

Trial decision

Invalidation No. 2011-800218

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The case of trial regarding the invalidation of Japanese Patent No. 4700052, entitled "Inspection Machine and Process" between the parties above has resulted in the following trial decision:

Conclusion

The correction shall be approved.

The trial of the case was groundless.

The costs in connection with the trial shall be borne by the demandant.

Reason

No. 1 History of the procedures

According to Patent No. 4700052 (Japanese Patent Application No. 2007-509002), the application of the case was submitted on April 15, 2005 as an international filing date (Priority Claim under the Paris Convention: April 22, 2004, European Patent Office), and the establishment of the patent right was registered on March 11, 2011. After that, the trial for invalidation was demanded by the demandant, KOMORI Corporation. History after the demand will be arranged and indicated below.

October 27, 2011	submission of the written demand for trial
February 9, 2012	submission of the written reply
February 9, 2012	submission of the written correction request
May 8, 2012	submission of the oral proceedings statement brief (by demandant)
June 5, 2012	submission of the oral proceedings statement brief (by

demandee)

June 13, 2012	submission of the written statement (by demandant)
June 19, 2012	conduct oral proceeding
July 3, 2012	submission of the written statement (by demandant)
July 13, 2012	submission of the written statement (by demandee)

No. 2 Contents of correction of the case

The correction by the request for correction submitted on the February 9, 2012 (referred to as "Correction of the case" below) is to correct description and claims attached to the application of Patent No. 4700052 as substitute claims (referred to as "Corrected claims" below) and the substitute description (referred to as "corrected description" below) attached to the written correction request dated February 9, 2012. The contents of the correction include the following corrections 1 to 6.

(1) Correction 1

In claim 1 in the claims attached to the application, "a first camera", "a second camera", and "a third camera" are respectively corrected to "a first linear camera", "a second linear camera", and "a third linear camera".

(2) Correction 2

In claim 1 in the claims attached to the application, "first, second, or third inspection cylinder ((4, 7, 12))" is corrected to "first, second, or third inspection cylinder (4, 7, 12)".

(3) Correction 3

In claim 2 in the claims attached to the application, "the first camera" is corrected to "the first linear camera".

(4) Correction 4

In claim 7 in the claims attached to the application, "gribber" is corrected to "gripper".

(5) Correction 5

In claim 11 in the claims attached to the application, "each of the first, second, and third cameras (6, 9, 14) is a linear camera that takes successive linear images of the printed sheet being inspected" is corrected to "each of the first, second, and third linear cameras (6, 9, 14) takes successive linear images of the printed sheet being inspected".

(6) Correction 6

In claim 13 in the claims attached to the application, "first inspection by positive transparency", "once the first inspection is terminated", "the second

inspection is carried out", "once the second inspection is terminated", "the third inspection is carried out", and "once the third inspection is carried out" are respectively corrected to "first inspection by positive transparency by the first linear camera", "once the first inspection by the first linear camera is terminated", "the second inspection is carried out by the second linear camera", "once the second inspection by the second linear camera is terminated", "the third inspection is carried out by the third linear camera", and "once the third inspection by the third linear camera is terminated".

No. 3 Allegations of parties

1. The demandant's allegation

The demandant demands the decision, "the patent for the invention according to claims 1 to 18 of Patent No. 4700052 (respectively referred to "Patent invention 1" to "Patent invention 18" below) is invalid. Even when the correction of the case is approved, the patent for the invention according to claims 1 to 18 corrected by the Correction of the case (respectively referred to as "corrected patent invention 1" to "corrected patent invention 18" below) is invalid. The costs in connection with the trial shall be borne by the demandee." The demandant alleges the reason for invalidation as follows and submits Evidence A No. 1 to No. 6 as means of proof.

(Reason 1)

The Patent inventions 1 to 12 and the corrected patent inventions 1 to 12 could be easily made by a person skilled in the art based on the invention described in Evidence A No. 1 and the invention described in the Evidence A No. 2 to No. 6, thus, the demandee should not be granted a patent for the invention in accordance with the provisions of Article 29(2) of the Patent Act before revision of 2011 (the same is applied to the "Patent Act" below).

Also, the Patent inventions 13 to 18 and the corrected patent inventions 13 to 18 could be easily made by a person skilled in the art based on the inventions described in the Evidence A No. 3, the Evidence A No. 1 and No. 2, and the Evidence A No. 4 to No. 6, thus, the demandee should not be granted a patent for the invention in accordance with the provisions of Article 29(2) of the Patent Act.

Therefore, Since Article 123 (1)(ii) of the Patent Act is applicable to the Patent inventions 1 to 18 and the corrected patent inventions 1 to 18, the application should be invalidated.

(Reason 2)

The Patent inventions 1 to 18 are not described in the detailed description of the invention in the specification attached to the application, and the Patent is granted relative to the patent application of which claims do not meet the requirement stipulated in Article 36(6)(i) of the Patent Act.

Also, the corrected patent inventions 1 to 18 are not described in the detailed description of the invention of the corrected patent application, and corrected claims do not meet the requirement stipulated in Article 36(6)(i) of the Patent Act.

Therefore, the patent according to the Patent inventions 1 to 18 or the corrected patent inventions 1 to 18 falls under Article 123(1)(iv) and should be invalidated.

[Means of proof]

Evidence A No. 1: Japanese Unexamined Patent Application Publication No. 2000-85095

Evidence A No. 2: National Publication of International Patent Application No. 2001-509746

Evidence A No. 3: National Publication of International Patent Application No. 2003-532563

Evidence A No. 4: Japanese Unexamined Patent Application Publication No. H10-337935

Evidence A No. 5: Japanese Unexamined Patent Application Publication No. 2001-101473

Evidence A No. 6: Japanese Unexamined Patent Application Publication No. S61-175552

2. The demandee's allegation

The demandee demands the decision, "The correction of the case is approved. The demand of the trial for invalidation is not approved. The costs in connection with the trial shall be borne by the demandant". The demandee alleges that none of the reasons for invalidation alleged by the above demandant has reasons. Also, the demandee submits Evidence B No. 1 as the means of proof.

[Means of proof]

Evidence B No. 1: written demand for appeals against an examiner's decision of refusal of Japanese Patent Application No. 2007-509002 (the present application)

No. 4 Determination whether the correction can be made

1. Regarding correction 1

The correction 1 technically limits the "first camera", the "second camera" and the "third camera" before the correction respectively to the "first linear camera", the "second linear camera", and the "third linear camera" and falls into the correction which intends to restrict the scope of claims.

Also, the correction is made based on the description that "Preferably, the cameras used are linear CCD cameras that take successive linear images of the sheet being inspected." (paragraph [0020]). Therefore, the correction is within the matters described in the specification, the claims or the drawings attached to the application and does not substantially extend or change the claims.

2. Regarding correction 2

The correction 2 deletes one of double left brackets in "((4, 7, 12))" before the correction. Therefore, the correction 2 falls into the correction which intends to correct errors in the description.

Also, the correction is within the matters described the specification, the claims, or the drawings attached to the application and does not substantially extend or change the claims.

3. Regarding correction 3

The correction 3 matches the description in claim 2 to the correction which intends to restrict the scope of the claims according to the correction 1. Therefore, the correction 3 falls into the correction which intends the clarification of an ambiguous description.

Also, the correction is within the matters described in the specification, the claims, or the drawings attached to the application based on the similar reason to that of the correction 1 and does not substantially extend or change the claims.

4. Regarding correction 4

The correction 4 corrects the "gribber" before the correction to the "gripper". Therefore, the correction falls into the correction which intends the correction of the errors.

Also, the correction is made based on the description that "Preferably, the transfer and inspection cylinders are carrying only one set of grippers each" (paragraph [0023]) in the specification attached to the application. Therefore, the

correction is within the matters described the specification, the claims, or the drawings attached to the application and does not substantially extend or change the claims.

5. Regarding correction 5

The correction 5 matches the description in claim 11 to the correction which intends to restrict the claims according to the correction 1. Therefore, the correction 5 falls into the correction which intends the clarification of an ambiguous description.

Also, the correction is within the matters described in the specification, the claims, or the drawings attached to the application based on the similar reason to that of the correction 1 and does not substantially extend or change the claims.

6. Regarding correction 6

The correction 6 technically limits "the first inspection by the positive transparency", "once the first inspection is terminated", "the second inspection is carried out", "once the second inspection is terminated", "the third inspection is carried out", and "once the third inspection is terminated" before the correction respectively to "the first inspection by the positive transparency by the first linear camera", "once the first inspection by the first linear camera is terminated", "the second inspection is carried out by the second linear camera", "once the second inspection by the second linear camera is terminated", "the third inspection is carried out by the third linear camera", and "once the third inspection by the third linear camera is terminated". The correction 6 falls into the correction which intends to restrict the scope of the claims.

Also, the correction is within the matters described in the specification, the claims, or the drawings attached to the application based on the similar reason to that regarding the correction 1 and does not substantially extend or change the claims.

7. Summary

As described above, the corrections 1 to 6 intend to restrict the scope of the claims, to correct the errors, or to clarify the ambiguous description. All the corrections 1 to 6 are corrections within the matters described in the specification, the claims, or the drawings attached to the application and do not substantially extend or change the claims.

Accordingly, the Correction of the case has a purpose described in Articles 134-2(1)(i) to 134-2(1)(iii) of the Patent Act and falls under the provisions of Article

126(3) and 126(4) of the Patent Act which is applied mutatis mutandis pursuant to the provisions of Article 134-2(5) of the Patent Act. Therefore, the correction shall be approved.

No. 5 Description in each claim after Correction of the case

As described above, since the Correction of the case is approved, the descriptions in claims 1 to 18 after the Correction of the case are as the following description in the corrected claims below.

