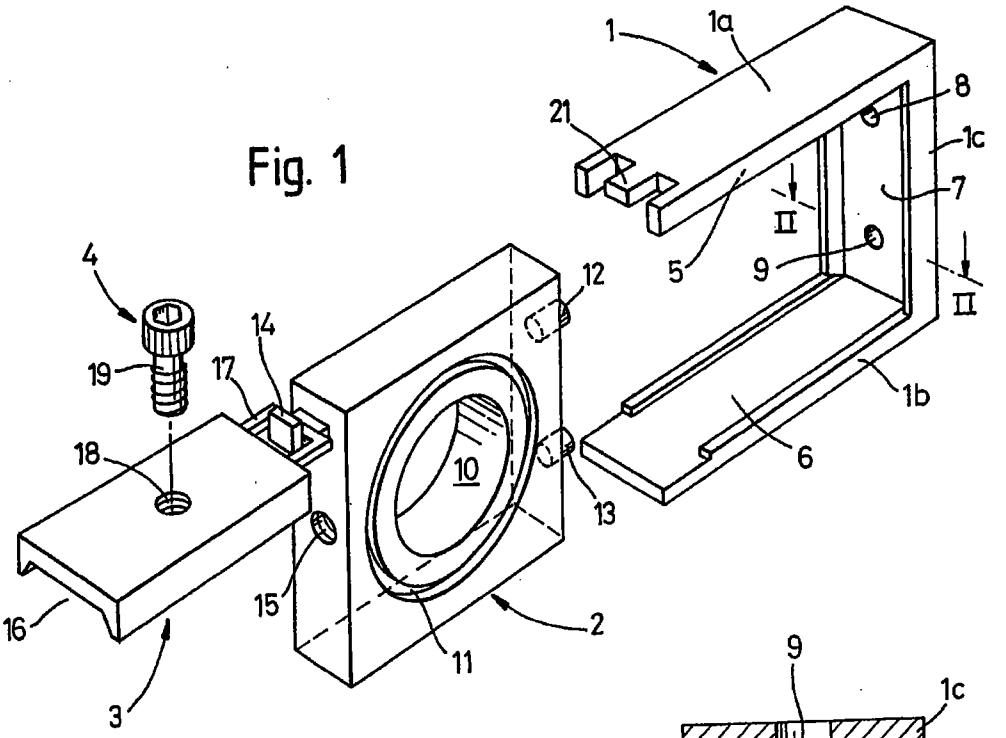


Fig. 2

While two projecting rims are arguably required for the *urging* together of the flanges, four projecting rims are not.

**C. No Party Argues that the Patent Contains any Disavowal of Scope**

Neither SMC nor the ITC argue that there is any language in the specification that narrows scope. In fact, the concept of four projecting rims is simply a feature of the preferred embodiments. The reason for the presence of four, as opposed to two, rims is never discussed.

## D. Neither the Claim Language nor the Prosecution History Require Four Projecting Rims

Both SMC and the ITC argue that language in claim 1, *reception of said flanges* ***into the clamp,*** and portions of the prosecution history in which the words *fit over* are used by the prosecutor, compel the addition of four projecting rims to the patent's flange. SMC's and the ITC's interpretation of the passage in claim 1 is clearly inapposite to the specification, thereby violating the admonition of *Vitronics* that constructions that exclude the preferred embodiments are rarely, if ever, correct. Similarly, their argument about the *fit over* reference in the prosecution history is taken out of context. When read in conjunction with the rest of the prosecutor's argument, it is obvious that it is distinguishing the prior art *Hallman* patent that disclosed a clamp *located* ***inside*** of the structures to be joined.

### 1. The Claim Language does not Require that the Entire Flange be Encompassed Within the Clamp

SMC and the ITC argue that figures 3 & 4 and the written description of these two figures in the specification do not disclose a *flange* in the preferred embodiment that is partly enclosed within the patented clamp and partly outside of it. Despite the clear visual and written evidence to the contrary, they argue that item numbers 26 & 30 end at the edge of the clamp in its operative position. That they are incorrect is most clearly

demonstrated in figure 4 (reproduced below with 26 & 30 outlined in red). In the drawing the distinctions between the various parts are indicated by lines and changes in the directions of the shading. Items 26 & 30 are shown to be *both within the clamp and outside of it*, extending all the way to the body of the fluid-flow elements ("FRLs").

