UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

DJI EUROPE B.V., Petitioner,

v.

TEXTRON INNOVATIONS INC., Patent Owner.

> IPR2022-00453 Patent 8,078,395 B2

Before MICHAEL R. ZECHER, SCOTT A. DANIELS and FREDERICK C. LANEY, *Administrative Patent Judges*.

DANIELS, Administrative Patent Judge.

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JUDGMENT Final Written Decision Determining All Challenged Claims Unpatentable 35 U.S.C. § 318(a)

I. INTRODUCTION

DJI Europe B.V., ("DJI" or "Petitioner") filed a Petition requesting *inter partes* review ("IPR") of claims 1–7 and 9–18 of U.S. Patent No. 8,078,395 B2 (Ex. 1001, "the '395 patent"). Paper 1 ("Pet."). Textron Innovations, Inc., ("Textron" or "Patent Owner") filed a Preliminary Response to the Petition. Paper 6 ("Prelim. Resp."). We also authorized, and Petitioner and Patent Owner filed, a Preliminary Reply and Preliminary Sur-reply narrowly tailored to address Patent Owner's *Fintiv* arguments in the Preliminary Response. Papers 7, 9.

On August 3, 2022, we instituted trial for claims 1–7 and 9–18 of the '395 patent on all grounds of unpatentability alleged in the Petition. Paper 10 ("Decision to Institute" or "Inst. Dec."). After institution of trial, Patent Owner filed a Patent Owner Response. Paper 16 ("PO Resp.). Petitioner timely filed a Reply. Paper 17 ("Pet. Reply). Subsequently, Patent Owner filed a Sur-Reply to address certain arguments raised in Petitioner's Reply. Paper 20 ("PO Sur-Reply).

A hearing for this proceeding was held on May 11, 2023. The transcript of the hearing has been entered into the record. Paper 26 ("Tr.").

We have jurisdiction under 35 U.S.C. § 6(c). This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a).

For the reasons that follow, we determine that Petitioner has met its burden of showing by a preponderance of the evidence that claims 1–7 and 9–18 are unpatentable.

A. Real Parties in Interest

Petitioner states that DJI Europe B.V., SZ DJI Technology Co. Ltd., DJI Technology, Inc., iFlight Technology Company Limited, and DJI Research LLC are the real parties in interest. Pet. 83. Patent Owner states

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that Textron Innovations, Inc., Bell Textron Inc., and Textron Inc. are the real parties in interest. Paper 5, 2 (Patent Owner's Mandatory Notices).

B. Related Matters

The parties indicate that the '395 patent has been asserted against Petitioner in *Textron Innovations Inc. v. DJI Europe B.V. et al.*, No. 6:21-cv-00740 in the U.S. District Court for the Western District of Texas. Pet. 83; Paper 5, 2.

Patent Owner indicates that Petitioner has filed additional petitions for *inter partes* review challenging patents held by Patent Owner, IPR2022-00162 for U.S. Patent No. 9,162,752 B2, and IPR2022-00163 B2 for U.S. Patent No. 10,243,647. Paper 5, 2.

C. The '395 Patent (Ex. 1001)

The '395 patent, titled "Control System for Automatic Circle Flight," describes a flight control system for an aircraft "that provides for automatic flight around a circle of a commanded center and radius at a commanded altitude and velocity." Ex. 1001, 2:22–24. The '395 patent describes that the system is specifically "for automatically controlling the flight of an aircraft, such that the aircraft flies toward a selected area of interest and circles a selected point in the area at a specified radius, altitude, and velocity." *Id.* at 3:25–28. The '395 explains that

[t]he control system requires only one point in space and a radius to define the circle and is useful for controlling the flight of manned and unmanned aircraft of all types, including helicopters, tiltrotors, and fixed-wing aircraft. The system is particularly suited for use in aircraft performing surveillance, search, rescue, and military missions.

Id. at 3:31–37.



Figure 2A of the '395 patent is reproduced below.

Figure 2A illustrates a schematic view of flight control system 21 "configured for use with a remotely-piloted aircraft." *Id.* at 2:59–61. Flight control system 21 includes receiver 37 carried on an aircraft 23 (not shown) that receives command data from ground control station 36. *Id.* at 4:19–23. The command data from ground control includes parameters for a desired, i.e. commanded, circling maneuver that is sent from the receiver to automatic circle-flight control system 35. *Id.* at 4:23–24.

As also shown in Figure 2A, position sensor 39, velocity sensor 41, and altitude sensor 43 provide automatic circle-flight control system 35 with "data representing the location, velocity, and altitude of aircraft 23." *Id.* at 4:24–26. The '395 patent explains that "[s]ystem 35 uses the data provided by sensors 39, 41, 43 and the command data from receiver 37 to operate flight control devices 45 on aircraft 23 for causing aircraft 23 to fly according to the commanded parameters." *Id.* at 4:37–41. Alternatively, the '395 patent describes that

all commands may be input into system 35 before flight of the aircraft, and this method may be useful when the aircraft is to fly a predetermined route to a circle, fly the circle using the

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> commanded parameters for a selected amount of time, then return to the launch site or land at an alternate location.

Id. at 6:39–40.

Figure 4 of the '395 patent is reproduced below.



Figure 4 illustrates "a plot of a ground track of the flight of an aircraft, the flight of the aircraft being controlled by the system of FIG. 2A to fly a circular path in a clockwise direction, the aircraft having started outside of the prescribed circle." *Id.* at 2:66–3:2. Figure 4 depicts groundtrack 85 intercepting circle 87 at tangent point 97 to fly the circle at radius 91 around center 89. *Id.* at 7:39–47. The '395 patent explains, with respect to Figure 4, that "[w]hen the aircraft is within a selected distance of tangent point 97, system 35 provides a bank command that acts to maintain the aircraft flight path at radius 91 around center 89." *Id.* at 7:51.

The '395 patent describes that the flight control system can be used with any type of manned or unmanned aircraft. *Id.* at 9:10–12. And

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