NOTE: This disposition is nonprecedential.

United States Court of Appeals for the Federal Circuit

GARMIN INTERNATIONAL, INC., GARMIN USA, INC., GARMIN CORPORATION,
Appellants

v.

INTERNATIONAL TRADE COMMISSION,
Appellee

NAVICO INC., NAVICO HOLDING AS,
Intervenors

2016-1572

Appeal from the United States International Trade Commission in Investigation No. 337-TA-921.

Decided: June 13, 2017

NICHOLAS P. GROOMBRIDGE, Paul, Weiss, Rifkind, Wharton & Garrison LLP, New York, NY, argued for appellants. Also represented by JENNIFER H. WU, JENNIFER DIANE CIELUCH; DAVID J. BALL, JR., DAVID K. STARK, Washington, DC.

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KIRK T. BRADLEY, Alston & Bird LLP, Charlotte, NC, argued for intervenors. Also represented by MATTHEW S. STEVENS, CHRISTOPHER CHARLES ZIEGLER.

Before PROST, *Chief Judge,* DYK, and REYNA, *Circuit Judges.*

REYNA, *Circuit Judge.*

Garmin International, Inc., Garmin USA, Inc., and Garmin Corporation appeal from a Final Determination of the United States International Trade Commission that resulted in an exclusionary order prohibiting importation of certain sonar imaging devices. The Final Determination includes a finding of infringement of U.S. Patent Nos. 8,305,840 and 8,605,550, a determination of invalidity for some of the asserted claims, and a finding of noninfringement of U.S. Patent No. 8,300,499. Because the Commission's findings with respect to validity and infringement of certain claims of the '840 and '550 patents were not supported by substantial evidence, we reverse the Commission's Final Determination in part.

BACKGROUND

1. Procedural History

On June 9, 2014, Navico filed a Section 337 petition with the Commission alleging that Garmin's importation and sale of its DownVü marine sonar imaging products

infringed three Navico patents.[1] 19 U.S.C. § 1337. On July 7, 2014, the Commission initiated a Section 337 investigation on imports of Garmin's DownVü products.[2]

An Administrative Law Judge ("ALJ") conducted an evidentiary hearing in March 2015. On July 2, 2015, the ALJ issued a Final Initial Determination, finding no violation of Section 337. The ALJ upheld the validity of all asserted claims, but found no infringement. J.A. 96. The ALJ contingently found direct and contributory infringement in the event the Commission did not adopt Garmin's claim construction. Navico, Garmin, and the Office of Unfair Import Investigations each petitioned the Commission for review of the Initial Determination. On September 3, 2015, the Commission agreed to review the Initial Determination and invited further briefing.

On December 1, 2015, the Commission issued its Final Determination reversing the Initial Determination in part and finding that Garmin's DownVü products infringed the '840 and '550 patents. The Final Determination reversed the Initial Determination's primary claim construction for those two patents and adopted the Initial Determination's contingent finding of direct infringement. The Final Determination also reversed the Initial Determination's finding of validity as to claims 1, 7, 12, 13, and 57 of the '550 patent. This appeal followed.

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[1] Generally, section 337 establishes an administrative investigation on whether the importation of certain goods constitute an unfair trade act, i.e. infringement. The remedy provided in Section 337 is the issuance of an exclusionary order that prohibits the importation of the goods deemed infringing.

[2] Certain Marine Sonar Imaging Devices, Inv. No. 337-TA-921, 79 Fed. Reg. 40778–79 (July 14, 2014).

2. U.S. Patent No. 8,305,840

The '840 patent is entitled "Downscan imaging sonar." It discloses sonar systems for providing images of the sea floor beneath a vessel.

The '840 patent discloses a sonar imaging device for generating images of objects beneath a watercraft. The patent discloses that the sonar images are generated via transducers. A linear transducer directed downward ("downscan transducer") provides images of the water column and bottom features directly below the vessel, while transducers pointed toward the sides ("sidescan transducers") can be used to map the sea floor on the sides of a vessel. '840 patent col. 2 l. 65–col. 3 l. 13. Instead of linear transducers, conventional circular transducers with conical beams can also be used, although these are said to "provide poor quality images for sonar data relating to the structure on the bottom or in the water column directly below the vessel." *Id*. at col. 2 ll. 52–59.