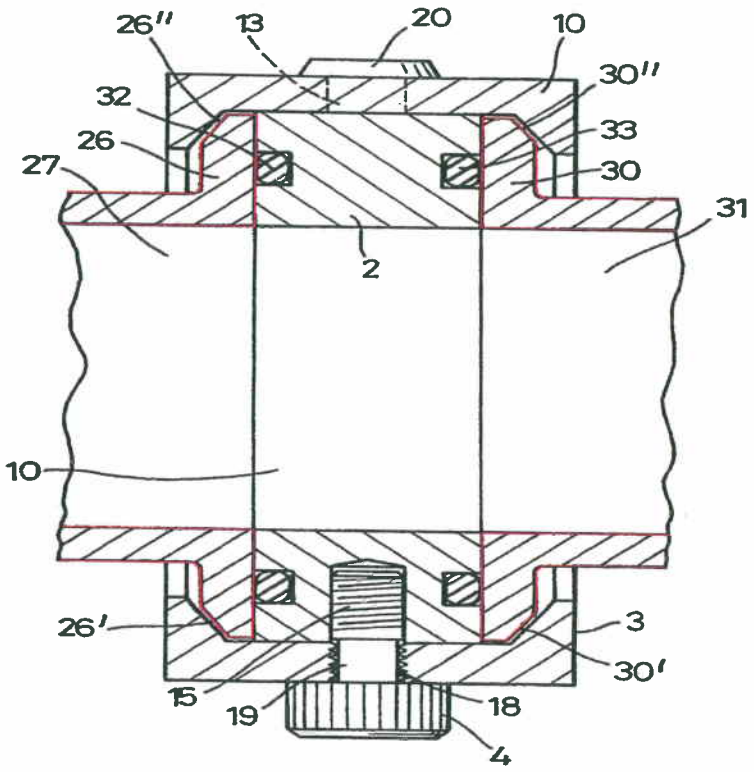


Fig. 4

What figure 4 obviously shows is confirmed by the description of the *flanges* shown in figure 3 from the specification. First to be described is one of the FRLs that are being connected by the patented clamp. . . . *the unit* ***22*** *as is well-known, comprises a body portion* ***24*** *from which depends a usually*

*transparent bowl 25*. Col. 3, ll 24-26. (see figure 3 below). The *flange* is then described:

> The body **24** is provided with a rectangular connecting flange **26** having an outlet port **27** that communicates with the internals of filter unit **22**. Col. 3, ll 26-29.

The *flange* is, thus, **connected directly to the body of the FRL**, in this case a filter. The *flange* is, without question, **the whole structure extending from the body of the filter and has a port that goes all the way to the inside of the filter.**

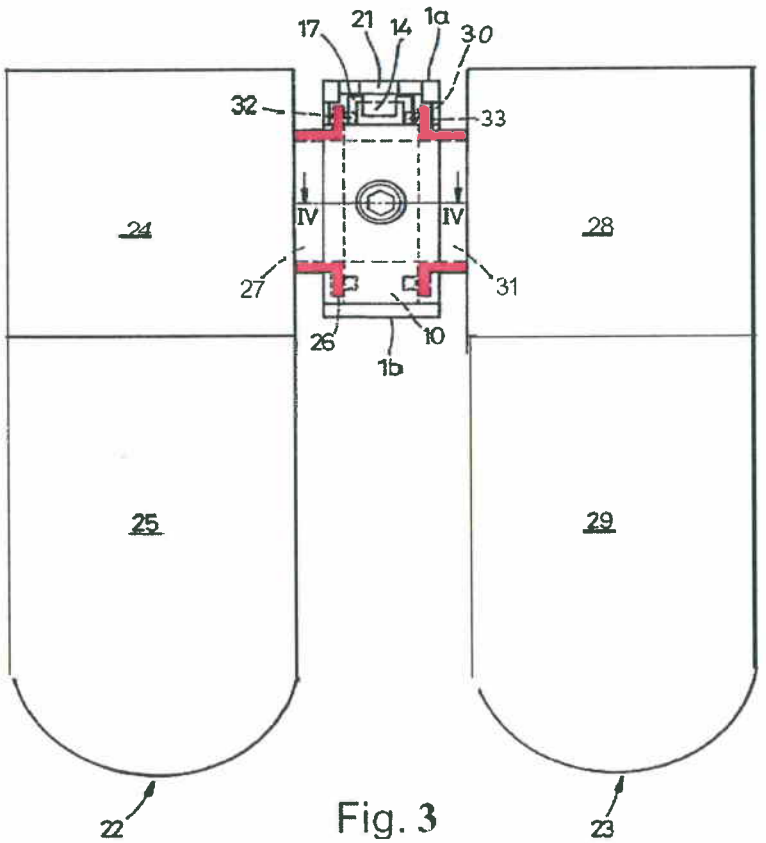


Fig. 3

The ITC makes a related argument about figure 6 that the *flange* on the end of the air pressure line shown is limited to the rim projecting out of

two sides of the end of the line. There is nothing in the drawing or its written description, col. 4, ll 27-33, that even suggests that this is true. In the drawing there is no demarcation between item 43, the *member*, and item 42, the *flange*. To be consistent with the unequivocal description of figure 3's flange, the figure 6 flange probably includes all that extends out from the rectangular depictions of the *members*. In other words, this flange, like those in figures 3 & 4, is a structure both within the clamp in its operative position and outside of it.