"The invention claimed is:

1. An inspection machine for printed matter in the form of printed sheets, such as valuable securities, paper money, bank notes, a passport, and other similar paper, comprising:

a sheet feeder (1);

a first sheet inspection unit with a first inspection cylinder (4) for transporting a printed sheet during inspection, a first illumination means (5) and a first linear camera (6) connected to an analyzing device for taking an image of the printed sheet while it is transported on the first inspection cylinder (4);

a second sheet inspection unit with a second inspection cylinder (7) for transporting a printed sheet during inspection, a second illumination means (8) and a second linear camera (9) connected to an analyzing device for taking an image of the printed sheet while it is transported on the second inspection cylinder (7);

a third sheet inspection unit with a third inspection cylinder (12) for transporting a printed sheet during inspection, a third illumination means (13) and a third linear camera (14) connected to an analyzing device for taking an image of the printed sheet while it is transported on the third inspection cylinder (12);

an input transfer cylinder (3) to successively bring the printed sheets to the first inspection unit; and

an output transfer cylinder (17) to take away the printed sheets from the third inspection unit,

wherein the input transfer cylinder (3), the first inspection cylinder (4), the second inspection cylinder (7), the third inspection cylinder (12), and the output transfer cylinder (17) are disposed one after the other in direct contact so that the printed sheet is transferred directly and successively from the input transfer cylinder (3) to the first inspection cylinder (4), the second inspection cylinder (7), the third inspection cylinder (12), and the output transfer cylinder (17),

and wherein the first to third sheet inspection units, the input transfer cylinder

(3), and the output transfer cylinder (17) are arranged in such a manner that the inspected printed sheet is taken away from the first to third inspection cylinders (4, 7, 12) only once the inspection of the printed sheet is completed by the first to third inspection units.

2. The inspection machine as claimed in claim 1, wherein

the first inspection cylinder (4) is a transparent cylinder, the first illumination means (5) is placed inside the transparent cylinder, and the first linear camera (6) is placed outside the transparent cylinder for inspecting a printed sheet by positive transparency as passing through the printed sheet.

3. The inspection machine as claimed in claim 1 or 2, wherein

the second sheet inspection unit inspects a first illuminated side of the printed sheet.

4. The inspection machine as claimed in claim 3, wherein

the third sheet inspection unit inspects a second illuminated side of the printed sheet.

5. The inspection machine as claimed in claim 1, wherein

the second and third sheet inspection units each further include at least one non-visible feature inspection unit (10, 11, 15, 16).

6. The inspection machine as claimed in claim 5, wherein

the non-visible feature inspection unit (10, 11, 15, 16) includes means for detecting IR, UV, or magnetic properties on the printed sheets.

7. The inspection machine as claimed in any one of claims 1 to 6, wherein

the first inspection cylinder (4), the second inspection cylinder (7), and the third inspection cylinder (12) are carrying only one set of grippers each, and the diameters of the first inspection cylinder (4), the second inspection cylinder (7), and the third inspection cylinder (12) are minimized for minimal transport and inspection time.

8. The inspection machine as claimed in any one of claims 1 to 7, wherein

the input transfer cylinder (3), the first inspection cylinder (4), the second inspection cylinder (7), the third inspection cylinder (12), and the output transfer cylinder (17) are arranged in a zigzag manner such that a transport length of a printed sheet on each of the first inspection cylinder (4), the second inspection cylinder (7), and the third inspection cylinder (12) between an input location where a printed sheet is transferred onto the first inspection cylinder (4), the second inspection cylinder (7), or the third inspection cylinder (12) and an output location where the printed sheet is transferred away from the first inspection cylinder (4), the second inspection cylinder

(7), or the third inspection cylinder (12) is optimized for a predetermined sheet length.

9. The inspection machine as claimed in claim 8, wherein

the transport length of the printed sheet on the first inspection cylinder (4), the second inspection cylinder (7), or the third inspection cylinder (12) is slightly greater than the length of the printed sheet to be inspected.

10. The inspection machine as claimed in any one of claims 1 to 9, further comprising:

a marking unit (19, 20) placed downstream of the output transfer cylinder (17) for marking defective sheets.

11. The inspection machine as claimed any one of claims 1 to 10, wherein

each of the first to third linear camera (6, 9, 14) takes successive linear images of the printed sheet being inspected and is synchronized with the sheet transport on the associated first to third inspection cylinders (4, 7, 12).

12. The inspection machine as claimed in claim 11, wherein

each of the first to third inspection cylinders includes an encoder for synchronizing operation of the associated linear camera.

13. An inspection process for printed matter in the form of printed sheet such as valuable securities, paper money, bank notes, a passport, and other similar paper, wherein the process comprises the following steps:

successive printed sheets are transferred from a feeder to a first inspection unit in which a first inspection by positive transparency is carried out by a first linear camera for the inspection, and the printed sheets being transported in the first inspection unit by a first inspection cylinder (4);

once the first inspection by the first linear camera is terminated, the printed sheets are transferred to a second inspection unit in which a second inspection of a first side of the printed sheets is carried out by the second linear camera, the printed sheets being transported in the second inspection unit by a second inspection cylinder (7);

once the second inspection by the second linear camera is terminated, the printed sheets are transported to a third inspection unit in which a third inspection on a second side of the printed sheets is carried out by the third linear camera, the printed sheets are transported in the third inspection unit by a third inspection cylinder (12);

once the third inspection by the third linear camera is terminated, the printed sheets are transferred to a marking unit and are marked as defective if the result of one of the first to third inspections shows a defect;

once marking has been performed, the printed sheets are transported in a

delivery unit and sorted in delivery piles depending on whether or not the printed sheets are marked as being defective, and transfer of the printed sheets from the first inspection unit to the second inspection unit and that from the second inspection unit to the third inspection unit are made directly from the first inspection cylinder (4) to the second inspection cylinder (7) and from the second inspection cylinder (7) to the third inspection cylinder (12).

14. The inspection process as claimed in claim 13, wherein
the second and/or third inspection includes inspection of visible and/or non-visible features on the printed sheets.

15. The inspection process as claimed in claim 13 or 14, wherein
the diameter of each inspection cylinder is minimized for minimal transport and inspection time.

16. The inspection process as claimed in any one of claims 13 to 15,
comprising:

a step of arranging the first to third inspection cylinders in such a manner that a transport length of a printed sheet on each inspection cylinder, between an input location where the printed sheet is transferred onto the inspection cylinder and an output location where the printed sheet is transferred away from the inspected cylinder, is optimized for a predetermined sheet length.

17. The inspection process as claimed in claim 16, wherein
the transport length of the printed sheet on the inspection cylinder is selected to be slightly greater than the length of the printed sheet to be inspected.

18. The inspection process as claimed in any one of claims 13 to 17, wherein
the first to third inspections include synchronizing operation of a linear camera that takes successive linear images of the printed sheet being inspected with the sheet transport on the associated inspection cylinder."

No. 6 Judgment 1 on the body (regarding Reason 2 for invalidation)

Before examining the Reason 1 for invalidation, the Reason 2 for invalidation is examined. When examining the Reason 2 for invalidation, for convenience, the inventions specified by the description of claims 1 to 18 of the corrected claims are respectively referred to as Corrected inventions 1 to 18.

1. The demandant's allegation

The demandant generally alleges about the Reason 2 for invalidation as follows.

(A) page 28 in written demand for trial

To take away the sheets from a cylinder only when the inspection is terminated is important features of the Corrected inventions 1 and 13.

(B) pages 28 and 29 in written demand for trial

In paragraph [0021] of the corrected patent specification, the description has been made that "the transport length of the printed sheet on the inspection cylinders between the input location and the output location is selected to be slightly greater than the length of the printed sheet to be inspected". However, as illustrated in FIG. 1 of the drawings attached to the application (referred to as "Patent drawings" below), a second inspection device 10 and a third inspection device 16 are close to the output location on the cylinder. Therefore, the second inspection device 10 and the third inspection device 16 start to transfer the sheet to the next cylinder before the inspection is completed. When the camera is a linear camera, a distance between the linear camera and the output location of the sheet has to be equal to or longer than the length of the sheet. When the sheet transport length is slightly longer than the length of the sheet, the inspection cannot be completed before the sheet is taken away from the inspection cylinder.

(C) page 18 in oral proceedings statement brief

Also, in FIG. 1 of the Patent drawings, positions on the inspection cylinder where a first camera 6, a second camera 9, and a third camera 14 are faced to are respectively apart from the input location of the sheet at about 40°, 53°, and 65° as an angle. Therefore, the first camera 6, the second camera 9, and the third camera 14 are not arranged so as to take images immediately after the input location of the sheet.

(D) page 29 in written demand for trial

Accordingly the Corrected invention 1 and the Corrected inventions 2 to 12 depending on the Corrected invention 1 and the Corrected invention 13 and the Corrected inventions 14 to 18 depending on the Corrected invention 13 are not described in the detailed description of the invention of the corrected patent specification.

2. The described matters in corrected patent specification

The following matters are described in the corrected patent specification.

Described matter A:

"An aim of the present invention is to improve the known inspection machine and process.

In particular, an aim of the present invention is to optimize the transport and inspection times required for performing inspection of printed sheets.

Another aim of the present invention is to make it possible to build an inspection machine with a compact configuration.