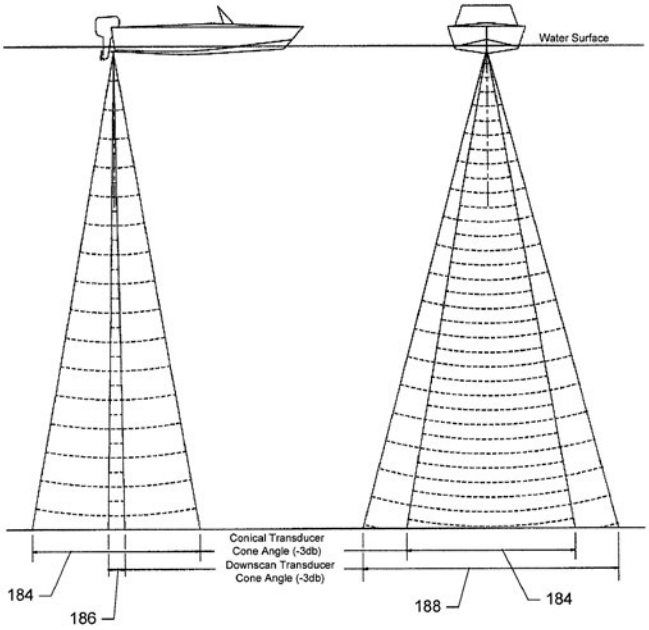


FIG. 15B.

Figure 15B illustrates the beam patterns formed by downscan transducers. Circular transducers produce a conical beam pattern with the same beamwidth (184) in each dimension, whereas linear transducers produce a fan-shaped beam which is wide in one dimension (beamwidth 188) and narrow in another (beamwidth 186).

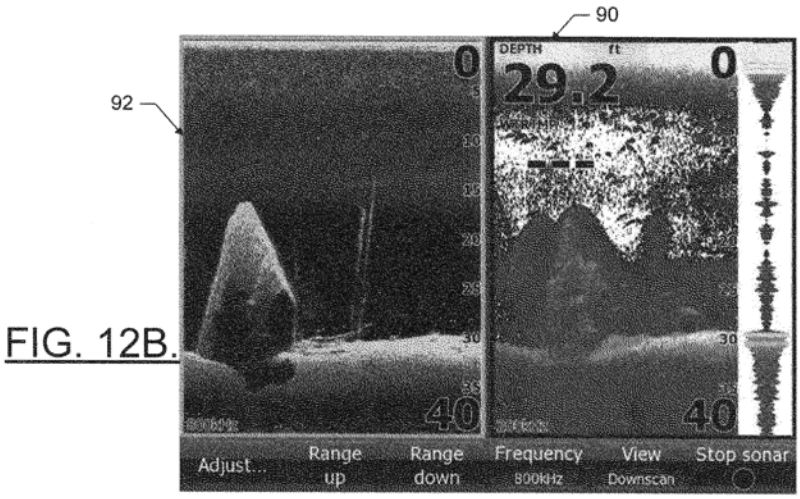


FIG. 12B.

Figure 12B shows example images produces by linear (on the left) and circular (on the right) downscan transducers. The displays scroll across the horizontal axis as the boat moves and plot the sonar data by depth on the vertical axis. The patent describes the data from the linear downscan transducers as unexpectedly more detailed than that from the circular transducers, providing detailed images of the water column below the vessel as well as details of the bottom or structures resting on the bottom. '840 patent col. 14 ll. 5–12.

Although various embodiments are disclosed, the '840 patent claims a sonar assembly with a single linear downscan transducer that creates fan-shaped sonar beams. Some of the asserted claims, such as claim 39, additionally recite a circular transducer element.