### 2. Nothing in the Prosecution History Mandates Four Projecting Rims or Supports the Argument that the *Flange* is Totally Encompassed by the Patented Clamp

Neither SMC nor the ITC point to any discussion in the prosecution history of the need for *any* projecting rims on the *flanges*, much less four of them. What they discuss is the prosecutor's rebuttal to the Examiner's initial rejection of certain claims based on the prior art patents of *Edmaier* and *Abbes*, in light of *Hallman* or *Rodengren* (sic—should be *Rosengren*) A2086-A2087 . The prosecutor was arguing that both *Edmaier* and *Abbes* lacked pivotally mounted sides; and that *Hallman*, while disclosing a pivotal side on his clamp for electric cable ducting, showed his connector *inside* of the ducting. The prosecutor's *fit over* and *receive within it* comments refer to the distinction between *Hallman* in which the connector was *surrounded*

by the ducting; and the patented clamp that fit over the FRL flanges it was connecting. There is absolutely nothing in the prosecution history in this excerpt or anywhere else that states that the patented clamp totally encompasses the flanges.

### 3. *Periphery* and *Peripheral Sections* do not Necessarily Mean Four Projecting Rims are Required in any of the Claims

In explaining figures 1& 2, the specification in col. 2, ll 41-46 describes how the *periphery* of the flange is *received* in between the spacer and the walls of the channels. There is no doubt that this is describing one of the preferred embodiments. In fact, the heading on the section is DESCRIPTION OF THE PREFERRED EMBODIMENTS. As previously stated, the fact that the *periphery* of a preferred embodiment means projecting rims does not compel a construction that all embodiments must have those rims.

The term *periphery* never appears in any of the claims suggesting that the flanges in the claims need not have peripheries. A related term, *peripheral sections, does appear* in Claim 4. The presence of *peripheral sections* in Claim 4, and not in independent claim 1, further establishes that Claim 1 does not require this feature on the flanges (see discussion of Claim Differentiation *infra*). Claim 4 only requires *peripheral sections* on the two sides of the connected flanges that correspond with the pivoting side and its

opposite. *Peripheral sections* for the other two sides of the flanges are not mentioned in any of the claims.

**E. Claim Differentiation**

The ITC makes a rather muddled and unconvincing argument that Claim 4 adds only *tapering* of the walls and, thus, claim differentiation as to the projecting rims cannot be properly invoked. This argument misses the whole point of the *internally tapered walls* on the pivoting side of the clamp and its opposite. The obvious purpose of the *internally tapered walls*, depicted in figure 2 and discussed in col.3, ll 45-53, is *for engaging opposed peripheral sections of each of said ported flanges whereby said flanges will be urged into sealing engagement with said opposed major faces of the space upon application of said locking means.* Claim 4. In other words, the *tapered walls* sole function is to form a tongue-and-groove connection with the two projecting rims of the flanges whereby the rims slide toward one another as the bolt is tightened to form a fluid-tight seal between the FRLs. This is the *only* addition in Claim 4. By the doctrine of claim differentiation, adding a single new limitation to what is in an independent claim raises a strong presumption that the particular limitation is not required in the independent claim. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005) *en banc*.

## F. Extrinsic Evidence

There were three sources of extrinsic evidence offered at trial: dictionary definitions submitted by Norgren; the testimony of Norgren's expert John Wiskamp; and the testimony of SMC's expert David Trumper. Since *flange* was not specially defined in the patent and its meaning is not totally clear from the intrinsic evidence (although, as will be discussed, *infra*, certain things are known about it); it is appropriate for a court to consider extrinsic evidence. The trick is to decide which parts of a conflicting set of evidence are truest to the description and function of the *flange* in the patent.

Because of the two adjectives preceding *flange* in the amended patent, it is clear that it must be *generally rectangular* and *ported*. The ALJ correctly interpreted these modifiers to require the *flange* to be more or less rectangular in shape and have a hole in it. (A29). Beyond that, several other characteristics are known from the patent: 1. They are attached to the bodies of the FRL units (see discussion *supra*); 2. Parts, but not all, of them are enclosed in the clamp in its operative condition (*supra*); 3. Their function is to provide a connection mechanism for the FRL units that can be secured by the clamp; and 4. They must be configured in a way that the

clamp, when tightened, *urges* their major faces together to form a fluid-tight seal.

