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United States Court of Appeals for the Federal Circuit

05-5025, -5029

PAYMASTER TECHNOLOGIES, INC.,

Plaintiff-Cross Appellant,

v.

UNITED STATES,

Defendant-Appellant.

DECIDED: May 4, 2006

Before MICHEL, Chief Judge, FRIEDMAN, Senior Circuit Judge, and DYK, Circuit Judge.

Opinion for the court filed by Chief Judge MICHEL. Concurring opinion filed by Senior Circuit Judge FRIEDMAN. Dissenting-in-part opinion filed by Circuit Judge DYK.

MICHEL, Chief Judge.

The United States appeals the final judgment of liability for its use of a patented invention and of damages by the United States Court of Federal Claims in this case under 28 U.S.C. § 1498. Paymaster Techs., Inc. v. United States, 61 Fed. Cl. 593 (2004) (“Paymaster II”). Critical to the trial court’s finding use of the invention of United States Patent No. 5,292,283 (“the ‘283 patent”) by two types of money order forms by the United States Postal Service (“USPS”) was its construction of the claim limitations

“form set” and “ink permeates through the sheet from said printed front surface to said back surface to provide the indicia in mirror image form on said back surface,” found in all three asserted claims. The government challenges the trial court’s interpretation of these two claim phrases, but agrees that if the constructions stand, so do the rulings of use of the patented invention. The United States also appeals the damage award, alleging that too large a royalty base was used, as no reduction was made for a percentage, allegedly 10%, of one of the form sets that due to production variations does not meet all claim limitations. Paymaster Technologies, Inc. (“Paymaster”) cross appeals the damage award and requests remand to re-determine and increase the royalty rate, particularly if the royalty base is reduced.

As to use of the patented invention, encompassing both types of money orders, because we agree with the trial court’s claim constructions, we affirm. We vacate and remand the damages judgment as to the royalty base for findings consistent with our opinion. We affirm the damages judgment as to the royalty rate of 3.5%. Finally, we commend the trial judge for her painstaking, lucid, and lengthy opinion.

I.

The technology at issue in this case relates to form sets for use with an imprinting apparatus for imprinting money orders.¹ Often, form sets of several interlayered sheets are used for money orders, including one upper, negotiable sheet on which an amount to be paid is entered, one intermediate, voucher sheet for the issuer, and a lower, customer receipt sheet. Layered between these sheets are

¹ The patent at issue, United States Patent No. 5,292,283 (issued March 8, 1994), covers the form sets. Another patent, United States Patent No. 4,995,315 (issued February 26, 1991), covers the imprinting apparatus.

“transfer medium” sheets impregnated with ink. The ink from these transfer medium sheets permeates onto the intermediate, voucher and lower, customer receipt sheets to transfer the amount entered on the upper, negotiable sheet onto the intermediate and lower sheets when the form set is impacted by the imprinting apparatus. The dollar amount and payee entered on the upper sheet are thus also visible on the front surface of the intermediate and lower sheets. The amount is also visible on the back surface of the upper, negotiable sheet – because the ink penetrates to the back of the sheet. This visibility provides both optical character recognition for automatic processing by computer and resistance to subsequent alteration and tampering.

At issue are claims 1, 5, and 10. Paymaster accuses the government of using two different types of money order form sets covered by the '283 patent: (1) a five-ply money order form set (consisting of the three specific sheets described above with interlayered ink-infused transfer medium sheets); and (2) a single-ply money order form set that is both imprinted and processed electronically. The first type of form set was found to be covered by claims 1 and 5, while the single-ply form set was found to be covered by claim 10.

The Court of Federal Claims conducted a one-day Markman hearing in September 2002 and issued its claim construction in November 2002. Following denial of various summary judgment motions, in May 2004 the court held a seven-day trial on liability and damages. Based on its claim constructions, the trial court found that both the USPS five-ply money orders and the single-ply money orders were covered by the '283 patent and, consequently, that the government owed Paymaster compensation for use of both variations of the invention of the '283 patent. Claims 1 and 5 were found to

cover the five-ply form set and claim 10, the single-ply form set. Relying on expert testimony as to the Georgia-Pacific factors, Georgia-Pacific Corp. v. United States Plywood Corp., 318 F. Supp. 116 (S.D.N.Y. 1970), the trial court established a royalty rate of 3.5% on a royalty base of \$55,923,969.47.²

The government appeals the findings of use of the patented invention based on both types of money order form sets and challenges the claim constructions on which such findings rest. It also requests vacatur of the damages award and, if infringement is upheld, a remand for reduction of the royalty base. Both sides seek remand as to the damage amount and both seem to agree the trial court erred in not reducing the base. Paymaster cross appeals the royalty rate aspect of the damages judgment, alleging clearly erroneous analysis of one of the Georgia-Pacific factors. Because we agree with the claim constructions, we affirm the rulings of use of the patented invention as to both types of money orders. However, we vacate and remand the damage award as to the royalty base for re-determination consistent with Part C of our opinion. Finally, we affirm the trial court's damage award as to the royalty rate, rejecting Paymaster's cross appeal. This Court has jurisdiction under 28 U.S.C. § 1295(a)(3).