A further aim of the present invention is to provide an easy and reliable inspection machine and process." (paragraphs [0006] to [0009])

Described matter B:

"The second inspection unit may comprise, in addition, second additional inspection devices referenced 10 and 11 in FIG. 1 to inspect and check the presence of features, which are not visible such as IR, UV, magnetic features etc. on the sheets. These devices thus may include appropriate lamps (UV) and detectors (IR, magnetic) to carry out the additional inspection." (paragraph [0016])

Described matter C:

"The third inspection unit may comprise, in addition and similarly to the second inspection unit described above, third additional inspection devices referenced 15 and 16 in FIG. 1 to inspect and check the presence of features, which are not visible such as IR, UV, magnetic features etc. on the sheets. Accordingly, these additional devices may include appropriate lamps (UV) and detectors (IR, magnetic) to carry out the additional inspection." (paragraph [0018])

Described matter D:

"Preferably, the cameras used are linear CCD cameras that take successive linear images of the sheet being inspected. Therefore, in order to be able to take proper image of the entire sheet being inspected, they are synchronized with the sheet transport on the cylinders 4, 7, and 12 through an encoder of the cylinders. In order to have a perfect match between the encoder reading of each cylinder 4, 7, and 12 and camera image taking, the sheet must be completely inspected before they are transferred to the next inspection cylinder. The relative positions of the cylinders must be such that this condition of complete inspection before transfer is maintained. In this case, the sheets can be properly inspected and the transfer operation from one cylinder to another does not influence the inspection operation per se." (paragraph [0020])

Described matter E:

"Preferably, the transfer and inspection cylinders 3, 4, 7, 12, and 17 are arranged in a zigzag manner, as shown in FIG. 1, such that a transport length of a printed sheet on each inspection cylinder, between an input location where a printed sheet is transferred onto the inspection cylinder (that is, a supply place) and an output location where the printed sheet is transferred away from the inspection cylinder (that is, a collection place) is optimized for a predetermined sheet length. In particular, the transport length of the printed sheet on the inspection cylinder between the input and output locations is selected to be slightly greater than the length of the printed sheet to be inspected. It will be understood that this configuration allows to reduce to minimum the overall transport path of the sheets through the inspection unit, thereby minimizing the transport and inspection times of the sheets. Indeed, with the machine configuration illustrated in FIG. 1, the transport length between the input location on the first inspection cylinder 4 and the output location of the third inspection cylinder 12 is slightly greater than three times the length of the inspected sheets. Combined with cylinders of minimal size, this further allows to build a machine with a very compact configuration." (paragraph [0021])

Described matter F:

"Preferably, the transfer and inspection cylinders are carrying only one set of grippers each, and each cylinder is this to transport one sheet at a time. Also, the diameter of the cylinders is minimized for minimal transport and inspection time while maintaining the predetermined transfer conditions only once the inspection is finished." (paragraph [0023])

Described matter G:

"FIG. 1 shows an embodiment of the inspection machine according to the invention." (Brief Description of Figures)

3. Regarding Corrected invention 1

When especially referring to the descriptions such that "An aim of the present invention is to provide a simple and reliable inspection machine and process." in the described matter A and "The relative position of the cylinders must be such that this condition of complete inspection before transfer is maintained. In this case, the sheets can be properly inspected and the transfer operation from one cylinder to another does not influence the inspection operation per se." in the described matter D in association with "To take away the sheets only when the inspection is terminated"

which is the important features of the Corrected invention 1 according to the demandant, the Corrected invention 1 includes "to provide" "a simple and reliable inspection machine" and "the sheets can be properly inspected and the transfer operation from one cylinder to another does not influence the inspection operation per se." as one of the technical challenges.

Also, in the detailed description of the invention of the corrected patent specification, it has been indicated that the technical challenge can be solved by "completely inspecting the sheets before they are transferred to the next inspection cylinder" and "having the relative position of the cylinders such that this condition of complete inspection before transfer is maintained" (described matter D).

On the other hand, a person skilled in the art who contacts the description in claim 1 of the corrected claims can read the following matter from the description in claim 1. The matter includes that "the inspection machine" of the Corrected invention 1 is configured so that "the first to third sheet inspection units, the input transfer cylinder (3), and the output transfer cylinder (17) are arranged in such a manner that the inspected printed sheet is taken away from the first, second, or third inspection cylinder (4, 7, 12) only once the inspection of the printed sheet is completed by the first, second, or third inspection unit", and accordingly, ""the sheets can be properly inspected and the transfer operation from one cylinder to another does not influence the inspection operation per se".

The description in claim 1 of the corrected claims "the first to third sheet inspection units, the input transfer cylinder (3), and the output transfer cylinder (17) are arranged in such a manner that the inspected printed sheet is taken away from the first, second, or third inspection cylinder (4, 7, 12) only once the inspection of the printed sheet is completed by the first, second, or third inspection unit" substantially corresponds to "the sheet must be completely inspected before they are transferred to the next inspection cylinder" and "the relative position of the cylinders must be such that this condition of complete inspection before transfer is maintained" in the described matter D.

Therefore, the invention in which "the first to third sheet inspection units, the input transfer cylinder (3), and the output transfer cylinder (17) are arranged in such a manner that the inspected printed sheet is taken away from the first, second, or third inspection cylinder (4, 7, 12) only once the inspection of the printed sheet is completed by the first, second, or third inspection unit" described in claim 1 of the corrected claims is the invention described in the detailed description of the invention and does not exceed the scope which is described so that a person skilled in the art

can recognize that the problem of the invention can be solved in the detailed description of the invention.

Subsequently, (B) and (C) of the demandant's allegation will be mentioned.

Generally, in consideration of that the drawings attached to the application are not always illustrated with accuracy required for design drawings, it can be understood that "an embodiment of the inspection machine according to the invention" (described matter G) is schematically illustrated in FIG. 1 of the Patent drawings.

Even when there is no specific description by using values and the like to strictly specify arrangement positions of the linear CCD camera (6, 9, 14), the second inspection device (10, 11), and the third inspection device (15, 16) in each inspection cylinder in the corrected claims and the corrected patent specification, a person skilled in the art can normally understand that it is preferable that each camera and each inspection device be arranged at appropriate positions between the input location and the output location in a range for satisfying a condition such that "the sheet must be completely inspected before they are transferred to the next inspection cylinder" (described matter D) when the linear CCD cameras (6, 9, 14), the second inspection devices (10, 11), and the third inspection devices (15, 16) are arranged relative to each inspection cylinder (4, 7, 12) by totally considering the Patent drawings and the contents of the described matters D to F of the corrected patent specification.

Therefore, regarding the input and output locations of each inspection cylinder and the arrangement positions of the cameras (6, 9, 14), the second inspection devices (10, 11), and the third inspection devices (15, 16), a distance and an angle between the positions of the respective components are measured in FIG. 1 in the Patent drawings which is a schematic diagram. Even when the actual measurement values above are the values indicating that "the inspection cannot be completed before the sheet is took away from the inspection cylinder", this does not mean that the Corrected invention 1 is the invention such that "the inspection cannot be completed before the sheet is took away from the inspection cylinder" and that the invention 1 exceeds the scope which is described so that a person skilled in the art can recognize that the problem of the invention can be solved in the detailed description of the invention.

Therefore, the allegation of the demandant cannot be accepted.

As described above, the Corrected invention 1 is the invention described in the

detailed description of the invention of the corrected patent specification, and the patent according to the Corrected invention 1 is not granted for a patent application which does not meet the requirement stipulated in Article 36(6)(i) of the Patent Act. Accordingly, the Reason 2 for invalidation for the patent according to the Corrected invention 1 has no reasons.

4. Regarding Corrected inventions 2 to 12

The Corrected inventions 2 to 12 correspond to the invention including all the specified matters of the invention of the Corrected invention 1 and having other specified matters of the invention added thereto.

The specified matters of the invention added to the Corrected inventions 2 to 12 are described in the corrected patent specification. In addition, the descriptions in claims 2 to 12 in the corrected claims do not exceed the scope described so that a person skilled in the art can recognize that the problems of the invention can be solved by adding the specified matters of the invention to the Corrected invention 1.

Therefore, the Corrected inventions 2 to 12 are described in the detailed description of the invention of the corrected patent specification based on the reason similar to that of the Corrected invention 1, and the patent according to the Corrected inventions 2 to 12 is not granted for a patent application which does not meet the requirement stipulated in Article 36(6)(i) of the Patent Act. Accordingly, the Reason 2 for invalidation for the patent according to the Corrected inventions 2 to 12 has no reasons.

5. Regarding Corrected invention 13

When particularly referring to the descriptions in the described matters A and D in association with "to take out the sheet from the cylinder only when the inspection is competed" which is assumed as the important features of the Corrected invention 13 by the demandant, the Corrected invention 13 includes "to provide an easy and reliable inspection machine and process" and that "the sheets can be properly inspected and the transfer operation from one cylinder to another does not influence the inspection operation per se" as one of the technical challenges. Also, in the detailed description of the invention of the corrected patent specification, it is described that the technical challenge can be solved by "completely inspecting the sheet before it is transferred to the next inspection cylinder" and "arranging the relative position of the cylinders such that this condition of complete inspection before transfer is maintained" (described matter D).

On the other hand, a person skilled in the art having contact with the description in claim 13 can read the following matter from the description in claim 13. "The inspection process" of the Corrected invention 13 includes the specified matters of the invention such that "once the first inspection by the first linear camera is terminated, the printed sheets are transferred to the second inspection unit", "once the second inspection by the second linear camera is terminated, the printed sheets are transferred to the third inspection unit", "once the third inspection by the third linear camera is terminated, the printed sheets are transferred to the marking unit", and "transfers of the printed sheets from the first inspection unit to the second inspection unit and from the second inspection unit to the third inspection unit are made directly from the first inspection cylinder (4) to the second inspection cylinder (7) and from the second inspection cylinder (7) to the second inspection cylinder (7)". Accordingly, regarding the inspection by using at least the first to third linear cameras, the technical challenge such that "the sheets can be properly inspected and the transfer operation from one cylinder to another does not influence the inspection operation per se" can be solved.

The matter described in claim 13 of the corrected claims such that "once the first inspection by the first linear camera is terminated, the printed sheets are transferred to the second inspection unit", "once the second inspection by the second linear camera is terminated, the printed sheets are transferred to the third inspection unit", "once the third inspection by the third linear camera is terminated, the printed sheets are transferred to the marking unit", and "transfers of the printed sheets from the first inspection unit to the second inspection unit and from the second inspection unit to the third inspection unit are made directly from the first inspection cylinder (4) to the second inspection cylinder (7) and from the second inspection cylinder (7) to the third inspection cylinder (12)" substantially correspond to the description in the described matter D such that "the sheet must be completely inspected before they are transferred to the next inspection cylinder", and "the relative position of the cylinders must be such that this condition of complete inspection before transfer is maintained".

Therefore, the invention described in claim 13 of the corrected claims such that "once the first inspection by the first linear camera is terminated, the printed sheets are transferred to the second inspection unit", "once the second inspection by the second linear camera is terminated, the printed sheets are transferred to the third inspection unit", "once the third inspection by the third linear camera is terminated, the printed sheets are transferred to the marking unit", and "transfers of the printed sheets from the first inspection unit to the second inspection unit and from the second

inspection unit to the third inspection unit are made directly from the first inspection cylinder (4) to the second inspection cylinder (7) and from the second inspection cylinder (7) to the third inspection cylinder (12)" is the invention described in the detailed description of the invention and does not exceed the scope described so that a person skilled in the art can recognize that the problems of the invention can be solved in the detailed description of the invention.