Any definition of *flange* that does not satisfy the above-criteria is not consistent with the patent and must be discarded. *Phillips*. In addition, any extrinsic definition must convey the ordinary and customary meaning to a person of ordinary skill in the art of designing FRLs and their connectors circa 1993, the year of the '392 invention's birth.

**1. Dictionary Definitions**

Both SMC and the ITC have been highly critical of Norgren's offered dictionary definitions, yet have offered none of their own. Norgren concedes that it has presented a number of dictionary definitions; from a lip to confer strength to projecting rims to collars. The reason for this is that *flange* is a widely used term for a wide range of structures. Those that refer to enhanced load bearing capabilities may be immediately discarded as inconsistent with the *flanges* described in the patent.

Those whose function is connection must be considered. From that subset, those describing either a collar or a rim must also be eliminated. It is easy to see that the structure shown in figures 3 & 4 is not a collar. It has a stem part that comes forth from the body of the FRL and a canopy part that fit into the clamp. A *projecting rim* is also inappropriate since that hardly

describes what is depicted in figures 3 & 4, in that *rims* cannot have *ports* or holes in them as the patent requires. The only dictionary definition that would include the *flange* in figures 3 & 4 is part of the Oxford definition: *projecting piece*. *Projecting piece* is broad enough to include what is seen in figures 3 & 4.

Adding what is known to be its function (*connection*) to the only definition that includes figures 3 & 4, *projecting piece*; the result is *a projecting piece to attach the item to something else.*

**2. The Testimony of David Trumper**

Both SMC and the ITC make much of witness Trumper's qualifications as a professor at M.I.T. No doubt he is a highly educated and accomplished individual. The problem is that he is totally unfamiliar with what was going on or how terms were used in the FRL industry circa 1993. A second problem with using Trumper's definition of *flange* is that he does not pretend that it is the ordinary and customary meaning to a person of ordinary skill in the art of designing FRLs circa 1993; he derives his definition strictly and completely from how he interprets the patent itself and not from how the term was used in the field. A third problem with Trumper's proposed definition is that it is not how Trumper used the term in practice.

Absent from Professor Trumper's vitae is any practical experience in the FRL industry. A1596-A1598. He has never designed a common FRL. A1642-A1643. He has never talked to anyone who was active in designing FRLs in 1993. A1643. He does not know the brands of the FRLs in his own lab. A1644-A1645. He has never inspected how the FRLs in his own lab are connected. A1647. He has never inspected any FRL connectors that were in use in 1993. A1648-A1649. In short, Professor Trumper has no personal nor researched knowledge of how an ordinary person of skill in the art of FRL design circa 1993 would use or define the word *flange*.

Trumper's definition of *flange*, cited by both SMC and the ITC, is based entirely on his reading of the patent. As Norgren cited on page 28 of its opening brief, Trumper's testimony was that *the* ***patent*** *makes quite clear (sic) that* . . .A1601. All Trumper was doing was giving his interpretation of the words and drawings of the patent. As such, he crossed an evidentiary line set by the United States Supreme Court long ago.

> [P]rofessors or mechanics cannot be received to prove to the court or jury what is the proper or legal construction of any instrument of writing. A judge may obtain information from them, if he desire it, on matters which he does not comprehend, but cannot be compelled to receive their opinions as matter of evidence. *Winans v. New York & Erie R.R.Co.*, 62 U.S. (21 How.) at 101, cited in *Markman v. Westview Intruments, Inc.*, 52 F.3d 967, 981 (Fed. Cir. 1995) *en banc*

Trumper's definition is incompetent on two counts: he has no way of knowing how an ordinary person of skill in the art circa 1993 would define *flange* and his interpretation of the patent itself runs afoul of *Winans* and *Markman*.

When not delivering his rehearsed answer about *flange*, Trumper revealed his true understanding of the term. As previously pointed out on pages 29 and 32 of Norgren's opening brief, Trumper described the structure on the side of the *Ribble* FRL that was generally rectangular, had flat sides on the top and bottom; and projecting rims on the two lateral sides as ***a flange with two mounting wedges on the sides***. He further described how the *Ribble* clamp was pushed down over the ***flange*** and pulled the two faces of the flanges together. The *Ribble* flange is identical to the accused SMC flange in all important respects.