Claim 1 is representative for the purposes of this appeal. It claims:

> 1. A sonar assembly for imaging an underwater environment beneath a watercraft traveling on a surface of a body of water, the sonar assembly comprising:

a housing mountable to the watercraft;

a single linear downscan transducer element positioned within the housing, the linear downscan transducer element having a substantially rectangular shape configured to produce a fan-shaped sonar beam having a relatively narrow beamwidth in a direction parallel to a longitudinal length of the linear downscan transducer element and a relatively wide beamwidth in a direction perpendicular to the longitudinal length of the transducer element, the linear downscan transducer element being positioned with the longitudinal length thereof extending in a fore-to-aft direction of the housing;

wherein the linear downscan transducer element is positioned within the housing to project fan-shaped sonar beams in a direction substantially perpendicular to a plane corresponding to the surface of the body of water, said sonar beams being repeatedly emitted so as to sequentially insonify different fan-shaped regions of the underwater environment as the watercraft travels; and

a sonar signal processor receiving signals representative of sonar returns resulting from each of the fan-shaped sonar beams and processing the signals to produce sonar image data for each fan-shaped region and to create an image of the underwater environment as a composite of images of the fan-shaped regions arranged in a progressive order corresponding to the travel of the watercraft.

Id. at col. 17 ll. 34–62.

3. U.S. Patent No. 8,605,550

The '550 patent, also entitled "Downscan imaging sonar," issued from a continuation application of the '840 patent and contains the same specification. Instead of a single linear downscan transducer, it claims three transducers, two of which are linear sidescan transducers and one of which is a linear downscan transducer.

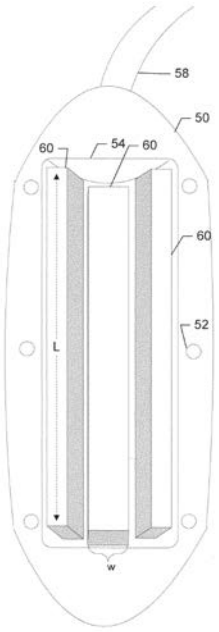


FIG. 6.

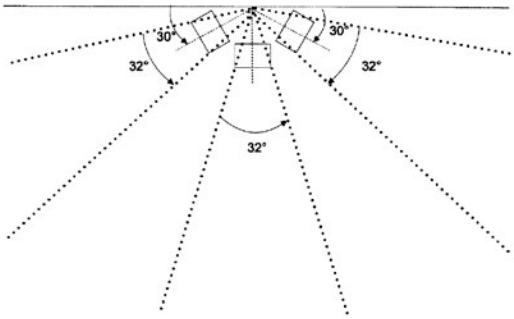


FIG. 9A.

Figure 6 of the patent illustrates a top view of a transducer array containing two linear sidescan transducers (labeled 60, on the left and right) and one linear downscan transducer (also labeled 60, in the middle). Figure 9A shows an example beam pattern of such a system, with one beam directed downward from the downscan transducer and one beam directed to each side from the sidescan transducers.

Claim 32 is representative for the purposes of this appeal. It claims:

32. A sonar system comprising:

a sonar transducer assembly, including:

a plurality of transducer elements, each one of the plurality of transducer elements having a substantially rectangular shape configured to produce a sonar beam having a beamwidth in a direction parallel to a longitudinal length of the transducer element that is significantly less than a beamwidth of the sonar beam in a direction perpendicular to the longitudinal length of the transducer element,

wherein the plurality of transducer elements are positioned such that the longitudinal lengths of the plurality of transducer elements are substantially parallel to each other, and

wherein the plurality of transducer elements include at least:

a first linear transducer element positioned within a housing and configured to project sonar pulses from a first side of the housing in a direction substantially perpendicular to a centerline of the housing,

a second linear transducer element positioned within the housing and spaced laterally from the first linear transducer element,

wherein the second linear transducer element lies substantially in a plane with the first linear transducer element and is configured to project sonar pulses from a second side of the housing that is generally opposite of the first side, and is also in a direction substantially perpendicular to the centerline of the housing, and

a third linear transducer element positioned within the housing and configured to project sonar

> pulses in a direction substantially perpendicular to the plane defined by the first and second linear transducer elements; and
>
> a sonar module configured to enable operable communication with the transducer assembly, the sonar module including:
>
> a sonar signal processor to process sonar return signals received via the transducer assembly, and
>
> a transceiver configured to provide communication between the transducer assembly and the sonar signal processor.