Also, the allegations of the demandant (B) and (C) regarding the Corrected invention 13 cannot be accepted according to the reason similar to that described in "3. Regarding Corrected invention 1".

Therefore, the Corrected invention 13 is the invention described in the detailed description of the invention of the corrected patent specification, and the patent according to the Corrected invention 13 is not granted for a patent application which does not meet the requirement stipulated in Article 36(6)(i) of the Patent Act. Accordingly, the Reason 2 for invalidation for the patent according to the Corrected invention 13 has no reasons.

6. Regarding Corrected inventions 14 to 18

The Corrected inventions 14 to 18 correspond to the invention including all the specified matters of the Corrected invention 13 and having other specified matters of the invention added thereto.

The specified matters of the invention added to the Corrected inventions 14 to 18 are described in the corrected patent specification. In addition, the descriptions in claims 14 to 18 of the corrected claims do not exceed the scope described so that a person skilled in the art can recognize that the problems of the invention can be solved by adding the specified matters of the invention to the Corrected invention 13.

Therefore, the Corrected inventions 14 to 18 are the invention described in the detailed description of the invention of the corrected patent specification based on the reason similar to that of the Corrected invention 13, and the patent according to the Corrected inventions 14 to 18 is not granted for a patent application which does not meet the requirement stipulated in Article 36(6)(i) of the Patent Act. Accordingly, the Reason 2 for invalidation for the patent according to the Corrected inventions 14 to 18 has no reasons.

No. 7 Judgment 2 on the body (regarding Reason 1 for invalidation)

1. Corrected patent invention

As examined in "No. 6", the descriptions in claims 1 to 18 of the corrected

claims meet the requirement stipulated in Article 36(6)(i) of the Patent Act. Therefore, each invention specified by the matters described in claims 1 to 18 of the corrected claims indicated in "No. 5" are respectively assumed as the corrected patent inventions 1 to 18. The Reason 1 for invalidation will be examined below.

2. Description contents of Respective items of Evidence A and invention described in Respective items of Evidence A

(1) Evidence A No. 1

In the Evidence A No. 1 (Japanese Unexamined Patent Application Publication No. 2000-85095) which is a publication distributed before the date of priority claim of this patent application (referred to as "priority date for the invention" below), the drawings and the following matters are described.

A No. 1(A): "An inspection rotary press comprising:

an inspection unit configured to include a first inspecting cylinder which holds and conveys a sheet as winding it around a peripheral surface, a first inspection device which is provided opposed to the peripheral surface of the first inspecting cylinder and inspects the sheet conveyed by the first inspecting cylinder, a second inspection cylinder which is provided opposed to the first inspecting cylinder and conveys the sheet received from the first inspecting cylinder as winding it around the peripheral surface, and a second inspection device which is provided opposed to the peripheral surface of the second inspection cylinder and inspects the sheet conveyed by the second inspection cylinder; and

a printing unit configured to print the sheet inspected by the inspection unit. ([claim 1])

A No. 1(B): "At the time of printing the valuable securities and the like, picture patterns are printed first, and then, seals and numbers are additionally printed. This kind of printed matters are made by printing the picture patterns on the sheet by using a printer for picture patterns and printing the seals and numbers to the sheet, which has passed the inspection whether the printed picture patterns are good or not, by the inspection rotary press after that. In this way, confusion in operation and generation of defective products are avoided." (paragraph [0002])

A No. 1(C): "The inspection rotary press which additionally prints the serial number and seal on the sheet where the picture patterns are printed is exemplified in the

present embodiment. A paper tray 6 on which a large number of sheets to which a plurality of the picture patterns is printed are mounted is provided in the paper feeding unit 1. The sheet 5 on the paper tray 6 is sucked by a sucker device which is not shown one by one and is fed on a feeder board 7. A swing device 8 feeds the sheet 5 to the inspection unit 2 via a transfer cylinder 9.

The inspection unit 2 includes a first inspecting cylinder 10 which holds and conveys the sheet 5 as winding it around the peripheral surface, a surface inspection camera 11, which is provided opposed to the peripheral surface of the peripheral surface and inspects the sheet 5 conveyed by the first inspecting cylinder 10, as a first inspection device, a second inspection cylinder 12 which is provided opposed to the first inspecting cylinder 10 and conveys the sheet 5 received from the first inspecting cylinder 10 as winding it around the peripheral surface, and a rear surface inspection camera 13 which is provided opposed to the peripheral surface of the second inspection cylinder 12 and inspects the sheet 5 conveyed by the second inspection cylinder 12 as a second inspection device.

The printing unit 3 includes a first impression cylinder 14 which is provided opposed to the second inspection cylinder 12 and conveys the sheet 5 received from the second inspection cylinder 12 as winding it around the peripheral surface and a stamping cylinder 15 which prints the seals relative to the sheet 5 conveyed by the first impression cylinder 14". (paragraphs [0016] to [0018])

A No. 1(D): "With this configuration, the surface of the sheet 5 fed from the paper feeding unit 1 to the inspection unit 2 is inspected by the surface inspection camera 11 in the first inspecting cylinder 10, and after that, the sheet 5 is transferred to the second inspection cylinder 12. The rear surface of the sheet 5 is inspected by the rear surface inspection camera 13 there.

Next, the sheet 5 is directly transferred from the second inspection cylinder 12 to the first impression cylinder 14 of the printing unit 3". (paragraphs [0025] to [0026])

A No. 1(E): "The diameters of the first impression cylinder 14, the second impression cylinder 19, the first inspecting cylinder 10, and the second inspection cylinder 12 are respectively twice of the diameters of the first to fourth cylinders 16, 17, 20, and 21. Therefore, the quality of the print is certainly determined between a position where the sheet 5 passes through the position of the inspection by the rear surface inspection camera 13 and a position where the sheet 5 is printed by the stamping cylinder 15,

and a malfunction of the device can be prevented." (paragraph [0034])

A No. 1(F): According to the description in A No. 1(D) such that "the surface of the sheet 5 is inspected by the surface inspection camera 11, and after that, the rear surface is inspected by the rear surface inspection camera 13" and the description in A No. 1(E) such that "the quality of the print is certainly determined between ... and the position where the sheet 5 is printed by the stamping cylinder 15", it is obvious that the "rotary press" in A No. 1(A) includes a determining unit to determine the quality of the print based on the inspections by the surface inspection camera 11 and the rear surface inspection camera 13.

A No. 1(G): In consideration of the description in A No. 1(C) such that "The inspection rotary press which additionally prints the serial number and seal on the sheet where the picture patterns are printed is exemplified in the present embodiment. A paper tray 6 on which a large number of sheets to which a plurality of the picture patterns is printed are mounted is provided in the paper feeding unit 1. The sheet 5 on the paper tray 6 is sucked by a sucker device which is not shown one by one and is fed on a feeder board 7. A swing device 8 feeds the sheet 5 to the inspection unit 2 via a transfer cylinder 9" and the arrangement of the transfer cylinder 9 and the first inspecting cylinder 10 in FIG. 1, it can be said that the inspection rotary press includes the paper feeding unit 1 and the transfer cylinder 9 which successively transfers the sheets 5 to the first inspecting cylinder 10.

A No. 1(H): By referring to the description in A No. 1(C) such that "a second inspection cylinder 12 which is provided opposed to the first inspecting cylinder 10 and conveys the sheet 5 received from the first inspecting cylinder 10 as winding it around the peripheral surface" and "a first impression cylinder 14 which is provided opposed to the second inspection cylinder 12 and conveys the sheet 5 received from the second inspection cylinder 12 as winding it around the peripheral surface" and the arrangement of the cylinders including the transfer cylinder 9 and the first inspecting cylinder 10 in FIG. 1, it can be said that the transfer cylinder 9, the first inspecting cylinder 10, the second inspection cylinder 12, and the first impression cylinder 14 are provided opposed to each other.

As described above, the following invention (referred to as "Evidence A No. 1 invention" below) is described in the Evidence A No. 1.

"An inspection rotary press for a sheet 5 to which picture patterns such as valuable securities are printed, comprising:

- a paper feeding unit 1;

- a first inspecting cylinder 10 configured to convey the sheet 5;

- a surface inspection camera 11 configured to inspect the sheet 5 conveyed by the first inspecting cylinder 10;

- a second inspection cylinder 12 configured to be provided opposed to the first inspecting cylinder 10 and convey the sheet 5 received from the first inspecting cylinder 10;

- a rear surface inspection camera 13 configured to inspect the sheet 5 conveyed by the second inspection cylinder 12;

- a determining unit configured to determine a quality of the print based on inspections by the surface inspection camera 11 and the rear surface inspection camera 13;

- a transfer cylinder 9 configured to continuously transfer the sheet 5 to the first inspecting cylinder 10; and

- a first impression cylinder 14 configured to convey the sheet 5 received from the second inspection cylinder 12, wherein

- the transfer cylinder 9, the first inspecting cylinder 10, the second inspection cylinder 12, and the first impression cylinder 14 are provided opposed to each other,

- the printed sheet is fed from the transfer cylinder 9 to the first inspecting cylinder 10, transferred to the second inspection cylinder 12, transferred to the first impression cylinder 14, and

- a surface of the sheet 5 is inspected by the surface inspection camera 11 in the first inspecting cylinder 10, and after that the sheet 5 is transferred to the second inspection cylinder 12."

(2) Evidence A No. 2

In the Evidence A No. 2 (National Publication of International Patent Application No. 2001-509746) which is a publication distributed before priority date for the invention, the drawings and the following matters are described.