### 3. Testimony of John Wiskamp

While SMC and the ITC predictably throw rose petals at their expert, David Trumper, they heaped scorn and ridicule on Norgren's expert, John Wiskamp. Granted, Wiskamp has no formal engineering education, but he has spent his entire career in the FRL industry including a stint as an on-the-job trained engineer in the precisely relevant field. Unlike Trumper, Wiskamp actually *knows from his own personal experience* how persons of

ordinary skill in the art used the term *flange* circa 1993. Additionally, unlike Trumper, Wiskamp testified to how the term was actually used in the field as opposed to how he interpreted the patent and the prosecution history. Wiskamp's testimony was from the "jargon" of his colleagues actually working in the FRL field at the only relevant time. His definition, *any general connection feature used to join two faces together*, A1260-A1261, is entirely consistent with figures 3 & 4; and with the combined dictionary definition.

In sum, SMC and the ITC presented no credible evidence of how a person of ordinary skill in the art defined the term *flange* circa 1993. Norgren did, however, and it consistently showed that *flange* had a wide range of meanings circa 1993 in the FRL field. The definitions from that time that are in accord with figures 3 & 4, and the function of the *flange* in the '392 patent are those from the dictionaries: *a projecting piece to attach the item to something else* and that from Wiskamp: *any general connection feature used to join two faces together.*

### G. *Mounting Ears*

Both SMC and the ITC use the term *mounting ears* to describe the flanges on the bodies of SMC's FRLs. Both stop short of claiming that the term has any definite meaning in the FRL field. However, they argue that

*mounting ears* cannot be the same structures as *flanges*. There is absolutely no basis in the evidence or anywhere else for this assertion. Trumper called the *Ribble mounting ears, flanges*. There is no difference between the two terms as long as *mounting ears* fit the definitions discussed in the previous section of this brief.

**H. Doctrine of Equivalents**

SMC states that Norgren failed to present evidence that the SMC flange with its two projecting lateral rims functioned in the same way with the same result as the flanges in the '392 patent. This is simply not true. Not only did Norgren's expert Wiskamp so testify, but SMC's Trumper and Tomita (the inventor of the accused clamp) did as well. All three testified that the *wings* (tapered walls) of the SMC clamp grabbed the *mounting ears* of the SMC flange and squeezed the faces of the flanges together to form a fluid-tight seal. A1304, A1318-A1323; A1578, A1582, A1586, A1694-A1695. This is precisely how the '392 clamp works with the flanges on its FRLs. Col. 3, ll 47-53.

**I. SMC's Clamp is Adapted to Engage a Flange with Four Projecting Rims**

At trial, Norgren introduced one of its FRLs with modified flange in an effort to show that the SMC clamp *was* adapted to engage such a structure. There was no subterfuge in this. Norgren was totally

straightforward in what it was attempting to show. By a slight reduction in the dimensions of the rims, the SMC clamp fit on all four sides. Thus, the SMC clamp was adapted to fit either a flange with two projecting rims or one with four. A 1304-A1305, A1310, CPX 8.

## PIVOTALLY MOUNTED SIDE

The ITC brief is silent on the claim term *pivotally mounted side*, but SMC disputes the finding of the ALJ that the term means *placed or fastened in a way that allows an object to move about a point.* ID 37. In support of its argument, SMC cites the '392 patent's "design goal" of "no loose parts" and the depiction in figures 1 & 5 of a "hinge-like mounting." Whether or not "no loose parts" is a stated "design goal" of the patent, it is not a limitation of claim 1. Norgren concurs with SMC that figure 5 shows a "hinge-like mounting," but disputes that figure 1 does. At any rate, neither figure 1's nor figure 5's method of mounting the pivoting side is mandated in claim 1.

### A. The *Design Goal* of *No Loose Parts*

Probably every utility patent has one or more design goals. However, unless that goal is incorporated as an express limitation in a claim or there is a clear disavowal of scope, design goals are not congruent with claim limitations. Norgren concedes that in several locations in the specification

the desirability of "no loose parts" is expressed. However, each time it is stated, it contains a caveat that it something to be desired but not something essential to the invention.

### 1. *No Loose Parts* is Always Stated as *Preferred and Not Required*

Nowhere in the '392 patent does it state that "no loose parts" is a required outcome for the invention. Instead it is always couched as a *preferable* outcome:

1. Col. 1, ll 33-34: ***preferably*** *unitary connecting means.*

2. Col. 2, ll 6-8: ***may be a unitary structure*** *in the sense that it has no loose parts that might otherwise get lost by the user.*

3. Col. 3, ll 57-59: *As will be appreciated, the* ***preferred connecting means*** *of the invention described above is, when its components are assembled together, unitary in nature . . .*

4. Col. 2, ll 1-4: ***Preferably,*** *the said one side of the clamp is pivotally mounted on the spacer or on an adjacent side of the clamp by means of a hinge-like mounting*

### 2. Only One of Two Preferred Embodiments has a *Hinge-like Mounting*

Figure 5 discloses a true "hinge-like mounting" wherein the pivoting side of the clamp is attached by means of axle like device to the rest of the

clamp. The other preferred embodiment, figure 1, is never said to have a "hinge-like mounting" in the patent and is a hook and loop arrangement. In figure 1, the mounting is described as "the upper end of the elongate member **3** is provided with a generally U-shaped stirrup **17** pivotally hung on the L-shaped projection **14**." *See* column 2 line 66 to column 3 line 1.

