

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* ROBERTUS WILHELMUS MARINUS NAUS and  
JOANNES LOUIS MARIE VAN MONTFORT

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Appeal 2008-1784  
Application 10/465,100  
Technology Center 3600

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Decided: September 26, 2008

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Before WILLIAM F. PATE, III, JENNIFER D. BAHR, and LINDA E.  
HORNER, *Administrative Patent Judges*.

PATE, III, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

This is an appeal from the Final Rejection of claims 1 and 4. Claims 2 and 3 have been cancelled. Claims 5-14 stand withdrawn from

consideration. These are the only claims in the application. We have jurisdiction under 35 U.S.C. §§ 134 and 6 (2002).

Claim 1 is directed to a method of constructing a road wherein a bituminized fleece is placed on a foundation layer and the road surface is bonded to the foundation layer by electromagnetically heating the binder of bituminized fleece. Claim 4 is directed to a method of removing a road wherein a binder course is heated to soften the binder and the road surface is removed. Claims 1 and 4, reproduced below, are further illustrative of the claimed subject matter:

1. A method of constructing a road comprising the steps of:  
disposing, by unwinding, a binder course for holding a road surface to a foundation layer, the binder course comprising electromagnetically sensitive particles, directly upon the foundation layer, the binder course comprising a roll of prefabricated bituminized fleece; and  
providing the road surface directly on top of the binder course, such that the bonding of the road surface on the foundation layer is realized upon electromagnetically heating the binder course.

4. A method for the removal of a road surface applied on a foundation layer comprising:  
electromagnetically heating a binder course that holds the road surface to the foundation layer, the binder course comprising particles that are sensitive to excitation by electromagnetic waves and that is present between the road surface and the foundation layer to soften the binder course prior to its removal; and

removing the road surface after  
electromagnetically heating the binder  
course.

The references of record relied upon by the Examiner as evidence of obviousness are:

Jeppson	US 4,594,022	Jun. 10, 1986
Shoesmith	US 5,393,559	Feb. 28, 1995

Claims 1 and 4 stand rejected under 35 U.S.C. § 103 as unpatentable over Shoesmith in view of Jeppson.

### ISSUES

The two issues for our consideration in this appeal are whether the Appellants have established the Examiner erred in rejecting claims 1 and 4 on the ground of obviousness.

### FINDINGS OF FACT

Appellants' Specification defines electromagnetic heating as heating being effected by microwaves or by induction without being limited thereto. Specification 2:14-16. Thus, electromagnetic heating is not limited to merely microwaves and induction heating by Appellants' definition, but also includes other forms of heating such as infrared radiation which forms a part of the electromagnetic spectrum. Infrared radiant heating of pavement is well known in the art. *Anderson's-Black Rock, Inc. v. Pavement Salvage Co.*, 396 U.S. 57, 58 (1969)(finding that the use of a radiant-heat burner in working asphalt pavement dates back to a patent issued in 1905).

Shoesmith discloses a method for reinforcing pavement which comprises the unwinding and applying of a prefabricated reinforcement of continuous filament. The reinforcement is coated with an asphaltic resin before it is applied to the foundation layer and it is adhered to the foundation layer by an adhesive. Shoesmith, col. 2, ll. 33-43, col. 3, ll. 56-62, and col. 4, ll. 26-29. The resin that is used to preimpregnate the fiber can be asphalt, rubber, modified asphalt, or the like. Shoesmith, col. 4, ll. 57-64. After the preimpregnation with the resin, an adhesive coating is applied to the resin impregnated grid. Shoesmith, col. 5, ll. 8-11. These adhesives can be adhesives activatable by pressure, heat or other means. Shoesmith, col. 6, ll. 20-28.

Jeppson teaches a method of making and/or removing a road surface. The road surface is the upper surface of overlayer 14. The overlayer is placed on a foundation layer--underlayer 13. Jeppson uses the method of electromagnetically heating the overlayer 14 as shown in Figure 3. Jeppson, col. 1, ll. 30-34, col. 1, ll. 61-68, and col. 4, ll. 4-55. Jeppson teaches heating the asphalt of the overlayer 14 desired to be removed, removing the asphalt temporarily, and, after remixing in a drum mixer of the like, returning it to overlie the underlayer 13 as a new riding surface. See col. 6, l. 57-col. 7, l. 52. Although Jeppson teaches the use of a reflective zone 12 of conductive material (see e.g., Jeppson, col. 7, ll. 5-10), such a reflective zone is not precluded by Appellants' claims.

#### PRINCIPLES OF LAW

We determine the scope of the claims in patent applications “not solely on the basis of the claim language, but upon giving claims their

broadest reasonable construction “in light of the specification as it would be interpreted by one of ordinary skill in the art.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005)(*en banc*) (quoting *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004)). We must be careful not to read a particular embodiment appearing in the written description into the claim if the claim language is broader than the embodiment. *See Superguide Corp. v. DirecTV Enterprises, Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004) (“Though understanding the claim language may be aided by explanations contained in the written description, it is important not to import into a claim limitations that are not part of the claim. For example, a particular embodiment appearing in the written description may not be read into a claim when the claim language is broader than the embodiment.”). The challenge is to interpret claims in view of the specification without unnecessarily importing limitations from the specification into the claims. *See E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1369 (Fed. Cir. 2003).