A No. 2(A): "A device configured of the imaging devices (34, 36) and at least a single drum (17, 18) for conveying a sheet (1) performs qualitative assessment of the processed sheet (1). The device has the drum including a first holding device (27) grips the beginning of the sheet (1). At least a single second holding device (28) for

gripping the trailing end is provided in the drums (17, 18), and the holding device is arranged so as to stretch the sheet (1) tight before the inspection of the sheet (1)." (page 2, lines 2 to 9)

A No. 2(B): "Essentially, a device for the qualitative assessment of the processed sheets 1 has been installed in a sheet-processing machine. In the present preferred embodiment, a sheet-fed rotary printing press, which imprints sheets of paper 1 on their front and reverse sides is used. For reasons of simplification, only the sheet transport device downstream of the print units, as far as the deposit of the sheets on piles 4, 6, 7 in a delivery device 8, has been represented.

The processed sheets are understood to be, for example, sheets which have been printed, embossed or provided with a pattern in other ways." (page 6, lines 1 to 7)

A No. 2(C): "Each one of these two drums 17 and 18 has been assigned its own inspection device. Essentially this inspection device consists of an illumination device 32, 33 and an image recording device 34, 36. In the present preferred embodiment, a plurality of stroboscopic flashes 37 is provided as the illumination device 32, 33, which are arranged in such a way that an even illumination of the sheet to be inspected takes place. This means that an angle and a distance of the light outlet surface of the stroboscopic flashes 37 are matched to the peripheral surface of the drum 17, 18 and to the lens of the image recording device 34, 36.

The respective image recording device 34, 36 consists of at least one CCD area camera (Flächenkamera), preferably of two CCD area cameras 34, 36, arranged next to each other in the axial direction of the drum 17, 18. Preferably, four individual recordings, corresponding to each quadrant, are taken of each sheet to be inspected, which are again superimposed on each other to form a whole image in an evaluation device connected downstream of the CCD area cameras 34, 36. This whole image is then evaluated, for example, in a method corresponding to the method described in DE4206366A1. Two successive images per sheet 1 to be inspected are recorded by each one of the two CCD area cameras 34, 36.

However, it is also possible to record a single image of the sheets by means of a single CCD area camera." (page 7, line 18 to page 8, line 7)

A No. 2(D): "The mode of operation of the device in accordance with the present invention is as follows:

The chain gripper devices 12 of the first chain conveyor 9 takes over the printed sheets from a compression cylinder (which is not shown). The inspection of the front 2 and reverse side 3 of the sheets only takes place after printing, i.e., following complete processing, as the last work step prior to deposition in the sheet processing machine. These chain gripper devices 12 convey the sheets 1 first in the horizontal, then in the vertical direction to the second chain conveyor 14 arranged above the piles 4, 6, 7, and transfer the sheets to the first drum 17. In the process, the grippers 27 of the first drum 17 grip the beginning of the sheet to be inspected. After approximately one-half rotation of the drum 17, the end of each sheet 1 reaches the area of the suction devices 28, which are thereupon charged with suction air and in this way grasp the end of the sheets 1. Subsequently, the suction devices 28 perform a movement both in the circumferential direction and the axial direction of the drum 17 and in this manner tightly stretch the sheet. Now the sheet 1 lies, free of creases, on the first drum 17. In the present example, the reverse side 3 of the sheet faces away from the drum 17 and points in the direction toward the CCD area cameras 34. Now the stroboscopic flashes 37 illuminate the sheet for the first time, and the two CCD area cameras 34 record the two adjoining individual images of the forward half of the sheet. The sheet 1 is stretched tight before the first single image is recorded. After a rotation of the drum 17 corresponding to one-half length of the sheet, the two successive individual images of the rear half of the sheet are recorded. Only after all individual images, or respectively the total image, of the sheet has been recorded, the sheet is then transferred to the second drum 18 for inspecting the front side 2 of the sheet. The grippers 27 of the first drum 17 transfer the beginning of the sheet 1 to the grippers 27 of the second drum 18. In this way the sheet is conveyed by the second drum 18 and the reverse side 3 of the sheet, which faced to the outside on the first drum 17, moves inward to overlie the surface 31 of the second drum 18, so that the front side 2 of the sheet now faces to the outside. As soon as the suction devices 28 of the first drum 17 and the second drum 18 come into the transfer area (i.e., into the area of the common centers of the two drums 17, 18), the suction air for the suction devices 28 of the first drum 17 is turned off and the suction devices 28 of the second drum 18 are charged with suction air. By means of this, the end of the sheet is grasped by the suction devices 28 of the second drum 18. Subsequently, the suction devices 28 of the second drum 18 are moved in the circumferential direction and in the axial direction of the second drum 18. Here, the suction force generated by the suction devices 28 on the end of the sheet is designed to be such that, although the sheet is stretched tightly, the sheet begins to slide on the suction devices 28 before

the tear resistance of the sheet is overcome.

Only after the sheet 1 has been completely stretched tight on the second drum 18, are individual images of the forward half of the front side 2 of the sheet recorded. Thereafter, the two individual images of the rear half of the sheet are recorded. Here, too, the beginning of the sheet is only transferred to the chain gripper devices 21 of the third chain conveyor 19 after the entire image of the sheet has been completely recorded." (page 8, line 13 to page 9, 6 lines from the bottom)

As described above, the following invention (referred to as "Evidence A No. 2 invention") is described in the Evidence A No. 2.

"A device for the qualitative assessment of the printed sheet 1, comprising:

an inspection device configured to include a drum 17 for conveying the printed sheet 1, an illumination device 32 and a CCD area camera 34 for taking images of the sheet 1 on the drum 17; and

an inspection device configured to include a drum 18 for conveying the printed sheet 1, an illumination device 33 and a CCD area camera 36 for taking images of the sheet 1 on the drum 18, wherein

only after all individual images, or respectively the total image of the sheet 1 on the drum 17 has been recorded, the sheet 1 is then transferred to the second drum 18 for inspecting the front side 2 of the sheet 1, and the beginning of the sheet 1 is only transferred to the chain gripper devices 21 of the third chain conveyor 19 after the entire image of the sheet 1 on the drum 18 has been completely recorded."

(3) Evidence A No. 3

In the Evidence A No. 3 (National Publication of International Patent Application No. 2003-532563) which is a publication distributed before priority date for the invention, the drawings and the following matters are described.

A No. 3(A): "The present invention relates to an installation for treating sheets of paper printed on both side, especially papers of value, comprising a sheet-by-sheet feed device, transfer means, means for treating said sheets, and means for separation into at least two separate stacks, and to a method for operating this installation." (paragraph [0001])

A No. 3(B): "The installation according to the present invention is characterized in that it comprises means for checking the printing quality, means for printing a

sequential number and/or additional elements, means for checking the numbering and/or for printing additional elements, and means for marking the sheets found to be unacceptable by one of the quality checking means.

The installation has the advantage of making it possible in a single pass, to carry out the operations of checking quality, of printing a sequential number and/or additional elements, of checking the quality of this printing, and of marking the sheets found to be unacceptable and of guiding them toward a suitable stack." (paragraphs [0007] and [0008])

A No. 3(C): "The installation shown in FIG. 1 firstly comprises a feed device 1 for feeding printed sheets S of paper, for example papers of value such as bank notes. These sheets S enter a transfer drum 3 via a feed roll 2 and are taken up by a first drum 4 driven in rotation in the direction of the arrow F1. The first drum 4 is provided with grippers for seizing the front end of a sheet. The drum 4 is apertured so that it is possible to carry out the various quality checks. This is because it is necessary to be able to see the surface of the seized sheet from inside the drum 4. In a first position inside the drum 4 we have a camera 5 which makes it possible to check by transmission, and facing this camera outside the drum there is a device 6 for illuminating the sheet on its opposite side relative to the sheet. Thereafter, the sheet continues its travel in the direction of the arrow F1 and arrives so as to face an optoelectronic reflection-based checking device 7 illuminated by devices 8, the sheet being held in a regular configuration by a suction device 9. In the present case, the quality check is made row by row as the drum 4 rotates past the quality checking device 7. Thereafter, when the sheet arrives at the point of contact between the drum 4 and a drum 10, the sheet is taken by a seizing device to the drum 10, and goes past another optoelectronic reflection-based checking device 7', the sheet being illuminated by an illumination device 8', and row-by-row quality check is also carried out as before, the sheet being held in a regular manner by a suction device 9'. Of course, the drum 10' rotates in the direction of the arrow F2, which is the opposite direction to that of the arrow F1, thereby making it possible, as the sheet S passes from the drum 4 to the drum 10, to change the side of the sheet that is turned toward the inside of the drum 10. The drum 10 has a construction very similar to that of the drum 4. Thereafter, the sheet passes via a series of transfer rolls 11, and a printing roll 12 on which two elements 13 and 14 act, for numbering or for affixing alphabetical elements. Each of the printing elements 13 and 14 is inked by an inking assembly which does not form part of the present invention. The rolls 13 and 14 are

also provided with a cleaning device, as is standard practice in this type of installation." (paragraph [0023])

A No. 3(D): "After the sheets have been numbered, they run past an optoelectronic device 17 for checking the printing quality of the numbering. Next, the sheet S is taken up by a chain transfer device 18 and the sheet runs past a marking device 19. This device 19 applies a mark to the upper part of the sheets that have been found to be defective, either during quality check of the printing by reflection or transmission, or by the device for checking the printing quality of the numbering. A device 20 checks whether the sheets regarded as being unacceptable have indeed been marked by the device 19 and thereafter the sheets are directed toward a stacking device. The stacking device has a first stack 21 for the sheets regarded as being good, a stack for the sheets regarded as being scrap and finally it may have a third stack 23 which either it also contains sheets regarded as being good, or they may contain sheets that have not been checked or numbered following inopportune stoppages of the installation or errors during the treatment and that these sheets must pass through the installation one more time." (paragraph [0026])

A No. 3(E): "The installation described in FIG. 1 is in its most complete form and it makes it possible, from a stack of sheets S, to carry out firstly a check of the printing quality by reflection and by transmission, followed by complementary printing, for example, by means of the assembly 15, the affixing of a signature or a date, or both, followed by numbering, thereafter a check of the printing quality, transfer past a device affixing a mark on the sheets having a defect, and then a stacking device for separating the acceptable sheets from those that are not and optionally from those that have not been treated, whether not checked or not numbered." (paragraph [0031])

According to the above, the following invention (referred to as "Evidence A No. 3 invention") is described in the Evidence A No. 3.