II.

A.

The first critical issue is the correct construction of the term "form set." According to the trial court's construction, "form set" includes "single-ply" form sets, Paymaster

² The royalty base was calculated as the combined total purchase of both types of money order form sets by the USPS. From May 12, 1994, through February 29, 2004, the USPS purchased 1,521,149,560 five-ply money order forms for a total price of \$27,787,193.44. For the same period, the USPS purchased 785,328,262 single-ply money order forms for a total price of \$28,136,776.03.

Techs., Inc. v. United States, 54 Fed. Cl. 579, 590 (2002) (“Paymaster I”). The government argues that “form set” must be interpreted to exclude “single-ply” form sets because, it says, the claim language itself recites and the specification discloses more than one “sheet” in every form set described. Paymaster responds that, while claims 1 and 5 recite a form set including three specific “sheets,” the plain language of claim 10 allows a form set that includes only one such specific “sheet.” Furthermore, it asserts, the written description discloses a form set having only one specific “sheet.” We agree with the trial court.

We start with the claim language. Independent claim 10 recites in relevant part:

[a] form set . . . comprising . . . at least one negotiable instrument sheet
. . . .

'283 patent, col. 18, ll. 5-12. In contrast, claim 1 recites in relevant part:

[a] form set . . . comprising . . . an upper negotiable instrument sheet. . . , a lower customer receipt sheet, an intermediate voucher sheet. . . , a first transfer medium positioned between said upper negotiable instrument sheet and said intermediate voucher sheet, and a second transfer medium positioned between said lower customer receipt sheet and said intermediate voucher sheet

Id. at col. 16, ll. 25-37. Claim 5 uses the exact same relevant language. Id. at col. 16, l. 60 – col. 17, l. 5.

According to its plain language, claim 10 reads on a form set that includes a negotiable instrument sheet. Under conventional construction of “comprising,” a form set as recited in claim 10 may include only one negotiable instrument sheet, so long as it includes another form. See Vehicular Tech. Corp. v. Titan Wheel Int’l, Inc., 212 F.3d 1377, 1383 (Fed. Cir. 2000).

Claims 1 and 5 add the limitation that their form sets must include two specific additional sheets, a lower, customer receipt sheet and an intermediate, voucher sheet. But this limitation cannot mean that the form set of claim 10 must have these same two specific additional sheets. It merely recites that the form set of these two claims will also include these two other specified sheets.

The issue, then, is whether a form set with “at least one negotiable instrument sheet” may be “single-ply.” We hold that a form set as recited by all three claims and disclosed in the specification may be single-ply. A “form set” is simply a set of forms, i.e., more than one form. For example, a negotiable instrument sheet may constitute one form, a customer receipt sheet may constitute another form, and a voucher sheet may constitute another form. Together, these forms constitute a form set. Yet each form in a form set does not have to occupy a separate layer, or ply. Rather, multiple forms in a form set may be in a single ply, as perforated, detachable forms. But there must be at least two different forms to constitute a form set.

Every relevant part of the specification accords with this meaning of the term “form set.” Indeed, the key to understanding the correct construction of the term “form set” is to apprehend that the summary of the invention describes two different types of form sets: (1) a set of forms with at least one negotiable instrument sheet, and (2) a set of forms with specifically an upper negotiable instrument sheet, a lower customer receipt sheet, an intermediate voucher sheet, and transfer medium sheets positioned between.

The first two paragraphs of the Summary of the Invention describe a form set as recited in claims 1 and 5, a form set with five specific sheets – including the “upper”

negotiable sheet, the “lower” customer receipt sheet, the “intermediate” voucher sheet, and the two transfer medium sheets “positioned between” these sheets. ’283 patent, col. 2, ll. 10-44. Because the five specific sheets are disclosed as “upper,” “lower,” and “intermediate,” and because the transfer medium sheets are “positioned between” the forms or sheets, id. at col. 16, ll. 40, 43, col. 17, ll. 8, 11, this type of form set has to be multi-ply. This type of form set is the type later disclosed as the preferred embodiment. Id. at col. 4, ll. 15-17.