“Section 103 forbids issuance of a patent when ‘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.’” *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1734 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of ordinary skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1,

17-18 (1966). *See also KSR*, 127 S. Ct. at 1734 (“While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.”)

In *KSR*, the Supreme Court emphasized “the need for caution in granting a patent based on the combination of elements found in the prior art,” *id.* at 1739, and reaffirmed principles based on its precedent that “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *Id.* The Court explained:

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

*Id.* at 1740. The operative question in this “functional approach” is thus “whether the improvement is more than the predictable use of prior art elements according to their established functions.” *Id.*

In rejecting claims under 35 U.S.C. § 103(a), the examiner bears the initial burden of establishing a prima facie case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). *See also In re Piasecki*, 745 F.2d 1468, 1472 (Fed. Cir. 1984). Only if this initial burden is met does the burden of coming forward with evidence or argument shift to the appellant.

*Id.* at 1445. *See also Piasecki*, 745 F.2d at 1472. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. *See Oetiker*, 977 F.2d at 1445; *Piasecki*, 745 F.2d at 1472.

#### ANALYSIS

We affirm the rejection of claim 1. As noted above, Shoemith discloses unwinding a binder course on a road foundation layer wherein the binder course comprises fabric coated with bituminized resins and an adhesive. The adhesive can be activated by pressure, heat, or other means. Jeppson discloses that it is old and well known to use microwave energy as the heating source when applying hot melt asphalt. Therefore, using a microwave energy source as the electromagnetic heating means to activate the heat activatable adhesive of Shoemith is merely applying a known technique to a known article ready for improvement that would yield predictable results. *See KSR* at 1740.

Additionally, Appellants' definition of electromagnetic heating encompasses heating by infrared radiation which is a part of the electromagnetic spectrum. Therefore, it can be seen that the use of the heat activatable adhesive disclosed in Shoemith with an infrared heater to activate that adhesive anticipates the subject matter of claim 1. *See Shoemith*, col. 6, ll. 25-27. Accordingly, we also affirm the rejection of claim 1 on the ground that novelty is the epitome of obviousness. *In re McDaniel*, 293 F.3d 1379, 1385 (Fed. Cir. 2002)(quoting *Connell v. Sears Roebuck & Co.*, 722 F.2d 1542, 1548 (Fed. Cir. 1983)); *In re Fracalossi*, 681 F.2d 792, 794, (CCPA 1982).

We note Appellants' argument that the asphalt coated fabric layer of Shoemith is not prefabricated bituminized fleece. Brief 4:19-5:1. This argument by Appellants fails to convince us of error on the Examiner's part. The prefabricated bituminized fleece is described only to the extent that the particles embedded therein are activated by the electromagnetic radiation Spec. 3:22-31. The fleece is generally a fabric not otherwise described in Appellants' Specification. Giving this claimed subject matter the broadest reasonable interpretation, the asphalt coated fabric with heat activatable adhesive of Shoemith fully corresponds thereto.

We also reject Appellants' characterization of Shoemith as "Glass impregnated with asphalt." Brief 5:1-2. Shoemith discloses a grid of strands of glass fibers or filaments, essentially a fabric, that can be sewn or knitted to form intersections. Shoemith, col. 3, l. 56-col. 4, l. 25.

Appellants also argue that there is no motivation to combine the references. While the Supreme Court has stated that a rigid insistence on teaching, suggestion, or motivation is incompatible with its precedent concerning obviousness, we are of the view that there is sufficient motivation in the applied prior art so that one of ordinary skill would have found it obvious to use the microwave heater to activate the reinforcing and binding layer disclosed in Shoemith. Furthermore, we merely point out that we have further determined that Shoemith is anticipatory to claim 1. No motivation is needed for § 102.

Turning to a consideration of claim 4, we also affirm the obviousness rejection of this claim. With respect to the language of the claim, we note that the claim requires the electromagnetic heating of a binder course. The binder course is the course that is present between the road surface and the

foundation layer and is sensitive to excitation by electromagnetic waves. The overlayer 14, or at least a portion thereof, is present between the road surface of Jeppson and Jeppson's foundation layer. Furthermore, the overlayer 14 is disclosed as comprised of a binder that is sensitive to electromagnetic excitation and becomes semi-liquid. Jeppson, col. 7, ll. 40-42. The overlayer may be removed temporarily from the underlayer 13 for mixing and the like. Jeppson, col. 7, ll., 45-47. Thus, Jeppson, by itself, teaches the method steps of heating a binder course by electromagnetic radiation and removing the road surface. Accordingly, we affirm the obviousness rejection of claim 4, anticipation being the epitome of obviousness.

Appellants argue that Jeppson does not teach that it would be desirable to combine electromagnetic energy with a binder course. This argument is contradicted by our findings, above, that Jeppson performs these steps, at least with respect to the embodiment of Figure 3.

### CONCLUSION

The Appellants have not established that the Examiner erred in rejecting claim 1. The rejection of claim 1 is affirmed.

The Appellants have not established that the Examiner erred in rejecting claim 4. The rejection of claim 4 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv) (2007).

AFFIRMED

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