### 3. The Doctrine of Claim Differentiation Raises a Presumption that Claim 1 Does Not Require *No Loose Part*

In the '392 patent, Claim 5 describes the preferred embodiment shown in figure 1; and Claim 7 describes figure 5. In Claim 5 the pivoting side of the clamp is *captively and pivotally* mounted on the spacer. In Claim 7, the same pivoting side is *captively and pivotally* mounted on an *adjacent side of said clamp*. These are the only two claims in which the pivoting side is *captively* mounted on another part of the clamp assembly. Something that is captive is not allowed to stray or go where it wants. Hence, in claims 5 & 7 the pivoting side is not a loose part. Since that restriction does not appear in independent claim 1; the doctrine of claim differentiation raises a strong presumption that claim 1's pivotally mounted side is not necessarily *captive*.

### 4. SMC's Clamp's Inventor, Tomita, Testified that its Pivoting Side was Not Loose

If the construction of "pivotally mounted" was changed to mandate "no loose parts" and a "hinge-like mounting" the SMC connector would still

infringe all of the asserted claims. The sole inventor of the SMC connector, Taku Tomita testified that his creation had no loose parts and demonstrated how the pivoting side moved on its bolt in a hinge-like fashion. A1582-A1583.

### 5. SMC Mis-characterizes the Ruling in *Vitronics*

SMC's reliance on *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996) for the proposition that claims that are *contrary* to a preferred embodiment are not correctly construed, is misplaced. The cite to *Vitronics* states the oft repeated claim construction principle that an independent claim that does not *include* a preferred embodiment **is** rarely correct. Contrary to SMC's assertion, claim 1 of the '392 patent obviously *includes* both the embodiment depicted in figure 1 and the one depicted in figure 5. There is no serious question that both of these designs fit the construction adopted in the ID: *placed or fastened in a way that allows an object to move about a point.*

## OBVIOUSNESS

### A. Presumption of Validity

The claims of a patent are presumed to be valid. 35 U.S.C. § 282; *DMI Inc. v. Deere & Co.*, 802 F.2d 421 (Fed. Cir. 1986). To establish obviousness, the party challenging the patent's validity must prove by clear

and convincing evidence that "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." 35 U.S.C. § 103(a); *Checkpoint Systems, Inc. v. United States Int'l Trade Comm'n*, 54 F.3d 756, 761 (Fed. Cir. 1995).

The recent U.S. Supreme Court case of *KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 167 L. Ed. 2d 705 (2007) reaffirmed the factors the have been applied in cases of alleged obviousness for over 40 years:

1. Scope and content of the prior art;
2. Differences between the prior art devices and the claimed invention;
3. The level of ordinary skill in the art; and
4. Objective considerations such as commercial success, long felt need, and unexpected results

*Graham v. John Deere Co.*, 383 U.S. 1 (1966): "the Graham factors."

Although the Supreme Court declined to follow the "TSM" test fashioned by the Federal Circuit (teaching, suggestion, motivation) as too rigid, it found that the TSM test "captured a helpful insight" and was basically consistent with the *Graham* analysis that it approved.

While absolute proof by the proponent of a teaching, suggestion or motivation in the prior art to combine references is not necessary to establish obviousness, a court determining the issue of obviousness must "**identify a reason** that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does." *KSR*, 127 S. Ct. at 1741 (emphasis added). Similarly, "a patent composed of several elements is **not proved obvious** merely by demonstrating that each of its elements was, independently, known in the prior art." *Id.* at 1741 (emphasis added). The Court warned that against a trial court viewing an aggregate of prior art cited by a patent's challenger through hindsight that would not have been combined but for the inventor's insight. *Id.* at 1742.

**Mere conclusory statements offered by a challenger's expert that the invention would have been obvious to a person of ordinary skill in the relevant art are legally insufficient to prove obviousness**, *KSR*, 127 S. Ct. at 1741, citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (emphasis added). Indeed, if prior known elements work together in an unexpected and fruitful manner; or the prior art actually teaches away from the claimed invention; these are signs of non-obviousness. *Id.* at 1740.

