



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/820,607	03/04/2013	Tatsuo Shigeta	74400	9156
23872	7590	02/06/2020	EXAMINER	
MCGLEW & TUTTLE, PC P.O. BOX 9227 SCARBOROUGH STATION SCARBOROUGH, NY 10510-9227			BENNETT, CHARLEE	
			ART UNIT	PAPER NUMBER
			1718	
			MAIL DATE	DELIVERY MODE
			02/06/2020	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte TATSUO SHIGETA

Appeal 2019-000034
Application 13/820,607
Technology Center 1700

Before CATHERINE Q. TIMM, JAMES C. HOUSEL, and
JEFFREY R. SNAY, *Administrative Patent Judges*.

Opinion for the Board filed by *Administrative Patent Judge* TIMM.

Opinion Concurring filed by *Administrative Patent Judge* HOUSEL.

TIMM, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 1–20. *See* Final Act. 1. We have jurisdiction under 35 U.S.C. § 6(b).

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as Think Laboratory Co. Appeal Br. 1.

We AFFIRM IN PART.

CLAIMED SUBJECT MATTER

The claims are directed to a fully automatic gravure plate-making processing system. *See, e.g.*, claims 1, 9, and 19.

The system includes two industrial robots for moving plate rolls between various processing apparatus. *See, e.g.*, Fig. 1 (16, 30).

Arranged in a working range of the first robot are a roll stock apparatus, a photosensitive film coating apparatus, a laser exposure apparatus, an ultrasonic cleaning apparatus with a drying function, a grinding wheel polishing apparatus, and a paper polishing apparatus. *See, e.g.*, Fig. 1 (roll stock apparatus 22a, 22b, photosensitive film coating apparatus 24, laser exposure apparatus 26, ultrasonic cleaning apparatus 70, grinding wheel polishing apparatus 34, paper polishing apparatus 21).

Arranged in a working range of the second robot are a degreasing apparatus, a copper plating apparatus, a developing apparatus, an etching apparatus, a resist removal apparatus, a surface hardening film forming apparatus, and an ultrasonic cleaning apparatus. *See, e.g.*, Fig. 1 (degreasing apparatus 38, copper plating apparatus 40, developing apparatus 42, etching apparatus 44, resist removal apparatus 46, surface hardening film forming apparatus (chromium plating apparatus 48), and an ultrasonic cleaning apparatus 36).

The working ranges of the two robots overlap and, at the overlap, is a roll transfer placement table (Fig. 1 (50)).

Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A fully automatic gravure plate-making processing system, comprising:

a first industrial robot for chucking and handling an unprocessed plate-making roll, said first industrial robot comprising a first industrial robotic arm;

a second industrial robot for chucking and handling the unprocessed plate-making roll, said second industrial robot comprising a second industrial robotic arm;

a roll stock apparatus, a photosensitive film coating apparatus, a laser exposure apparatus, an ultrasonic cleaning apparatus with a drying function, a grinding wheel polishing apparatus, and a paper polishing apparatus, which serve as processing apparatus arranged in a first robot working range of the first industrial robot, said first robot working range being defined by said first industrial robotic arm, wherein at least a portion of each of said roll stock apparatus, said photosensitive film coating apparatus, said laser exposure apparatus, said ultrasonic cleaning apparatus, said grinding wheel polishing apparatus, and said paper polishing apparatus overlaps with said first robot working range; and

a degreasing apparatus, a copper plating apparatus, a developing apparatus, an etching apparatus, a resist removal apparatus, a surface hardening film forming apparatus, and an ultrasonic cleaning apparatus, which serve as processing apparatus arranged in a second robot working range of the second industrial robot, said second robot working range being defined by said second industrial robotic arm, wherein at least a portion of each of said copper plating apparatus, said developing apparatus, said etching apparatus, said resist removal apparatus, said surface hardening film forming apparatus and said ultrasonic cleaning apparatus overlaps with said second robot working range;

a roll transfer placement table provided at a position at which the robot working range of the first industrial robot overlaps with the robot working range of the second industrial robot, wherein the first industrial robot and the second

Appeal 2019-000034
Application 13/820,607

industrial robot are configured to transfer the unprocessed plate-making roll therebetween via the same roll transfer placement table when the preparation processing is performed, wherein the roll transfer placement table is arranged completely in one of a first processing room and a second processing room.

Appeal Br. 67–68 (Claims Appendix).