The third paragraph of the summary of the invention, however, describes a form set as recited in claim 10 – a form set only specifying a negotiable instrument sheet. Id. at col. 2, ll. 52-53. This “negotiable instrument sheet” is not described as an “upper” negotiable instrument sheet. No transfer medium sheets are “positioned between” the negotiable instrument sheet and any other sheet. The additional form in this second type of form set may be part of a single ply. This reading of all three paragraphs of the summary of the invention – and the two different types of form sets that they describe, multi-ply and single-ply – is the key to understanding the meaning of “form set.”

It is true that also disclosed in the summary of the invention are form sets with the specific three sheets as described above and their interlayered transfer medium sheets. Id. at col. 2, ll. 12-17. A “multicopy form set” comprised of a “plurality of sheets” is further disclosed in detail in the written description, id. at col. 7, ll. 17-18, but only under the heading “Description of a Preferred Embodiment.” It is axiomatic that claims are only rarely, if ever, construed as limited to the preferred embodiment. See, e.g., Johnson Worldwide Assoc., Inc. v. Zebco Corp., 175 F.3d 985, 992 (Fed. Cir. 1999).

B.

The government also challenges the trial court's construction of the claim limitation "ink permeates through the sheet from said printed front surface to said back surface to provide the indicia in mirror image form on said back surface" that requires ink "on or at the back surface,"³ appearing in all three asserted claims. The government asserts that the limitation requires permeation of the ink through the back surface of the top sheet. Paymaster replies that the limitation requires only penetration of the ink to the back surface such that the ink resides on the back surface of the sheet – not through the back sheet. We agree with the trial court's construction that ink must reside on or at the back surface of the sheet – but does not have to permeate through the back surface of the sheet.

The claim language itself of the limitation "ink permeates through the sheet from said printed front surface to said back surface to provide the indicia in mirror image form on said back surface" supports the trial court's interpretation. While it is true that the claim limitation contains the term "through," this word cannot carry the government's argument. For example, claim 10 states that the ink permeates "through the sheet" – not "through the back of the sheet." Claim 10 further explains how far the permeation goes – "from said . . . front surface to said back surface." Thus, the ink travels to the back surface of the sheet – not through the back surface of the sheet. Thus, the claim

³ In so construing this claim limitation during a hearing on summary judgment (of invalidity under the on-sale bar and of co-ownership), the trial court noted that, prior to claim construction, it had "met with the parties and received a list of those phrases and aspects of claims that were in dispute, and this was not one of them." During the summary judgment hearing, then, the court construed the limitation. "There is no question[] in my mind . . . that that claim . . . requires the ink to be on or at the back surface." While an argument could have been made that the government waived any disagreement with the court's construction, it was not made. Moreover, liability turns on the correctness of the construction. Hence, we will review it.

language provides no support for the government's argument. Indeed, it refutes the argument.

The specification further bolsters the correctness of the trial court's construction. In the Description of a Preferred Embodiment, the written description discloses that the ink "permeat[es] from the upper to lower surface of the top sheet." '283 patent, col. 5, ll. 19-20. Later, the written description explains what "through the sheet" means and how far the ink must travel – "the ink permeates through the top sheet from its front surface to its back surface." *Id.* at col. 7, ll. 49-51 (emphasis added). In yet another instance, it teaches that the ink "permeate[s] through the paper sheet . . . from the front to the back." *Id.* at col. 7, ll. 56-57 (emphasis added). Thus, in each instance, the specification explains how far the ink permeates – through the sheet, but only to the back of the sheet – not through the back of the sheet. Nor does the prosecution history require a different construction.

The extrinsic evidence of dictionary definitions supplied by Paymaster strengthens this distinction between "to" and "through" as well. "To" means: "in a direction toward," "reaching as far as," "to the degree or extent of," "towards a specific state," "in contact with," and "in front of." Webster's II New College Dictionary (2d ed. 1999) (emphasis added). These definitions indicate that "to" means something that has not penetrated through another thing, but rather something that travels "toward something" and "contacts" it to be "in front of" it. The government does not supply contrary definitions of "to" and does not offer any definitions of "through."

Moreover, the government's argument is impractical, for if the ink came out the back side of the sheet, it would smear the surface below. Therefore, it is difficult to

understand how the government can expect us to accept its argument which lacks support in the claims, the written description, dictionaries, and practicality.

C.