'550 patent col. 19 l. 41–col. 20 l. 15.

4. Tucker Prior Art

The Commission's decision found some, but not all, claims of the '550 patent invalid over a combination of two references. The first reference is a 1960 article by Tucker entitled "Narrow-beam echo-ranger for fishery and geological investigations."

Tucker describes an "echo-ranger" designed to be usable both as a horizontal fish finder and a sea floor mapper. J.A. 11652. This is because its transducer can be adjusted to point either to the side (for the fish finder) or downward (to map the sea bed). J.A. 11659. The article provides a complete circuit diagram for Tucker's echo ranger. J.A. 11655-56. In particular, Figure 8 shows the circuit diagram of the transmitter. The output stage portion is reproduced below:

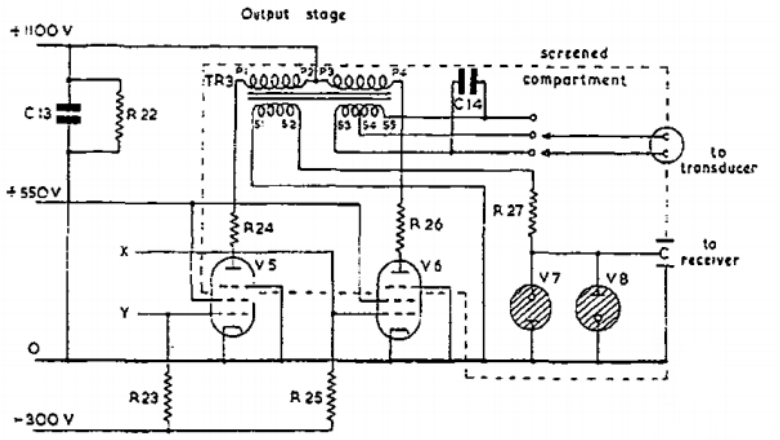


Fig. 8. Circuit diagram of transmitter.

J.A. 11655. This diagram shows how transmitted pulses enter through the connections labeled "X" and "Y" (which come from the earlier stages of the transmitter), are amplified by pentode vacuum tubes V5 and V6, and travel through transformer TR3 to the transducer. Similarly, echoes received through the transducer travel back through transformer TR3, pass through resistor R27, and are sent on to the receiver.

The receiver then takes the "input from transmitter," amplifies it using multiple amplifiers, and sends to "to [the] recorder unit." This circuitry is shown in Figure 9 of Tucker.

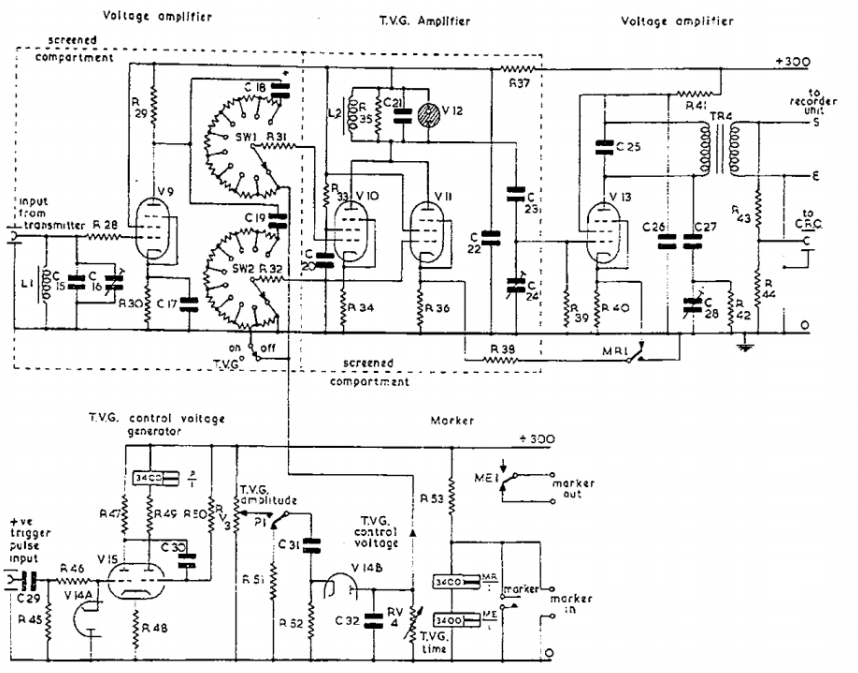


Fig. 9. Circuit diagram of receiver amplifier.