REFERENCES

The prior art relied upon by the Examiner is:

Name	Reference	Date
Ting	US 6,017,820	Jan. 25, 2000
Shigeta	US 7,194,791 B2	Mar. 27, 2007
Inoue	US 7,396,448 B2	July 8, 2008
Shigeta '613	US 9,555,613 B2	Jan. 31, 2017
Smith	US 2008/0202687 A1	Aug. 28, 2008
Sato	WO 2007/135899 A1 (as translated)	Nov. 29, 2007

REJECTION

The Examiner maintains the following rejections:

A. Claims 1–20 rejected under 35 U.S.C. § 112(a) or 35 U.S.C. § 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement;

B. Claims 1–7 and 9–20 rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Sato in view of Shigeta as evidenced by Smith and further in view of Ting; and

C. Claim 8 rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Sato in view of Shigeta as evidenced by Smith and Ting, and further in view of Inoue; and

D. Claim 1 rejected on the ground of non-statutory double patenting as being unpatentable over claim 1 of Shigeta '613.²

OPINION

Written Descriptive Support

The independent claims, i.e., claims 1, 9, and 19, require a roll transfer table arranged completely in, exclusively in, or exclusively in an interior space of, a first processing room or a second processing room.

The Examiner finds this arrangement lacks written descriptive support because the Examiner has not located this language in the Specification and “one view of the placement of the roll placement table (50) is shown, but it’s not explicitly clear if it is fully inside one room or another.” *See, e.g.*, Final Act. 3–4.

However, we agree with Appellant that Figure 1 “shows the roll transfer placement table being entirely located in the processing room A.” Appeal Br. 17. As explained in the Specification, Figure 1 shows the fully automatic gravure plate-making processing system 10 as including processing room A, processing room B, and a processing room C. Spec. ¶ 24. Processing rooms A and B are partitioned by wall 12 and processing room A and C are partitioned by wall 13. *Id.*; Fig. 1. Wall 12 includes a movable shutter 14.

The Specification describes processing room A as including the first robot 16, roll stock apparatus 22a and 22b, photosensitive film coating apparatus 24, laser exposure apparatus 26, ultrasonic cleaning apparatus 70, and roll transfer placement table 50. Spec. ¶¶ 25–31. Figure 1 depicts the

² In the Answer, the Examiner adds claim 2 of Shigeta '613 as evidence supporting the rejection.

Appeal 2019-000034
Application 13/820,607

ultrasonic apparatus 70 and roll transfer placement table 50 near or overlapping each other. Both are depicted to the left of wall 12 and shutter 14 and completely within processing room A.

The Examiner states that in the view of Figure 1, “there appears to be a roll transfer placement table (50) at least partially in room A, but it seems attached/combined with other chamber components that are in both rooms.”

Ans. 34. However, the Examiner does not further explain what other chamber components the Examiner views as being in both rooms and the Specification conveys that the roll transfer placement table 50 is in processing room A. Spec. ¶¶ 25–31. Moreover, Figure 1 depicts roll transfer placement table 50 in processing room A.

We also agree with Appellant that paragraph 64 lends further support. Appeal Br. 18. Paragraph 64 describes the embodiment of Figure 2. According to the Specification, roll transfer placement table 92 is placed above ultrasonic cleaning apparatus 36A. Spec. ¶ 64. Figure 2 depicts both the roll transfer placement table 92 and ultrasonic cleaning apparatus 36A to the left of shutter 14, which is within wall 12. Paragraph 64 and Figure 2 reasonably convey that roll transfer placement table 92 is completely within processing room A in a manner similar to roll transfer placement table 50 of Figure 1.

Appellant has identified a reversible error in the Examiner’s finding of lack of written description.

Obviousness

The Examiner rejects claims 1–7 and 9–20 as obvious over Sato in view of Shigeta as evidenced by Smith and further in view of Ting and adds Inoue to reject claim 8.

We agree with Appellant that the Examiner reversibly erred because the prior art relied on does not teach or suggest arranging a degreasing apparatus, a copper plating apparatus, a developing apparatus, an etching apparatus, a resist removal apparatus, a surface hardening film forming apparatus, and an ultrasonic cleaning apparatus in a second robot working range as required by Appellant's claims. Appeal Br. 33–36.

The Examiner finds that Sato teaches that the required processing apparatus are “considered capable to be arranged in a working range of the second industrial robot.” Final Act. 6 (citing to Sato ¶ 39). But only one of the apparatus—the perhydropolysilazane coating means 46, which the Examiner finds is a surface hardening film forming apparatus—is within the working range of the second robot 12b. Sato Fig. 1. The other apparatus the Examiner relies on—degreasing apparatus 44, copper plating apparatus 40, developing apparatus 28, etching apparatus 34, resist removal apparatus 38, and ultrasonic cleaning apparatus 42—are in plating room B and outside the working range of robot 12b.

Sato discloses using cassette-shaped roll chuck rotation transfer unit 33 and stack crane 23 to transport the rolls between apparatus stations in plating room B. Sato ¶ 30. The Examiner finds that Shigeta suggests replacing the stacker crane and cassette type roll chuck rotary transferring unit of Sato with an industrial robot and rearranging the devices for the purpose of price restriction and install space restriction. Final Act. 7 (citing Shigeta col. 9, lines 34–50 and col. 7, lines 40–60). According to the Examiner, this is evidenced by Smith. Final Act. 8 (citing Smith ¶¶ 33–34). The Examiner also reasons that the mere rearrangement of parts is prima facie obvious when it does not modify the operation of the device. Final Act. 8 (citing MPEP § 2144.04 VI(C)).

