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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

PETROLEUM GEO-SERVICES INC.,
Petitioner,

v.

WESTERNGECO LLC,
Patent Owner.

Case IPR2014-01477
Patent 7,080,607 B2

Before BRYAN F. MOORE, SCOTT A. DANIELS, and
BEVERLY M. BUNTING, *Administrative Patent Judges*.

DANIELS, *Administrative Patent Judge*.

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

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I. INTRODUCTION

A. Background

Petroleum Geo-Services (“Petitioner,” or “PGS”) filed a Petition to institute an *inter partes* review of claims 16–23 of U.S. Patent No. 7,080,607 B2 (“the ’607 patent”). Paper 1 (“Pet.”). WesternGeco LLC (“Patent Owner”) timely filed a Preliminary Response. Paper 12 (“Prelim. Resp.”). We instituted trial in *Petroleum Geo-Services, Inc., v. WesternGeco L.L.C.*, Case IPR2014-01477, for claims 16–23 of the ’607 patent on certain grounds of unpatentability alleged in the Petition. Paper 18 (“Decision to Institute” or “Inst. Dec.”). Patent Owner, in due course, filed a Response. Paper 45 (“PO Resp.” or “Response”). Petitioner subsequently filed a Reply. Paper 47 (Reply).¹

An oral hearing was held on November 10, 2015. A transcript of the hearing is included in the record. Paper 64 (“Tr.”).

The Board has jurisdiction under 35 U.S.C. § 6(c). This Final Written Decision is entered pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons that follow, we determine that Petitioner has proven, by a preponderance of the evidence, that claims 16–23 of the ’607 patent is unpatentable.

B. Additional Proceedings

Lawsuits involving the ’607 patent presently asserted against Petitioner include *WesternGeco LLC v. Petroleum Geo-Services, Inc.*, 4:13-cv-02725 (the “PGS lawsuit”) in the Southern District of Texas and

¹ We refer here to the paper numbers of the redacted versions of Patent Owner’s Response and Petitioner’s Reply.

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WesternGeco LLC v. ION Geophysical Corp., 4:09-cv-01827 (the “ION lawsuit”) also in the Southern District of Texas, and *WesternGeco LLC v. ION Geophysical Corp.*, 13-1527 (Fed. Cir.). Pet. 8.

The ’607 patent was also challenged in *Petroleum Geo-Services Inc., v. WesternGeco LLC* (IPR2014-00688) (PTAB Aug. 5, 2014) (the “first PGS IPR”); and *ION Geophysical Corporation v. WesternGeco LLC* (IPR2015-00567) (PTAB Jan. 14, 2015).²

C. The ’607 Patent

The ’607 patent (Ex. 1001), titled “SEISMIC DATA ACQUISITION EQUIPMENT CONTROL SYSTEM,” generally relates to a method and apparatus for improving marine seismic survey techniques to more effectively control the movement and positioning of marine seismic streamers towed in an array behind a boat. Ex. 1001, 1:16–24. As illustrated in Figure 1 of the ’607 patent reproduced below, labeled “Prior Art,” a seismic source, for example air gun 14, is towed by boat 10 producing acoustic signals, which are reflected off the earth below. *Id.* at 1:24–30. The reflected signals are received by hydrophones (no reference number) attached to streamers 12, and the signals “digitized and processed to build up a representation of the subsurface geology.” *Id.* at 1:31–33.

² IPR2015-00567 was joined with IPR2014-00688 and a Final Written Decision in that proceeding was mailed by the Board on December 15, 2015.

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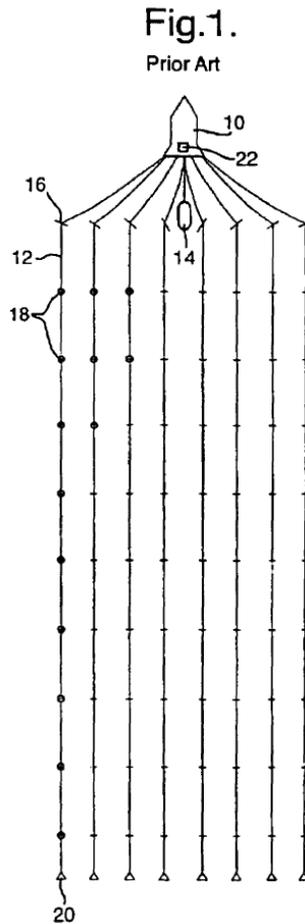


Figure 1, reproduced above, depicts an array of seismic streamers 12 towed behind the vessel. In order to obtain accurate survey data, it is necessary to control the positioning of the streamers, both vertically in the water column, as well as horizontally against ocean currents and forces, which can cause the normally linear streamers to bend and undulate and, in some cases, become entangled with one another. *Id.* at 1:42–2:16.

As depicted by Figure 1, each streamer 12 is maintained in a generally linear arrangement behind the boat by deflector 16 which horizontally positions the end of each streamer nearest the vessel. Drag buoy 20 at the

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end of each streamer farthest from the vessel creates tension along the streamer to maintain the linear arrangement.

Additionally, to control the position and linear shape of the streamers, a plurality of streamer positioning devices, called “birds” 18, are attached along the length of each streamer.³ *Id.* at 3:47–49. The birds are horizontally and vertically steerable and control the shape and position of the streamer in both vertical (depth) and horizontal directions. *Id.* at 3:49–55. The bird’s function is usually to maintain the streamers in their linear and parallel arrangement, because, when the streamers are horizontally out of position, the efficiency of the seismic data collection is compromised. *Id.* at 2:5–7. The most important function of the birds, however, is to keep the streamers from tangling. *Id.* at 3:65–66.

Figure 2 of the ’607 patent, reproduced below, illustrates a preferred embodiment of bird 18 as it relates to the described invention.

³ Although the term “streamer positioning device” is inclusive of other structures besides a “bird,” unless otherwise noted in this Decision, we use the terms “birds,” “SPD,” and “streamer positioning devices” interchangeably.

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