

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TITEFLEX CORPORATION,
Petitioner,

v.

GOODSON HOLDINGS, LLC,
Patent Owner.

Case IPR2016-00730
Patent 7,562,448 B2

Before KALYAN K. DESHPANDE, JUSTIN T. ARBES, and
KIMBERLY McGRAW, *Administrative Patent Judges*.

McGRAW, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

In this *inter partes* review, instituted pursuant to 35 U.S.C. § 314, Titeflex Corporation (“Petitioner”) challenges the patentability of claims 1–7 of U.S. Patent No. 7,562,448 B2 (Ex. 1001, “the ’448 patent”), owned by Goodson Holdings, LLC. (“Patent Owner”). We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision is entered pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons discussed below, we determine that Petitioner has shown by a preponderance of the evidence that claims 1–7 of the ’448 patent are unpatentable.

A. Procedural History

Petitioner filed a Petition requesting an *inter partes* review of claims 1–7 of the ’448 patent. Patent Owner filed a Preliminary Response. Paper 7 (“Prelim. Resp.”). On September 9, 2016, we instituted an *inter partes* review of claims 1–7 of the ’448 patent on certain asserted grounds of unpatentability. Paper 8 (“Dec. on Inst.”).

After institution of trial, Patent Owner filed a Patent Owner Response (Paper 11, “PO Resp.”) and Petitioner filed a Reply (Paper 14, “Reply”). A consolidated oral hearing for this proceeding and Case IPR2016-00731, involving the same parties and similar issues, was held on May 10, 2017. A transcript of the consolidated hearing has been entered into the record. Paper 19 (“Tr.”).

B. Related Proceedings

The parties state the ’448 patent is asserted in a patent infringement lawsuit filed by Patent Owner against Petitioner in the U.S. District Court

for the Northern District of Texas, Dallas Division, captioned *Goodson Holdings, LLC v. Titeflex Corporation*, Civil Action No. 3:15-cv-2153. Pet. 3; Paper 4, 2. The parties also identify Case IPR2016-00731, an *inter partes* review of U.S. Patent No. 7,821,763 B2 (“the ’763 patent”), which is a divisional of the ’448 patent, as a related matter. Pet. 3; Paper 4, 2.

C. The ’448 Patent

The ’448 patent generally relates to “method[s] of preventing electrically induced fires in household gas tubing,” such as corrugated stainless steel tubing (“CSST”), through the use of a “conductive wire [that] provides direct electrical contact between . . . appliance connectors [that are] affixed to the ends of the tubing.” Ex. 1001, Abstract. The conductive ground wire can either be a single wire or multiple strands, such as a wire mesh. *Id.* at 3:29–30.

An embodiment having single conductive grounding wire 601 is shown in Figure 6A, reproduced below.