Although we agree with the Examiner that Shigeta suggests replacing a stacker crane and cassette-type roll chuck rotary transferring unit with a robot similar to robot 1a of Shigeta's Figure 1 or robots 12a and 12b of Sato (Final Act. 7), Shigeta does not teach or suggest rearranging the plating stations so that they are arranged in the robot's working range. Instead, Shigeta suggests using a robot to transfer the roll to liquid coating device 7 and then using chucking means to convey the roll between the linear stations. *See* Shigeta col. 7, ll. 40–48 (“each of the devices 7 to 12, and 14 is provided with a pair of opposed chuck means capable of chucking the process roll at its both ends, being rotated.”).

Smith is not directed to plating of a process roll for gravure printing, but to processing substrates such as semiconductor substrates, flat-panel display substrates, magnetic media substrates, and nanotubes. Smith ¶ 30. Smith uses a robot to transfer the substrates between chambers in which the substrates are processed under sub-atmospheric conditions. Smith ¶¶ 31, 33–34. We agree with Appellant that Smith does not suggest rearranging the plating stations of Sato and Shigeta, which are arranged linearly.

Appellant has identified a reversible error in the Examiner's finding of a reason or suggestion to arrange a degreasing apparatus, a copper plating apparatus, a developing apparatus, an etching apparatus, a resist removal apparatus, a surface hardening film forming apparatus, and an ultrasonic cleaning apparatus of a gravure plate-making processing system in a second robot working range as required by Appellant's claims. The Examiner's reliance on further prior art does not remedy the deficiency.

Non-Statutory Double Patenting

In the Final Office Action, the Examiner rejected claim 1 on the ground of non-statutory double patenting as being unpatentable over claim 1 of Shigeta '613. Final Act. 35. Appellant points out that claim 1 of Shigeta '613 does not include a roll transfer placement table nor does it recite arranging the roll transfer table completely in one of a first processing room and a second processing room as required by claim 1 on appeal. Appeal Br. 65–66. In the Answer, the Examiner states the rejection as over both claims 1 and 2 of Shigeta '613 and responds that “the recitations of ‘the roll transfer placement table in one room’ was previously in claim 2 of the present application and was moved into claim 1, and despite this, the rejection is maintained because the disclosure of the patent contains the recitation, which is disclosed in claims 1 and 2 of the U.S. patent.” Ans. 33–34, 38. Appellant does not respond. *See Reply Br., generally.* Claim 2 of Shigeta '613 recites that “the first processing room or the second processing room comprises a roll transfer placement table.”

Appellant has not identified a reversible error in the Examiner’s rejection of claim 1 on the grounds of non-statutory double patenting.

CONCLUSION

The Examiner’s decision to reject claims 1–20 is affirmed in part.

DECISION SUMMARY

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1–20	112(a)	Written Description		1–20
1–7, 9–20	103(a)	Sato, Shigeta, Smith, Ting		1–7, 9–20

Appeal 2019-000034
Application 13/820,607

8	103(a)	Sato, Shigeta, Smith, Ting, Inoue		8
1		Nonstatutory Double Patenting	1	
Overall Outcome			1	2-20

TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED IN PART

HOUSEL, *Administrative Patent Judge*, concurring.

I concur completely with the decision of Board set forth above, but respectfully write separately to state my view that there is no written description support in the original disclosure for the recitation that the roll transfer placement table is arranged completely in one of two processing rooms. As Appellant argues, and as our Decision sets forth above, Figure 1 and the Specification disclose that roll transfer placement table 50 is arranged completely or exclusively within processing room A, the room housing the first robot and associated apparatus. However, nowhere is there any disclosure that roll transfer placement table 50 is arranged completely or exclusively in any other processing room, such as processing rooms B or C. Nor is there any indication that table 50 may be in any room other than processing room A. While one might have found it obvious to locate table 50 in processing room B (after all, the only requirement is that table 50 must be within the overlap of the work zones of robots 16 and 30), compliance with the written description requirement does not extend to that which would have been obvious. *See Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed. Cir. 1997) (“[D]escription which renders obvious the invention . . . is not sufficient.”). This issue, although directed to the same recitation that the Examiner holds to be new matter, is nonetheless distinct because the Examiner questioned whether there was support for the table being completely in any room, rather than whether there was support for the table being in any processing room other than processing room A, housing the first robot. Accordingly, it is my view that claims 1–20 fail to comply with the written description requirement of 35 U.S.C. § 112, first paragraph, for the latter issue.