

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NATIONAL OILWELL VARCO, L.P.,
Petitioner,

v.

TECHNICAL INDUSTRIES, INC.,
Patent Owner.

Case IPR2017-00860
Patent 7,552,640 B2

Before THOMAS L. GIANNETTI, BRYAN F. MOORE, and
JASON J. CHUNG, *Administrative Patent Judges*.

GIANNETTI, *Administrative Patent Judge*.

DECISION
Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

National Oilwell Varco, L.P. (“Petitioner”) filed a Petition requesting an *inter partes* review of claims 1–20 (all claims) of U.S. Patent No. 7,552,640 B2 (Ex. 1001, “the ’640 patent”). Paper 1 (“Pet.”). Technical Industries, Inc. (“Patent Owner”) filed a Preliminary Response. Paper 6 (“Prelim. Resp.”).

We have authority to determine whether to institute an *inter partes* review under 35 U.S.C. § 314, which provides that an *inter partes* review may not be instituted unless the information presented in the petition “shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.”

After filing its Preliminary Response, Patent Owner filed a disclaimer of claims 1, 2, 4, 6, 8, 10, 13, 15, 17, and 19, leaving claims 3, 5, 7, 9, 11, 12, 14, 16, 18, and 20 of the ’640 patent at issue in this matter. Ex. 2007. We therefore do not consider those dedicated claims in this Decision. For the reasons set forth below, we institute an *inter partes* review of claims 3, 5, 7, 9, 11, 12, 14, 16, 18, and 20 of the ’640 patent.

II. BACKGROUND

A. Related Matters

The parties advise us that the ’640 patent is asserted in *Technical Industries, Inc. v. National Oilwell Varco, L.P.*, Case No. 6:15-cv-02744 (W.D. La.). Pet. 3; Paper 4, 2. In addition, Petitioner has challenged three patents related to the ’640 patent in IPR2017-00648, IPR2017-00699, and IPR2017-00910. Paper 4, 2.

B. The '640 Patent

The '640 patent is titled “Method for Inspection of Metal Tubular Goods.” The patent relates to the non-destructive testing of tubular metal goods (i.e., pipes). Ex. 1001, 1:19–20. More particularly, the patent relates to a non-destructive means for determination of wall conditions, particularly wall thickness data, of tubular metal goods by use of ultrasonic detection apparatus. *Id.* at 1:20–24. The patent also relates to an improved method of collecting, storing, displaying and otherwise utilizing the information resulting from ultrasonic detection of such walls. *Id.* at 1:24–28.

The patent discloses the use of ultrasonic technology to acquire incremental data representing small, discrete sections of the tubular wall, in association with three-dimensional positional data pertaining to each small, discrete section. *Id.* at 1:28–32. In this way, the wall of a metal tubular (or portions thereof) can be displayed, imaged, examined, and used in simulative or comparative programs as a three-dimensional object. *Id.* at 1:32–35.

The patent acknowledges that the use of ultrasonic technology to inspect a metal tubular by determining wall thickness at a position on the tubular was known in the art prior to the time of invention. *Id.* at 2:39–3:3. The disclosure thus relates to improved methods to acquire, collect, assemble, store, display, and utilize such data, not only for a determination for the presence or absence of defects, but so that data from the inspection may be used to calculate projected performance of the tubular. *Id.* at 3:4–9. According to the '640 patent, this is accomplished with mathematical

precision not previously available by non-destructive evaluation of the tubular. *Id.* at 3:9–11.

C. Illustrative Claim

Originally, the '640 patent had 20 claims. After Petitioner dedicated claims 1, 2, 4, 6, 8, 10, 13, 15, 17, and 19, claims 3, 5, 7, 9, 11, 12, 14, 16, 18, and 20 remain. *See supra*. Patent Owner's Exhibit 2006 shows the non-dedicated claims of the '640 patent.

Claim 1, now dedicated, was the only independent claim. Each of the challenged claims depends, directly or indirectly, from claim 1, which is reproduced below. Following claim 1 are dedicated claim 2, which depends from claim 1, and illustrative claim 3, which depends from claim 2.

1. Method for collection and storage of information representing wall thickness of tubular goods, comprising:

(a) selecting a section of the wall of a tubular good about which information representing wall thickness is to be recorded in a format readable by digital computer means;

(b) determining number and spacing of discrete portions within said section of the wall of said tubular good which will produce information representing wall thickness of said section of the wall of said tubular good having desired resolution;

(c) positioning an ultrasonic detection means which is capable of measuring the thickness of a discrete portion of the wall of a tubular good at a position, which is proximate to a first discrete portion of the selected section of the wall of said tubular good;

(d) while said ultrasonic detection means is at said position, determining the longitudinal position of said ultrasonic detection means along the axis of said tubular good;

(e) while said ultrasonic detection means is at said position, determining the circumferential position of said ultrasonic detection means about the circumference of said tubular good;

(f) while said ultrasonic detection means is at said position, causing said ultrasonic detection means to determine the thickness of said the discrete portion of the section of the wall of the tubular good to which said ultrasonic detection means is proximate;

(g) making a digital recording of said thickness, said longitudinal position and said circumferential position in an associated relationship;

(h) repeating steps (c) through (g) above at a plurality of other positions along the wall of said selected section of the wall which has not been previously determined and recorded, until the entire thickness of said wall of said selected section has been determined and recorded and is represented by a plurality of recordings, each of which represents wall thickness, longitudinal position and circumferential position of a discrete portion of the selected section of the wall of said tubular good in an associate relationship; and,

(i) making a digital recording of said plurality of recordings in an associated relationship.

2. The method of claim 1 wherein the selected section is the entire wall of the tubular good.

3. The method of claim 2 wherein the spacing of said discrete portions within said section of the wall of said tubular good is such that each determination of wall thickness partially overlaps an adjacent discrete portion of said section of said wall of said tubular good.

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