## B. SMC Has Failed To Prove The Claims Are Obvious

The devices described in the '392 patent are not obvious because:

a. SMC failed to prove that *all* of the elements of the'392 patented device were present in the prior art.

b. SMC's proof consists only of mere conclusory statements by their "technical expert," David Trumper;

c. Some of the prior art cited by SMC actually teaches away from the inventions described in the '392 patent;

d. SMC fails to provide a reason that a person of ordinary skill in the art would have combined the elements in the prior art;

e. SMC failed to prove *how* one of ordinary skill in the art would have integrated a pivoting side into the '392 clamp design;

f. SMC failed to prove how "design choices" including adding a pivoting side would have been made;

g. SMC failed to prove the ease or difficulty with which design choices including adding a pivoting side to a clamp would have been implemented;

h. SMC failed to prove what the expectations of success a person of ordinary skill in the art would have had in 1993 when implementing the design choices that led to the design of the '392 connector;

i. Secondary factors of long felt need, copying by others, others tried and failed; and surprise and skepticism; demonstrate that the claimed inventions were not obvious;

**1. SMC Failed to Prove That *ALL* Elements of the Claims of the '392 Patent Were Present in the Prior Art**

SMC's technical expert, David Trumper, was the only witness called by SMC to establish its case for obviousness. Trumper was examined by SMC's counsel on each of the prior art references claimed by SMC to form the basis for their obviousness case. As the ID found, no prior art reference contained a four-sided rectangular clamp adapted to engage a generally rectangular ported flange. A0060. Actually, SMC's proof was even more deficient than the ID concluded. Trumper testified that none of the cited prior art references disclosed *any form* of a four-sided clamp in *any related*

*industry*. All of the references he reviewed had two sides or three sides, while none had four sides[2]. A1615-A1627.

**2. SMC's Proof is Based on Mere Conclusory Statements**

David Trumper, never explained why a person of ordinary skill in the art would combine the various elements found in the prior art to arrive at the invention claimed in the '392 patent. From the '020 patent he cited modularity, from Ribble he cited a generally rectangular ported flange, and from Palatchy he cited a hinged piece that may be moved out of position. His only comments about combining these elements range from "this is old stuff," to "a straightforward design exercise," to "standard skill set" to a "design choice for an engineer." A1613-A1637. The Supreme Court has ruled that this is legally insufficient to carry SMC's burden. *KSR* at 1741. Trumper applies this flawed reasoning to each and every claim he addressed, including all dependent claims.

In its brief, SMC presents the argument that Norgren failed to offer proof that the patented connector was an "unpredictable result" from combining known elements. There are three things wrong with this analysis:

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[2] Trumper testified that the "old" SMC connector had 2 sides A1615); Abbes had 2 sides A1616; Palatchy had 2 sides A1618; Ribble had three sides A1620; Fausto had 2 sides A1622-A1623; Fukuoka had 2 sides A1626-A1627. Cumulatively, these constitute all of the prior art references put in evidence at the trial.

1) Norgren *did* offer such proof A1253; 2) As previously discussed in this brief, no prior art reference taught a four sided clamp which means that not all of the elements *were present in the prior art*; and 3) SMC, once again, has the burden of proof backwards: it is their burden under *KSR* and 35 U.S.C. § 103 to prove obviousness by clear and convincing evidence which includes presenting evidence that the result of combining the prior art elements *was* predictable.

### 3. Prior Art Cited by SMC Teaches Away From the '392 Patented Invention

The Palatchy patent shows a round or circular connector for pipes. This would be wholly inappropriate for connecting FRLs since it would not allow the clamp to keep the units in proper orientation. Furthermore, there is nothing in its design that would give comfort to a person of skill in the art that its pivoting side would work under the pressures existent in a compressed air system. A1253.

The Abbes patent teaches forcing pressure *outwardly* to seal connecting pipes rather than *inwardly* with the tightening of the locking device as required in claim 1, and all dependent claims, of the '392 patent.

The Ribble patent, while showing a flange that is identical to the SMC flange, promotes the efficacy of a three-sided clamp *without* a pivotally mounted side.

Rather than provide proof of obviousness, these prior art citations tend to show that the '392 patent was based on unique insight not present in the engineers working on the problem circa 1993.

### 4. SMC Fails to Provide a Reason for a Person of Ordinary Skill in the Art to Combine the Elements in the Prior Art

The ID correctly ruled that SMC failed to provide a reason that a person of ordinary skill in the art circa 1993 would combine the elements of the '392 clamp. A0061. Contrary to SMC's contention in its brief, *KSR* **does** require the proponent of obviousness to prove a reason to combine prior art elements. *KSR* at 1741. All *KSR* did was reject the rigid "TSM" (teaching, suggestion, motivation) test. The Supreme Court required that the proponent (SMC in this case) "identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does." 127 S. Ct. at 1741. SMC presented no evidence whatever that a person of ordinary skill in the art circa 1993 would have a reason to combine the elements of the '392 device (assuming those elements actually existed in the prior art).