"A method for operating a device for treating a printed sheet, for example, papers of value such as bank notes, wherein

a feed device 1 for successively feeding the sheets of paper is included, and these sheets enter a transfer drum 3 via a feed roll 2 and are taken up by a drum 4 driven in rotation in the direction of the arrow F1,

in a first position inside the drum 4 we have a camera 5 which makes it possible to check by transmission, and facing this camera 5 outside the drum 4 there

is a device 6 for illuminating the sheet on its opposite side relative to the sheet, the sheet continues its travel and arrives so as to face an optoelectronic reflection-based checking device 7 illuminated by devices 8, and the quality check is made as the first drum 4 rotates past the quality checking device 7,

thereafter, when the sheet arrives at the point of contact between the drum 4 and a drum 10, the sheet is taken by a seizing device to the drum 10, and goes past another optoelectronic reflection-based checking device 7', the sheet being illuminated by an illumination device 8', and the quality check is also carried out,

next, the sheet is taken up by a chain transfer device 18 and the sheet runs past a marking device 19, and this device 19 applies a mark to the sheets that have been found to be defective during quality check of the printing by reflection or transmission, and

after that, sheets are directed toward a stacking device, and the acceptable sheets are separated from those that are not."

(4) Evidence A No. 4

In the Evidence A No. 4 (Japanese Unexamined Patent Application Publication No. H10-337935) which is a publication distributed before priority date for the invention, the drawings and the following matters are described.

A No. 4(A): "A checking device for checking a printed matter by using infrared ray absorbing ink, comprising;

a printing press for printing a printed matter with an infrared ray ink of which spectrum characteristics in an infrared region is different from spectrum characteristics under white light, said printing press, including infrared ray irradiating means for irradiating infrared ray towards said conveyed printed matter, image data pick up means for obtaining data of an image of the printed matter irradiated by the infrared ray, memory means for previously memorizing data of an image of a standard printed matter, printed with the infrared ink, as a standard value by irradiating the infrared ray, and judgement means for reading the image of the standard value stored in the memory means, comparing the standard image with the image obtained by the image data pick up means, and judging whether a result of the comparison is within a predetermined range." ([claim 1])

A No. 4(B): "One embodiment of a device for detecting a matter printed with infrared ray ink according to the present invention is shown in FIG. 1 and FIG. 2. In the

embodiment, as shown in the drawings, an intaglio printing press comprises a plurality of contact type line sensors 3, and the printer press is connected to a signal processing device 12 and a personal computer 11 in order to detect a security sheet 14 on line. In the embodiment, the printed security sheet 14 has contact with the impression cylinder 13 which rotates at a constant speed and is conveyed, and there are three lines of security note sections (herein after, it is referred as "detected object") of the security sheet 14 arranged along a transverse direction with respect to a rotational direction of the impression cylinder 13.

Corresponding to each line of detected objects on the security sheet 14, a contact type line sensor 3 is provided. Each line sensor 13 is connected to the signal-processing device 12. As described above, the contact type line sensor 3 comprises an infrared ray LED array, an optional element for forming an image, a photodiode array, and a picture signal control IC, detects an infrared ray image of the detected object and outputs signals in proportion to variable density of the image along time series." (paragraphs [0020] and [0021])

A No. 4(C): "Upon an inspection, a light quantity of an infrared LED in each line sensor 3 is set, the sheet 14 such as the bank note is supplied for printing, printing is performed during conveyance in the impression cylinder 13, and when the printed sheet 14 such as the bank note is closely attached to the impression cylinder and conveyed as it is, the image of each inspection object is fetched by each line sensor 3. Note that detection by each line sensor 13 may be performed not only on the impression cylinder but also on the cylinder after printing and before discharge or during conveyance by chain grippers." (paragraph [0028])

According to the above, the following invention (referred to as "Evidence A No. 4 invention") is described in the Evidence A No. 4.

"An infrared ray printed matter checking device in which a light quantity of the infrared LED of each line sensor 3 is determined in the detecting process, the security sheet 14 is supplied for printing. When the sheet 14 is printed during conveyance by the impression cylinder 13 and continuously conveyed as having contact with the impression cylinder, an image of the detected object of the printed sheet 14 is taken by the each line sensor 3."

(5) Evidence A No. 5

In the Evidence A No. 5 (Japanese Unexamined Patent Application Publication

No. 2001-101473) which is a publication distributed before priority date for the invention, the drawings and the following matters are described.

A No. 5(A): "A paper sheet discriminating apparatus for discriminating a paper sheet in terms of its pattern by irradiating said paper sheet with a light to receive at least the reflected one of a transmitted light and a reflected light obtained from said paper sheet" (paragraph [0009])

A No. 5(B): "FIG. 1 is a block diagram showing an example of the construction of an essential portion of a paper sheet (as will be exemplified by a "bill") discriminating apparatus according to the present invention. In FIG. 1, an optical sensor unit 10 is constructed to array a number of detectors at predetermined positions over a not-shown bill transfer passage an in line with the transfer direction of a bill 1 and to include an image line sensor made of an LED array and a photodiode array. The optical sensor unit 10 scans the bill 1 as being transferred, in a planar shape to detect the distribution of physical properties of a reflected light or a transmitted light at the individual positions over the bill 1." (paragraph [0013])

A No. 5(C): "FIG. 2 shows an example of the construction of a transmission/reflection type line sensor 100 having a multiple wavelength light source. The line sensor 100 is constructed to include a light emitting unit 110 and a light receiving/emitting unit 120 which are formed into rectangular shapes confronting each other, and the bill is transferred as a medium to be discriminated, in a bill passage between the light emitting unit 110 and the light receiving/emitting unit 120." (paragraph [0020])

According to the above, the following invention (referred to as "Evidence A No. 5 invention") is described in the Evidence A No. 5.

"A paper sheet discriminating apparatus for discriminating a paper sheet in terms of its pattern by irradiating said paper sheet with a light to receive at least the reflected one of a transmitted light and a reflected light obtained from said paper sheet. In the paper sheet discriminating apparatus, the bill is transferred in a bill passage between the light emitting unit 110 and the light receiving/emitting unit 120 of the line sensor 100".

(6) Evidence A No. 6

In the Evidence A No. 6 (Japanese Unexamined Patent Application Publication No. S61-175552) which is a publication distributed before priority date for the invention, the drawings and the following matters are described.

A No. 6(A): "In a method for detecting a defect on/in a sheet by optically and electrically detecting a light quantity change by reflecting the light by the sheet or passing the light through the sheet, a defect caused by a bug is discriminated by calculating an electric signal level value obtained as a reflection-type light quantity change relative to the same defect and an electric signal level value obtained as a transmission-type light quantity change." (page 1, lines 4 to 11 in lower left column)

A No. 6(B): "FIG. 2 illustrates a case where the method according to the present invention is applied to a double-side check of a flat sheet (1).

The device mainly includes a supply unit (19), a detection unit (20), and a discharge unit (21).

As the supply unit, known methods such as a method for transferring the flat sheet by using a gripper chain with a predetermined pass and a method for transferring the flat sheet as sandwiching it between sheet feeding conveyors provided at upper and lower parts can be employed. However, also, a high-speed operation can be performed by employing a sheet-by-sheet feeder of a sheet printing press.

In the detection unit (20), which is a main part of the present invention, a roll with a swing gripper (22), a first inspection roll (23), a second inspection roll (24), and a third inspection roll (25) are arranged in an approximately horizontal state as the sides of each component have contact with each other. In each inspection roll, a gripper device, which is not shown, used by an impression cylinder of the printer and the like is provided so as to grip the top end of the transferred flat sheet and to transfer the sheet to the next process.

A reflection-type defect detecting device (2) for checking the upper surface of the sheet is provided above the first inspection roll (23), and a reflection-type defect detecting device (5) for checking the lower surface of the sheet is provided below the second inspection roll (24). The third inspection roll (25) uses a transparent/semi-transparent hollow pipe made of the acrylic resin to check the flat sheet with the transmitted light. A light projector (9) is provided in the third inspection roll (25) and a light receiver (10) is provided and embedded above the same so that the third inspection roll (25) is configured to act as a transmission-type defect detecting device (8)." (page 3, line 7 in lower left column to line 15 in lower

right column)

A No. 6(C): "By using a defect detecting device according to the method of the present invention, a defect caused by a bug can be very easily and accurately discriminated. Therefore, processing ability is significantly increased, and in addition, a cost required at the time of receiving a claim can be reduced, and a burden of a worker can be largely reduced." (page 5, five lines from the bottom of upper left column to line 1 in upper right column)

According to the above, the following invention (referred to as "Evidence A No. 6 invention") is described in the Evidence A No. 6.

"Regarding a defect detecting device for detecting a defect on/in a sheet by optically and electrically detecting a light quantity change by reflecting the light by the sheet or passing the light through the sheet, the defect detecting device includes a supply unit (19), a detection unit (20), and a discharge unit (21). In the detection unit (20), a reflection-type defect detecting device (2) for checking the upper surface of the sheet is provided above the first inspection roll (23), and a reflection-type defect detecting device (5) for checking the lower surface of the sheet is provided below the second inspection roll (24). The third inspection roll (25) uses a transparent/semi-transparent hollow pipe made of the acrylic resin to check the flat sheet with the transmitted light. A light projector (9) is provided in the third inspection roll (25) and a light receiver (10) is provided and embedded above the same so that the third inspection roll (25) is configured to act as a transmission-type defect detecting device (8). Accordingly, the defect caused by the bug can be discriminated."

3. Regarding corrected patent invention 1

3-1 Comparison

The corrected patent invention 1 and the Evidence A No. 1 invention are compared with each other.

(A) "A sheet 5 to which picture patterns are printed such as valuable securities" in the Evidence A No. 1 invention corresponds to "a printed matter in the form of printed sheets, such as valuable securities, paper money, bank notes, a passport, and other similar paper" in the corrected patent invention 1 from the point of view of meaning of the words, function, or the structure. Similarly, "paper feeding unit 1" corresponds to "sheet feeder (1)", "the sheet 5" corresponds to "the printed sheet".