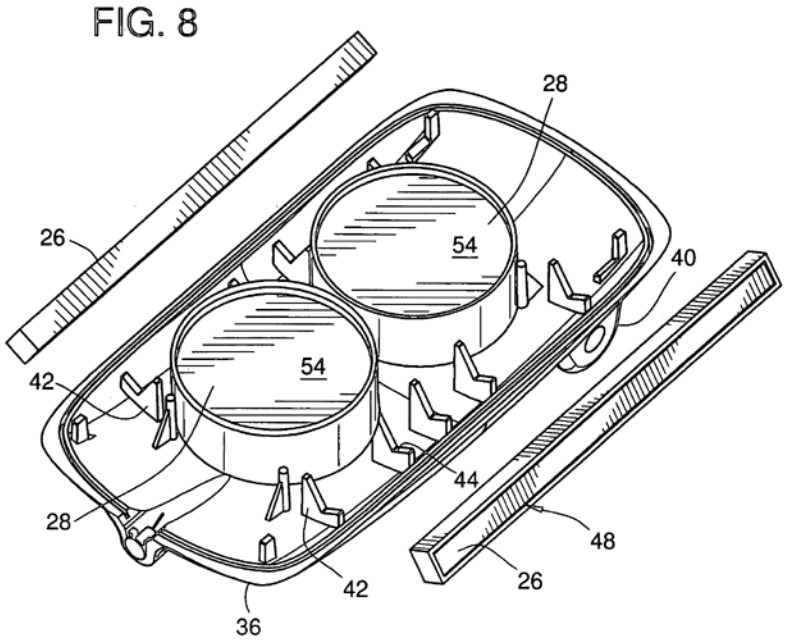
J.A. 11656.

The recorder unit Tucker describes is a system for producing a printed image of the collected data. J.A. 11657. The picture is printed onto paper using a "Mufax picture receiver," a primitive form of printer that reproduces analog data onto a sheet of paper. Tucker shows example images of topography of various sea floors. J.A. 11658.

5. Betts Prior Art

The second prior art reference cited by the Commission is U.S. Patent No. 7,652,952 to Betts, entitled "Sonar imaging system for mounting to watercraft." Betts discloses a sonar system with side scanning and bottom scanning elements. Betts describes two linear transducers that scan the water to the sides of a boat and two circular transducers that scan the water below the boat.

The return signals received by the elements can be processed through a software filter to remove noise.



Betts Fig. 8 (showing downscan circular transducers 54 and sidescan linear transducers 26).

DISCUSSION

1. Standard of Review

Under the Administrative Procedure Act, 5 U.S.C. § 706(2), we review the Commission's factual findings for substantial evidence, and the Commission's legal determinations de novo. *See Spansion, Inc. v. Int'l Trade Comm'n*, 629 F.3d 1331, 1343–44, 1349 (Fed. Cir. 2010). Claim construction is a question of law that may be based on underlying factual determinations. *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 834 (2015). Obviousness is a question of law based on subsidiary findings of

fact relating to "the scope and content of the prior art, differences between the prior art and the claims at issue, the level of ordinary skill in the pertinent art, and any objective indicia of non-obviousness." *Randall Mfg. v. Rea*, 733 F.3d 1355, 1362 (Fed. Cir. 2013) (citing *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007); *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966)).

Under the substantial evidence standard, the court "must affirm a Commission determination if it is reasonable and supported by the record as a whole, even if some evidence detracts from the Commission's conclusion." *Spansion*, 629 F.3d at 1344.

