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JOHN MOLNAR JR. PARKER-HANNIFIN CORPORATION 6035 PARKLAND BOULEVARD CLEVELAND, OH 44124-4141			ALONZO MILLER, RHADAMES J	
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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* MICHAEL H. BUNYAN, GEORGE R. WATCHKO, and  
WILLIAM G. LIONETTA<sup>1</sup>

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Appeal 2015-003644  
Application 13/059,110  
Technology Center 2800

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Before PETER F. KRATZ, JEFFREY T. SMITH, and  
MONTÉ T. SQUIRE *Administrative Patent Judges*.

SMITH, *Administrative Patent Judge*.

DECISION ON APPEAL

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<sup>1</sup> According to the Appeal Brief, the Real Party in Interest is Parker-Hannifin Corporation. (Br. 2).

STATEMENT OF THE CASE

This is an appeal under 35 U.S.C. § 134 from the final rejection of claims 1–27. We have jurisdiction under 35 U.S.C. § 6.

Appellants' claimed invention relates to a method of EMI shielding electronic circuitry of an electronic device by enclosing the circuitry within an EMI shield. (Spec. 2). Claim 1 is illustrative:

1. A method of EMI shielding electronic circuitry of an electronic device by enclosing the circuitry within an EMI shield having at least one compartment, the method comprising the steps of:

(a) providing a resilient layer formed of a thermoformable, electrically-conductive foam, the layer having first surface and a second surface defining an uncompressed thickness dimension ( $T_1$ ) therebetween, and the layer having an interior portion surrounded by a perimeter portion;

(b) hot-compressing the interior portion of the layer through the uncompressed thickness dimension ( $T_1$ ) thereof to permanently form a top wall portion of the shield having a compressed thickness dimension ( $T_2$ ), the uncompressed thickness dimension ( $T_1$ ) of the perimeter portion extending downwardly from the top wall portion to form a side wall portion of the shield which together with the top wall portion defines at least a portion of the compartment; and

(c) receiving the compartment of the shield over the circuitry of the device.

Appellants request review of the following rejections (Br. 5) from the Examiner's final office action:

1. Claims 1–6, 8–16, 18–23, and 25–27 stand rejected under 35 U.S.C. § 103(a) as unpatentable over McFadden et al. (US Publ. No. 2004/0155308 A1, published Aug. 12, 2004) ("McFadden") in view of Rapp et al. (WO Publ. No. 01/65903 A2, published Sept. 7, 2001) ("Rapp").

2. Claims 7, 17, and 24 stand rejected under 35 U.S.C. § 103(a) as unpatentable over McFadden, Rapp, and Clupper et al. (EP Publ. No. 1 272 024 A1, published Jan. 2, 2003) (“Clupper”).

#### OPINION<sup>2</sup>

We sustain the appealed rejections for the reasons well stated by the Examiner in the Answer. The following comments are added for emphasis.

The Examiner found that McFadden teaches an EMI shield formed of a conductive foam, having a compressed thickness dimension ( $T_2$ ) and an uncompressed thickness dimension ( $T_1$ ) and Rapp teaches the use of a thermoformable foam in the manufacture of EMI shield. The Examiner determined it was well known in the art to make EMI shields using thermoformable foams, thus it would have been obvious to use a thermoformable foam in the device of McFadden. (Ans. 3–4).

In rebuttal to the rejection, Appellants argue the Examiner’s rejection is premised on hindsight because Rapp describes a thermoformable film and does not disclose the use of a thermoformable foam. (Br. 8). Appellants further argue the Examiner’s rejection fails to explain how McFadden’s layer could be permanently deformed only in the compressed areas, particularly in view of the teaching of Rapp to thermoform the entirety of its film layer.

Appellants’ arguments are not persuasive of reversible error. McFadden discloses the use of deformable electrically conductive foam that can be preformed/shaped to create insulating islands over the components.

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<sup>2</sup> Appellants did not argue the dependent claims separately in the Brief. Accordingly, the dependent claims stand or fall together with sole independent claim 1.

(McFadden ¶ 5). A person of ordinary skill in the art would have had sufficient skill to compress only portions of McFadden's foam so as to have obtained both compressed and uncompressed areas. McFadden describes the use of foams generally and does not specify a particular type of foam. (*Id.*). It has not been disputed that thermoformable foams are known to persons of ordinary skill in the art. Rapp describes the EMI shield is manufactured from a polymer thick film (thermoformable film)<sup>3</sup> that is molded into a 3-D form. (Rapp 5). Appellants, in support of their arguments, have not explained that the thermoformable films of Rapp are formed from materials that exclude foams. A person of ordinary skill in the art would have had sufficient skill to select known materials for the formation of EMI shields including thermoformable materials.

Given the above teachings, we determine that a preponderance of the evidence supports the Examiner's obviousness determination. A person of ordinary skill in the art, using no more than ordinary creativity, would have recognized the suitability of utilizing known compressible foams, such as thermoformable foams in the formation of EMI shields. *KSR Int'l. Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (In making an obviousness determination one "can take account of the inferences and creative steps that a person of ordinary skill in the art would employ").

For the foregoing reasons and those set forth in the Answer, based on the totality of the record, we determine that the preponderance of evidence weighs in favor of obviousness, giving due weight to Appellants' arguments. Accordingly, the Examiner's rejections are affirmed.

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<sup>3</sup> Rapp, pg. 5, describes a variety of materials by their trademark names that are suitable for forming the polymeric thermoformable films.

Appeal 2015-003644  
Application 13/059,110

**ORDER**

The rejections of claims 1–27 under 35 U.S.C. § 103(a) are affirmed.

**TIME PERIOD**

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).

**AFFIRMED**