"The determining unit to determine a quality of the print based on inspections by the camera 11 and the rear surface inspection camera 13" corresponds to "analyzing device", and "transfer cylinder 9" corresponds to "input transfer cylinder (3)".

(B) Since "the surface of the sheet 5 is inspected by the surface inspection camera 11 in the first inspecting cylinder 10" in the Evidence A No. 1 invention, "inspection rotary press" in the Evidence A No. 1 invention corresponds to "inspection machine" in the corrected patent invention 1. Also, "inspection rotary press for a sheet 5 to which picture patterns such as valuable securities are printed" in the Evidence A No. 1 invention corresponds to "inspection machine for a printed matter in the form of printed sheets, such as valuable securities, paper money, bank notes, a passport, and other similar paper" in the corrected patent invention 1.

(C) "The first inspecting cylinder 10" and "the surface inspection camera 11" in the Evidence A No. 1 invention configure a single sheet inspection unit, and similarly, "the second inspection cylinder 12" and "the rear surface inspection camera 13" configure another sheet inspection unit. Also, the Evidence A No. 1 invention includes "determining unit to determine a quality of the print based on inspections by the surface inspection camera 11 and the rear surface inspection camera 13". Therefore, it is obvious that "the surface inspection camera 11 and the rear surface inspection camera 13" are communicably connected to "the determining unit".

In addition, all "the first inspecting cylinder 10" and "the second inspection cylinder 12" in the Evidence A No. 1 invention and "the first inspection cylinder (4)", "the second inspection cylinder (7)" and "the third inspection cylinder (12)" in the corrected patent invention 1 are "inspection cylinders". All of "the surface inspection camera 11" and "the rear surface inspection camera 13" in the Evidence A No. 1 invention and "the first linear camera (6)", "the second linear camera (9)", and "the third linear camera (14)" in the corrected patent invention 1 are "cameras".

Accordingly, regarding "a first inspecting cylinder 10 for conveying the sheet 5, a surface inspection camera 11 for inspecting the sheet 5 conveyed by the first inspecting cylinder 10, a second inspection cylinder 12 for being provided opposed to the first inspecting cylinder 10 and convey the sheet 5 received from the first inspecting cylinder 10, a rear surface inspection camera 13 for inspecting the sheet 5 conveyed by the second inspection cylinder 12, and a determining unit for determining a quality of the print based on inspections by the surface inspection camera 11 and the rear surface inspection camera 13" in the Evidence A No. 1

invention and

"a first sheet inspection unit with a first inspection cylinder (4) for transporting a printed sheet during inspection, a first illumination means (5) and a first linear camera (6) connected to an analyzing device for taking an image of the printed sheet while it is transported on the first inspection cylinder (4),

a second sheet inspection unit with a second inspection cylinder (7) for transporting a printed sheet during inspection, a second illumination means (8) and a second linear camera (9) connected to an analyzing device for taking an image of the printed sheet while it is transported on the second inspection cylinder (7),

a third sheet inspection unit with a third inspection cylinder (12) for transporting a printed sheet during inspection, a third illumination means (13) and a third linear camera (14) connected to an analyzing device for taking an image of the printed sheet while it is transported on the third inspection cylinder (12)" in the corrected patent invention 1, the Evidence A No. 1 invention and the corrected patent invention 1 have a common point such that "both of them include a plurality of pairs of sheet inspection units including an inspection cylinder to transport the sheet printed at the time of inspection and a camera connected to the analyzing device for taking images of the printed sheet during the transport on the inspection cylinder.

(D) Both "a transfer cylinder 9 to continuously transfer the sheet 5 to the first inspecting cylinder 10" in the Evidence A No. 1 invention and "an input transfer cylinder (3) to successively bring the printed sheets to the first inspection unit" in the corrected patent invention 1 can be assumed as "an input transfer cylinder (3) to successively bring the printed sheets to a sheet inspection unit arranged at the most upstream, that is, the most upstream sheet inspection unit". Similarly, both "a first impression cylinder 14 configured to convey the sheet 5 received from the second inspection cylinder 12" in the Evidence A No. 1 invention and "an output transfer cylinder (17) to take away the printed sheets from the third inspection unit" in the corrected patent invention 1 can be assumed as "a transfer cylinder to take away the printed sheets from a sheet inspection unit arranged at the most downstream, that is, the most downstream sheet inspection unit".

Also, regarding the arrangement of the cylinders, the Evidence A No. 1 invention and the corrected patent invention 1 have a common point such that "the input transfer cylinder (3), each inspection cylinder of a plurality of sheet inspection units and the transfer cylinder are arranged so that the printed sheets are directly and successively transferred from the input transfer cylinder (3) to each inspection

cylinder and the transfer cylinder". In addition, the Evidence A No. 1 invention and the corrected patent invention 1 have a common point such that "each sheet inspection unit, the input transfer cylinder (3), and the transfer cylinder are configured to take away the inspected and printed sheets from the inspection cylinder after the inspection of the printed sheet has been performed by each sheet inspection unit."

According to (A) to (D) above, corresponding features and different features between the corrected patent invention 1 and the Evidence A No. 1 invention are as follows.

(Corresponding feature)

An inspection machine for a printed matter in the form of printed sheets, such as valuable securities, paper money, bank notes, a passport, and other similar paper, comprising:

- a sheet feeder (1);

- a plurality of pairs of sheet inspection units including an inspection cylinder to transport the sheet printed at the time of inspection and a camera connected to the analyzing device for taking images of the printed sheet during the transport on the inspection cylinder;

- an input transfer cylinder (3) to successively bring the printed sheets to the most upstream sheet inspection unit; and

- a transfer cylinder for taking away the printed sheets from the most downstream sheet inspection cylinder, wherein

- the input transfer cylinder (3), each inspection cylinder of a plurality of sheet inspection units, and the transfer cylinder are arranged so that the printed sheets are directly and successively transferred from the input transfer cylinder (3) to each inspection cylinder and the transfer cylinder, and

- each sheet inspection unit, the input transfer cylinder (3), and the transfer cylinder are configured to take away the inspected and printed sheets from each inspection cylinder after the inspection of the printed sheet has been performed by each sheet inspection unit.

(The different feature 1)

In the corrected patent invention 1, the number of pairs of the plurality of sheet inspection units is three, and the camera included in each sheet inspection unit is a linear camera, and each sheet inspection unit, the input transfer cylinder (3), and the transfer cylinder "are configured so that the inspected printed sheet is taken away

from the first, second, or third inspection cylinder (4, 7, 12) only once the inspection of the printed sheet is completed by the first, second, or third inspection unit". Whereas, in the Evidence A No. 1 invention, the number of pairs of the plurality of sheet inspection units is two, and it is not known whether the camera included in each sheet inspection unit is a linear camera. In addition, the different feature 1 includes a point in which although each sheet inspection unit, the input transfer cylinder (3), and the transfer cylinder take out the inspected printed sheet from each inspection cylinder once the inspection of the printed sheet is completed by each inspection unit, it is not known whether the inspected printed sheets is taken away from each inspection cylinder only when the inspection of the printed sheet is completed by each sheet inspection unit.

(The different feature 2)

The sheet inspection unit in the corrected patent invention 1 includes illumination means. Whereas, it is not known whether the sheet inspection unit in the Evidence A No. 1 invention includes illumination means.

(The different feature 3)

In the corrected patent invention 1, the input transfer cylinder (3), each inspection cylinder of the plurality of sheet inspection units, and the transfer cylinder are arranged so as to directly have contact with each other. Whereas, in the Evidence A No. 1 invention, the second inspection cylinder 12 "is provided opposed to the first inspecting cylinder 10". However, it is not known whether all the cylinders are arranged in a state where all the cylinders have contact with each other.

3-2 Judgment

The different feature 1 will be examined.

(1) Technical significance of corrected patent invention 1

First, a technical significance of the matters specifying the corrected patent invention 1 according to the different feature 1 will be examined.

A linear camera facing to a moving object successively takes linear images. According to this, it is the common general knowledge that the linear camera is a camera to obtain a two-dimensional image of the object.

Since the linear camera takes linear images, the diameter of the inspection cylinder can be reduced by using the linear camera by "the inspection device" in the corrected patent invention 1. As a result, this contributes to build an inspection

machine with a compact configuration (described matter A).

Also, since the linear camera successively takes a large number of linear images, it is necessary to have "a perfect match between the encoder reading of each cylinder 4, 7, and 12 and camera image taking" (described matter D). Therefore, it can be understood that "the sheets can be properly inspected and the transfer operation from one cylinder to another does not influence the inspection operation per se" (described matter D) by "completely inspecting the sheet before it is transferred to the next inspection cylinder" (described matter D) and that it is possible to "provide a reliable inspection machine and process" (described matter A).

Therefore, the technical significance in which the corrected patent invention 1 includes the specifying matters according to the different feature 1 is that the inspection machine includes three pairs of sheet inspection units so that at least three kinds of inspections can be performed to the printed sheet. Also, the technical significance includes that although a single inspection machine includes three cylinders, the diameter of each inspection cylinder can be reduced by using the linear camera so as to "build an inspection machine with a compact configuration" (described matter A). In addition, the technical significance includes that the influence of "the transfer operation from one cylinder to another cylinder" to the inspection operation which is more concerned according to the use of the linear camera by the inspection cylinder with a small diameter can be removed by "configuring the cylinders so that the inspected printed sheet is taken away from the first, second, or third inspection cylinder (4, 7, 12) only once the inspection of the printed sheet is completed by the first, second, or the third sheet inspection unit" and that the sheet is properly inspected, and that "a reliable inspection machine and process are provided" (described matter A).

(2) Regarding combination of Evidence A No. 1 invention to Evidence A No. 6 invention

In the Evidence A No. 2, the Evidence A No. 2 invention is described. However, the number of the inspection cylinders in the Evidence A No. 2 invention is two and the camera is a CCD area camera not a linear camera. Also, in the Evidence A No. 2 invention, "only after all individual images, or respectively the total image of the sheet 1 on the drum 17 has been recorded, the sheet 1 is then transferred to the second drum 18 for inspecting the front side 2 of the sheet 1". However, the Evidence A No. 2 invention is not configured to take away the inspected printed sheet from each inspection cylinder only when the inspection of the printed sheet is

completed by each sheet inspection unit as intending that "the sheet is properly inspected and the transfer operation from one cylinder to another does not influence the inspection operation per se" by using the linear camera.