2. Sonar Signal Processor

The Commission found that Garmin failed to show that the Tucker prior art reference discloses the "sonar signal processor" limitation of independent claims 1 and 23 of the '840 patent and claims 32 and 44 of the '550 patent.[3] The Commission found that "[a]lthough Tucker provides circuit diagrams of the receiver and detailed specifications of the receiver and the recorder, Tucker does not expressly recite a processor or the processor's functions of receiving signals representative of sonar returns and processing the signals to produce sonar image data." The Commission also stated that Garmin did not

[3] Navico argues that Garmin's brief fails to address the dependent claims and that Garmin therefore waived its arguments with respect to those claims. However, the Commission's decision for the dependent claims turned on the same "sonar signal processor" limitation. Because Garmin's "sonar signal processor" arguments are sufficient to address the Commission's decision as to the dependent claims, we find no waiver here.

identify the specific disclosures in Tucker that support its position.

As part of an invalidity claim chart, Garmin argued to the Commission that Tucker described a "sonar signal processor:"

> Tucker describes "the receiver" for receiving the bounce-back sonar echo, *id.* at 106, and "the recorder" for processing the data received and displaying the information on a chart or a cathode-ray tube, *id.* at 108.

J.A. 12413. Garmin reiterates this argument on appeal.

Despite Garmin's reference to details from Tucker, the Commission argues on appeal that Tucker does not disclose receiving input from the transducer. The Commission argues that because the circuit diagram of the receiver has an input labeled "input from transmitter" rather than "input from transducer," it is not clear that the received signals are sonar signals from the transducer. We disagree.

Figure 8 of Tucker shows in great detail how the receiver is connected to the transducer: through resistor R27 and transformer TR3. This figure is shown on page 106 of Tucker, one of the two pages cited by Garmin.

Further, it defies logic to conclude that the receiver is getting its information from any source other than echoes received through the transducer. Tucker does not disclose any other sonar sensor, and the Commission provides no evidence of any alternative explanation. How else could a sonar system work?

Betts too discloses a sonar signal processor. It teaches "an electronic control head" to collect and process data and feed those processed signals to an LCD display screen. U.S. Patent No. 7,652,952 at col. 13 ll. 1–7; col. 8 l. 28–col. 9 l. 20. This control head "filters the signals,

sorts sonar target returns from the bottom and fish, calculates display range parameters and then feeds the processed signals to the LCD display screen." *Id.* at col. 8 l. 67–col. 9 l. 4.

Notably, the Commission does not argue that "sonar signal processor" is a narrow term that differs from the sonar signal processors in Tucker and Betts in some specific way. Rather, the Commission simply argues that Tucker and Betts do not process sonar signals from a transducer at all. That position is not supported by substantial evidence.

"[F]amiliar items may have obvious uses beyond their primary purposes, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 402 (2007). "[I]f 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 417. A court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions. *Id.*

The Commission found that the "sonar signal processor" was the single element that distinguished these claims from Tucker. The only other distinction asserted by Navico was that Tucker failed to disclose a "single linear downscan transducer element," but the Commission found that it did. J.A. 37, 41. The Commission also found a motivation to combine the teachings of Tucker and Betts. J.A. 43. Since every element of the asserted claims is present in the combination of Tucker and Betts, and because there was a motivation to combine these elements, these claims are rendered obvious. Here, as in *KSR*, the invention is no more than the predictable use of

the prior art elements according to their established functions.

Accordingly, we reverse the Commission's finding that claims 1, 5, 7, 9, 11, 16–19, 23, 32, 39–41, 63, and 70–72 of the '840 patent and claims 32 and 44 of the '550 patent are valid over Tucker and Betts.

3. Construction of "Single Linear Downscan Transducer Element"

Garmin argues that the Commission incorrectly construed the term "single linear downscan transducer element" and thus incorrectly found infringement. Because today we find all asserted claims invalid, and because Garmin's proposed claim construction affects only the issue of infringement and not validity, we do not reach this issue.

CONCLUSION

Because the Commission's factual findings regarding nonobviousness are not supported by substantial evidence, we *reverse* on the issue of obviousness and hold that claims 1, 5, 7, 9, 11, 16–19, 23, 32, 39–41, 63, and 70–72 of the '840 patent and claims 32 and 44 of the '550 patent are rendered obvious by the combination of Tucker and Betts.

REVERSED

COSTS

No costs.