We vacate the damages award as to the royalty base and therefore we remand this issue. On remand, the trial court should re-determine whether the percentage of five-part money orders that did not infringe – approximately 10% – due to imperfect production of the accused forms should have been included in the damages calculation, and what that percentage of non-infringing five-part money orders is. There was testimony about samples of 10 and 50 forms (out of 1.5 billion purchased) indicating insufficient penetration of ink approximately 10 to 12% of the time. The court should assess whether such samples are statistically significant. If not, it may admit additional evidence. It may not, however, ignore forms not meeting claim limitations. As both parties agree, the trial court's interpretation of Bell Communications Research, Inc. v. Vitalink Communications Corp., 55 F.3d 615 (Fed. Cir. 1995) was incorrect.

D.

While the amount of damages is a question of fact reviewed under the clear error standard, the methodology used is reviewed for abuse of discretion. See, e.g., Home Sav. of Am., FSB v. United States, 399 F.3d 1341, 1346-47 (Fed. Cir. 2005). The “general type of damages to be awarded” is reviewed for clear error. Id. We see neither clear error nor abuse of discretion in the trial court's determination of a 3.5% royalty rate based on its detailed and careful analysis of the Georgia-Pacific factors.

Paymaster's expert posited a royalty rate of 5% to 6%. The government's expert suggested a rate of 1.5%. After carefully analyzing all fifteen of the Georgia-Pacific

factors and weighing the analysis offered by each expert, the trial court determined that a rate of 3.5% was appropriate. While the court found the government's expert's analysis more thorough and accurate on the whole, it found his analysis lacking in part. Consequently, the court started with the government's rate of 1.5%, but increased it to 3.5% to account for the omissions in the government's analysis.

Paymaster contends that the trial court's analysis of Georgia-Pacific factor eight, the commercial success and profitability of the accused products, was flawed because the court weighed the conflicting evidence and found that it balanced out to render this factor "neutral." Paymaster II, 61 Fed. Cl. at 612. Paymaster's expert asserted that the money orders were both popular and highly profitable for the USPS. The government's expert disagreed, asserting that by definition the USPS does not make any profit. Both offered plausible testimony. We see no clear error or abuse of discretion with the trial court's weighing of the evidence and analysis of this factor. What no one can dispute is that offering the money order service was popular enough that in a ten-year period the USPS had to purchase 1.5 billion forms. We hold that this equates to commercial success. Thus, the court could have sustainably found that factor eight was proven by Paymaster. However, that it did not fails to rise to the level of clear error. The court clearly understood all the facts. That it termed factor eight "neutral" did not, in any event, prejudice Paymaster and was at most harmless error.

III.

We agree with the trial court that the term "form set" as used in all asserted claims of the '283 patent includes a form set of a single ply. Like the trial court, we hold that the limitation "ink permeates through the sheet from said printed front surface to said back

surface to provide the indicia in mirror image form on said back surface” requires only that the ink appear at the back of the form sheet, not that it permeate all the way through the back surface of the top sheet. In light of these claim constructions, we affirm as to liability. We vacate the damages award, however, and remand the issue as to the correct royalty base for a finding consistent with our opinion and, if appropriate, a reduction of the royalty base by an appropriate percentage of one product that both parties agree does not always meet a limitation of either of the two claims found to cover this product. Finally, on the cross appeal by Paymaster, we affirm the trial court’s damages judgment as to the royalty rate. Accordingly, we affirm in part, vacate in part, and remand.

United States Court of Appeals for the Federal Circuit

05-5025, -5029

PAYMASTER TECHNOLOGIES, INC.,

Plaintiff-Cross Appellant,

v.

UNITED STATES,

Defendant -Appellant.

FRIEDMAN, Senior Circuit Judge, concurring.

Although I agree with and join the court's opinion, I write separately to suggest a slightly different approach to determining the meaning of claim 10.

The three independent claims at issue in this case – 1, 5, and 10 – have a common format. Each of them specifies “A form set . . . comprising,” followed by a description of the items included in the particular form set. Claims 1 and 5 identically state, after “comprising,” “an upper negotiable instrument sheet,” a “lower customer receipt sheet” and “an intermediate voucher sheet,” together with “a first” and “a second” “transfer medium.” Claim 10, in contrast, after “comprising,” states “at least one negotiable instrument sheet,” which is described in considerable detail.

On its face, this language appears to state that the form set described in claims 1 and 5 requires 3 sheets (one of which is a “negotiable instrument sheet”), whereas the form set in claim 10 requires only “at least one negotiable instrument sheet.”

The government argues, however, that the concept of a “form set” necessarily requires at least two sheets, since a “set” means more than one. The court’s majority opinion correctly rejects this interpretation of “form set.”