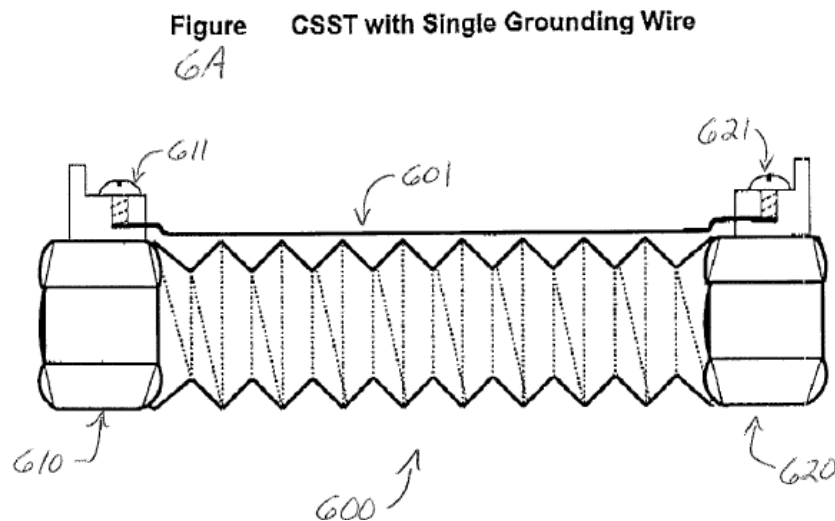
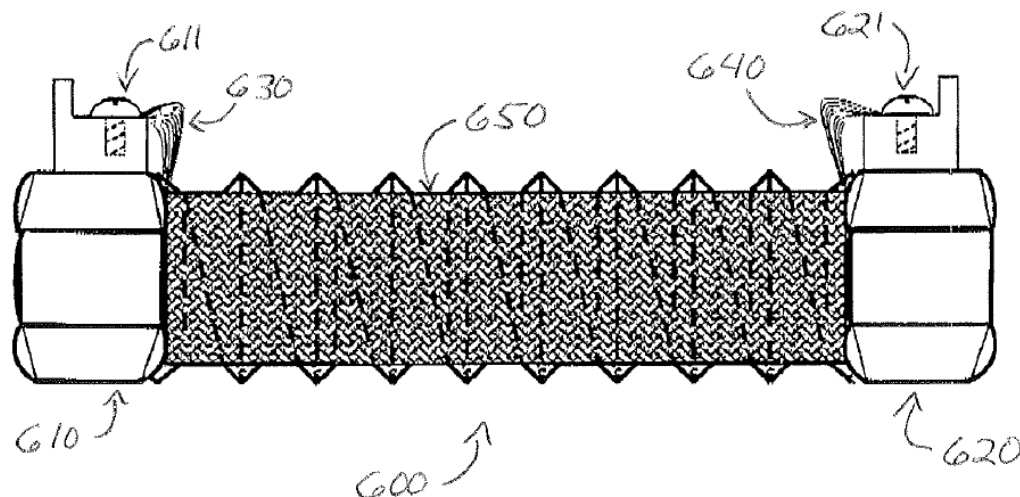


Figure 6A illustrates a CSST having a single “copper ground wire 601 of ~#8 American Wire Gauge (AWG) or larger electrically in parallel with the length of CSST or the appliance connectors 610, 620.” *Id.* at 5:4–9.

“[G]round wire 601 attaches to . . . end connectors 610, 620 at . . . set screws 611, 621 one on each end.” *Id.* at 5:9–11.

An alternative embodiment having “multiple strands of grounding wire” (e.g., a mesh) is shown below in Figure 6B. *Id.* at 5:21–22

Figure 6B CSST with Multiple Strands of Grounding Wire



As shown in Figure 6B above, “CSST flex line 600 is shrouded by . . . wire mesh 650, which is attached to . . . collars 630, 640 on each end.” *Id.* at 5:24–26. Also shown are “brass nuts 610, 620,” which “have collars 630, 640 that protrude from the top.” *Id.* at 5:22–24.

Both embodiments keep “electrical current from damaging the flared ends of the CSST by providing an electrical shunt in the form of copper ground wire between the brass connectors on the ends.” *Id.*, Certificate of Correction dated Mar. 9, 2010. Because “copper is a superior conductor to

CSST, it can safely carry currents that the CSST was never designed to handle.” *Id.* “If an electrical charge goes to ground via the CSST or the appliance connector, such as from a lightning strike or an appliance short, the majority of the current is carried by the conductive wire rather than the CSST or appliance connector itself, thus preventing damage to the CSST from the current.” *Id.* at 3:31–37; *see also id.* at Abstract (stating that “damage to the gas tubing is prevented by the conductive wire and end connectors providing a low resistance electrical path that allows the current to pass over the gas tubing assembly without the gas tubing itself actually having to carry[] the load”). The ’448 patent further explains that for embodiments using a “mesh type shield,” “if the CSST or appliance connector receives an electrical charge from arcing to the side walls, the mesh serves as a current shunt and thus both shunts the current and causes the charge on the actual CSST (or appliance connector) wall to be dissipated over a larger area.” *Id.* at 3:37–42.

D. Illustrative Claim

Petitioner challenges independent claim 1 and dependent claims 2–7. Claim 1 is reproduced below.

1. A method of preventing electrically induced fires in gas tubing, the method comprising:
 - (a) affixing connectors to each end of the gas tubing, wherein the connectors allow the tubing to be securely coupled to gas lines and appliances, allowing the gas tubing to carry gas between a gas line and an appliance, and wherein the connectors are made of a conductive material; and

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