### 5. SMC Failed to Prove: How "Design Choices" Would Have Been Made, The Ease or Difficulty with which Design Choices Would Have Been Implemented, and What the Expectations of Success Would Have Been

Perhaps the most eloquent defense against SMC's obviousness contention came from the most unexpected source, David Trumper. When asked what considerations a person of skill in the art circa 1993 would have to ponder when designing a new FRL connector, Trumper provided a lengthy list including: flow rates, the environment, corrosive gases, wash downs with corrosive substance, temperature range, access, high performance applications, pressure ranges, water content of the air, and dirt content of the air. Without significant trial and error, a person of skill in the art would not know what designs would work under what conditions. A1651-A1653. Since a person of skill in the art would be faced with "a number of design choices" for solving the problems of ease of use, removal and installation, he/she would not find it obvious to know which design would actually work under all anticipated conditions. A1612-A1613. Despite providing this lengthy and complicated list of design considerations, Trumper failed to include any of them in his "analysis" as to why one of skill in the art would find it obvious to combine the elements spread across various references in order to arrive at the invention claimed in the '392 patent. Trumper's conclusory statements regarding the reasons to combine

do not square with his own testimony concerning the challenges these design engineers would face in trying to solve these problems.

Similarly, Trumper failed to establish how a person of ordinary skill in the art would have made the design choices that confronted him or her in 1993 in designing a clamp like the one in the '392 patent. While Trumper did outline the great number and seriousness of the challenges facing a person of ordinary skill in the art; he never opined on what expectation that person would have of creating a technically and commercially successful FRL clamp with a pivotally mounted side.

### 6. Secondary Considerations Support a Finding That the Claims Are Valid

It was uncontroverted at the trial that persons of skill in the art were amazed that a clamp with a pivoting side actually worked under the pressures that those in the art knew existed in a typical compressed air system. A1253.

It was also established that the market had long expressed a need to have an FRL connector that allowed for ready installation or removal of a unit hooked up to an assembly line in a busy factory in a place that was difficult to access. A1244-A1249. The devices described in the '392 patent satisfied this need.

The very prior art cited by SMC, all of which sprang from engineers in the 1980's, shows that others addressing the problem of ease of installation and removal of units tried and failed in the decade preceding the '392 patent.

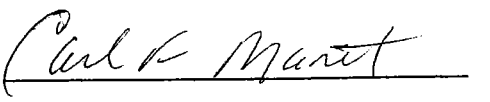
## CONCLUSION

Neither SMC nor the ITC have argued or presented any reason for this Court to "read in" the limitation of four projecting rims found in the '392 patent's preferred embodiments for the *generally rectangular ported flange* in claim 1. SMC has similarly presented no reasons to read in the limitations of "no loose parts" or "hinge-like mounting" for the claim term *pivotally mounted side*. SMC has also failed to show that there is anywhere close to sufficient evidence in the record to show that the '392 invention was obvious by clear and convincing evidence.

This Court should correct the construction of *flange* to eliminate the requirement of four projecting rims, but otherwise affirm the rulings in the ID.

DATED this 9th of January, 2009.

Respectfully submitted,



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## CERTIFICATE OF SERVICE

### United States Court of Appeals For the Federal Circuit

NORGREN INC v. ITC, 2008-1415

I, Carl F. Manthei, being duly sworn according to law and being over the age of 18, upon my oath depose and say that:

I am the attorney for Norgren Inc., the Petitioner.

On January 09, 2009 I had two (2) true copies of the **REPLY BRIEF OF NORGREN INC.** served by hand, upon:

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I further certify that on January 09, 2009, I caused one (1) original plus eleven (11) copies of the **REPLY BRIEF OF NORGREN INC.** to be hand delivered to:

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## CERTIFICATE OF COMPLIANCE

I Carl F. Manthei, hereby certify under Federal Rule of Appellate Procedure 32(a)(7)(c)(i) that this brief contains 6,974 words as counted by Microsoft Word 2003, the word processing program used to prepare the brief, and therefore complies with the Federal Rule of Appellate Procedure 29(d) and the type-volume limitation of Federal Rule of Appellate Procedure 32(a)(7)(c)(i).

This brief complies with the typeface requirements of Federal Rule of Appellate Procedure 32(a)(5) and the type style requirements of Federal Rule of Appellate Procedure 32(a)(6). This brief has been prepared in a proportionally space typeface using Microsoft Word 2003 in 14-point, Times New Roman font.

Dated: January 9, 2009

Carl F. Manthei