The government achieves its construction of claim 10 by in effect incorporating into that claim the limitation in claims 1 and 5 that the “form set” they cover must include 3 sheets. In other words, the government interprets “at least one negotiable instrument sheet” in claim 10 to mean “at least three” sheets, one of which is a “negotiable instrument sheet.” This bit of legal legerdemain appears contrary to the well-established principle of claim construction that explicit limitations in one claim will not be read into another claim that does not include them. Indeed, if claim 10 as written includes the 3 sheet limitation of claims 1 and 5, there would seem to have been no reason for the patentee to have included the “at least one negotiable instrument sheet” limitation in claim 10, since that limitation already was provided by the “an upper negotiable instrument sheet” language of claims 1 and 5.

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United States Court of Appeals for the Federal Circuit

05-5025, -5029

PAYMASTER TECHNOLOGIES, INC.,

Plaintiff-Cross Appellant,

v.

UNITED STATES,

Defendant-Appellant.

DYK, Circuit Judge, dissenting in part.

Although I join the court's opinion insofar as it affirms the Court of Federal Claims' construction of the ink permeation limitation and vacates and remands the damages ruling, I do not agree with the majority's construction of the term "form set." I respectfully dissent.

In pertinent part, claim 10 of the '283 patent covers "[a] form set for use with an apparatus having an imprinting mechanism . . . said form set comprising: at least one negotiable instrument sheet" '283 patent, col. 18, ll. 5-13. The majority concludes that "form set" in claim 10 is a "set of forms, i.e., more than one form" with at least one negotiable instrument sheet. Maj. Op. at 6, 8. The majority further concludes that while a "form set" is a set of forms, the form set itself may be "single-ply," meaning that a single sheet containing multiple, perforated forms could make up a "form set." Maj. Op.

at 6. While I agree that a “form set” is a set of forms, I do not agree that a “form set” can be a singly-ply sheet.

Our cases recognize that the specification is the single best guide in construing patent terms, and that language in the specification describing the “present invention” should limit the claims to the invention described. For example, in SciMed Life Systems, Inc. v. Advanced Cardiovascular Systems, Inc. 242 F.3d 1337 (Fed. Cir. 2001), the court held that “[t]he characterization of [a particular arrangement] as part of the ‘present invention’ is strong evidence that the claims should not be read to encompass the opposite structure.” Id. at 1343; see Liebel Flarsheim Co. v. Medrad, Inc., 358 F.3d 898, 908 (Fed. Cir. 2004). Similarly, in Watts v. XL Systems, Inc., 232 F.3d 877 (Fed. Cir. 2000), the court construed a patent claim limitation stating that two pipes had to be “sealingly connected.” Id. at 879. The court determined that the claimed connection was limited to connections with “misaligned taper angles” because the specification stated that “[t]he present invention utilizes [the varying taper angle] feature.” Id. at 883 (brackets in original). The court therefore found that the specification “limit[ed] the invention to embodiments with misaligned taper angles.” Id. Significantly, these cases are cited with approval in Phillips v. AWH Corp., 415 F.3d 1303 (Fed. Cir. 2005) (en banc).

Here, the specification makes clear that a “form set” includes more than one sheet. The first paragraph of the Summary of the Invention states that “[t]he present invention provides a form set for use with an imprinting apparatus for imprinting indicia with dye-based ink on negotiable instruments. The form set includes an upper negotiable instrument sheet . . . a lower customer receipt sheet, and an intermediate

voucher sheet” ’283 Patent, col. 2, ll. 12-17 (emphasis added). Contrary to the majority, nothing in paragraph 3 of the Summary of the Invention supports a single sheet construction or undermines the significance of the first paragraph.¹ Paragraph 3 simply describes a ribbon-based mechanism for imprinting the form set described in the first paragraph. Thus in my view, the “present invention” language in the specification limits the term “form set” in claim 10 to a group of multi-ply sheets.

¹ Paragraph 3 of the Summary of the Invention states:

Further, in accordance with the present invention, there is provided a form set for use with an apparatus having an imprinting mechanism including a ribbon bearing dye-based ink for imprinting negotiable instruments with characters indicative of the dollar and cents amount for which the negotiable instrument is drawn. . . . The form set comprises at least one negotiable instrument sheet comprised of an absorbing type paper sheet material for absorbing the dye-based ink, whereby when the form set is impacted by the imprinting mechanism of the apparatus, the dye-based ink permeates through the sheet from the printed front surface to the back surface to provide the indicia in mirror image form on the back.

’283 Patent, col. 2, ll. 45-59.