In the Evidence A No. 3, the Evidence A No. 3 invention is described. However, there is no description on a point in which three inspection cylinders are provided, a point in which the linear camera is used as a camera, and a point in which the inspected printed sheet is taken away from each inspection cylinder only once the inspection of the printed sheet is completed by each sheet inspection unit.

In the Evidence A No. 4, the Evidence A No. 4 invention is described. However, there is no description of a point in which three inspection cylinders are provided and a point in which the inspected printed sheet is taken away from each inspection cylinder only once the inspection of the printed sheet is completed by each sheet inspection unit. Also, the Evidence A No. 4 invention "takes an image of the detected object of the printed sheet 14 such as bank notes by the each line sensor 3". However, the Evidence A No. 4 does not describe and indicate a point in which the linear camera is used to reduce the diameter of the inspection cylinder and "make it possible to build an inspection machine with a compact configuration".

In the Evidence A No. 5, the Evidence A No. 5 invention is described. However, there is no description on a point in which three inspection cylinders are provided and a point in which the inspected printed sheet is taken away from each inspection cylinder only once the inspection of the printed sheet is completed by each sheet inspection unit. Also, in the Evidence A No. 5 invention, "the bill is transferred in a bill passage between the light emitting unit 110 and the light receiving/emitting unit 120 of the line sensor 100". However, in the Evidence A No. 5, there is no description and indication about a point in which the linear camera is used to reduce the diameter of the inspection cylinder and "make it possible to build an inspection machine with a compact configuration".

In the Evidence A No. 6, the Evidence A No. 6 invention is described. However, there is no description on a point in which the linear camera is used as the camera and a point in which the inspected printed sheet is taken away from each inspection cylinder only once the inspection of the printed sheet is completed by each sheet inspection unit. Also, in the Evidence A No. 6 invention, "A reflection-type defect detecting device (2) for checking the upper surface of the sheet is provided above the first inspection roll (23), and a reflection-type defect detecting device (5) is for checking the lower surface of the sheet is provided below the second inspection roll (24). The third inspection roll (25) checks the flat sheet with the transmitted

light". However, the "first inspection roll (23)", the "second inspection roll (24)", and the "third inspection roll (25)" do not inspect the printed sheets. In the Evidence A No. 6, there is no description and indication about a point in which the "first inspection roll (23)", the "second inspection roll (24)", and the "third inspection roll (25)" are applied to the inspection of the printed sheets.

In this way, in the Evidence A No. 2 to Evidence A No. 6, the specified matter of the corrected patent invention 1 in the different feature 1 can be fragmentally shown. However, in the Evidence A No. 2 to Evidence A No. 6, the description and indication regarding the technical significance of the corrected patent invention 1 according to the different feature 1, such that "the linear camera" is used for a specific purpose and such that "the linear camera" and the matter such that "the inspected printed sheet is took away from the first, the second, or the third inspection cylinder (4, 7, 12) only once the inspection of the printed sheet is completed by the first, the second, or the third inspection unit" are included for a specific purpose, examined in "(1) Technical significance of corrected patent invention 1" cannot be found. Therefore, under the challenge "to make it possible to build an inspection machine with a compact configuration" and "to provide a reliable inspection machine and process", there is no incentive to lead the specified matter of the corrected patent invention 1 according to the different feature 1 by organically combining the Evidence A No. 1 invention to Evidence A No. 6 invention.

By employing the specified matters of the corrected patent invention 1 according to the different feature 1 in combination with the specified matters of the corrected patent invention 1 according to the different features 2 and 3, the operation effect described in the corrected patent specification can be expected in the corrected patent invention 1 such that "to improve the known inspection machine and process, to optimize necessary transfer and inspection time to inspect the printed sheet, to build an inspection machine with a compact configuration, and to provide an easy and reliable inspection machine and process". (described matter A)

(3) Regarding demandant's allegation

Subsequently, the following demandant's allegation will be examined.

(A) Pages 9 and 10 in oral proceedings statement brief

"The demandee alleges that a slip may be generated when the sheet is transferred from one inspection cylinder to the next inspection cylinder, and

accordingly, the synchronization with imaging timing by the camera may be disturbed. However, this is not a specific problem for the use of the linear camera, and similarly, this problem occurs when the area camera is used. That is, inspection accuracy is deteriorated when the slip is generated at the time of taking images by the area camera, and a fact such that the slip should not be generated in the sheet even when the area camera is used is common sense for a person skilled in the art.

As described above, all the matters that the demandee alleges as an effect of the "linear camera" are not specific for the "linear camera" and not a subject to analysis of inventive Step".

(B) Pages 12 and 13 in oral proceedings statement brief

"In the invention described in the Evidence A No. 1, two cylinders are provided, and a single inspection is performed in one cylinder. It is quite natural that the cylinders and inspection devices are additionally provided when the inspection items are increased. It is quite natural that the cylinders and inspection devices are additionally provided when the inspection items are increased in comparison with the technique described in the Evidence A No. 3 in which one cylinder performs a plurality of inspections.

The linear camera has been known before the application of this patent (Evidence A No. 4 and No. 5). Not only that the linear camera has been known, but also that the linear camera is used for the inspection of the printed matter in the Evidence A No. 4 and No. 5 similarly to the Patent invention. In addition, in the paragraph [0012] of the specification, the description is made such that "the camera 6, for example, the known CCD camera of the same takes images created by the illumination". That is, the invention matter cannot be specified only by specifying the "linear camera" as the inspection means in the inspection machine for a printed matter.

The device cannot be miniaturized only by employing the linear camera. This is because the miniaturization of the device mainly depends on the size of the cylinder.

In addition, "to take away the sheet only once the inspection by each inspection unit is completed" has been known before the application of the present patent as described in the Evidence A No. 1 and No. 2.

In this way, all the matters insisted by the demandee have been known and do not configure any technical matters. Therefore, the first patent invention according to the corrected claim 1 still lacks an inventive step according to the Evidence A No. 1 and No. 2".

(Regarding allegation (A))

When the area image of a predetermined range is obtained, the area camera needs one photographing operation. On the other hand, since the linear camera can take only a linear image by one photographing operation, in order to obtain the area image of the predetermined range, the photographing operations are repeated for a long time and the photographed respective linear images are collected.

In consideration of the above characteristics of the linear camera, in order to obtain a proper area image with no disturbances or distortions by using the linear camera, it is obvious that it is necessary to prevent the slip of the sheet not only at an instant of the single photographing operation but also through all period when the photographing operations are repeated.

Therefore, even when "inspection accuracy is deteriorated when the slip is generated at the time of taking images by the area camera, and a fact such that the slip should not be generated in the sheet even when the area camera is used is common sense for a person skilled in the art", the probability that the disturbances or distortions are generated in the image and the influence degree of the size of the disturbances or distortions generated in the image when the slip is generated in the moving sheet at a certain instant in a case where the area camera which needs one photographing operation is used cannot be the same as those in a case where the linear camera which needs to repeat the photographing operation through a predetermined period.

Therefore, the Correction of the case invention 1 has both the "linear camera" and the matter such that "the inspected printed sheet is taken away from the first, second, or third inspection cylinder (4, 7, 12) only once the inspection of the printed sheet is completed by the first, second, or third inspection unit". According to this, "the sheet is properly inspected and the transfer operation from one cylinder to another does not influence the inspection operation per se" (described matter D), and "a reliable inspection machine and process are provided" (described matter A). It can be said that this is an operation effect which cannot be predicted according to the Evidence A No. 1 invention to the Evidence A No. 6 invention. Therefore, the above demandant's allegation cannot be accepted.

(Regarding allegation (B))

As the demandant alleges, "It is quite natural that the cylinders and inspection devices are additionally provided when the inspection items are increased", "the linear

camera has been known before the application of this patent (Evidence A No. 4 and No. 5)", and "In addition, "to take away the sheet only once the inspection by each inspection unit is completed" has been known before the application of the present patent as described in the Evidence A No. 1 and No. 2". Even in the above state, there is no incentive to lead the specified matter of the corrected patent invention 1 according to the different feature 1 by organically combining the respective items of Evidence A with the Evidence A No. 1 invention to the Evidence A No. 6 invention. This is as examined in "(2) Regarding combination of Evidence A No. 1 invention to Evidence A No. 6 invention" as examined above.

Therefore, the demandant's allegation such that "the first patent invention according to the corrected claim 1 still lacks an inventive step according to the Evidence A No. 1 and No. 2" cannot be accepted.

3-3 Summary

As described above, the corrected patent invention 1 could not be easily made by a person skilled in the art based on the inventions described in the Evidence A No. 1 to No. 6 without examining the different features 2 and 3.

Therefore, the corrected patent invention 1 is not in breach of Article 29(2) of the Patent Act. The Reason 1 for invalidation regarding the patent according to the corrected patent invention 1 has no reasons.

4. Regarding corrected patent inventions 2 to 12

The corrected patent inventions 2 to 12 correspond to the invention which includes all the specified matters of the invention of the corrected patent invention 1 and to which the other specified matters of the invention are added.

Therefore, the corrected patent inventions 2 to 12 could not be easily made by a person skilled in the art based on the invention described in the Evidence A No. 1 to No. 6 according to the reason similar to that of the corrected patent invention 1.

Therefore, since the corrected patent inventions 2 to 12 are not in breach of Article 29(2) of the Patent Act, the Reason 1 for invalidation regarding the patent according to the corrected patent inventions 2 to 12 has no reasons.

5. Corrected patent invention 13

5-1 Comparison

The corrected patent invention 13 and the Evidence A No. 3 invention are compared with each other.

(A) A "printed sheet, for example, papers of value such as bank notes" in the Evidence A No. 3 invention corresponds to a "printed matter in the form of printed sheet such as valuable securities, paper money, bank notes, a passport, and other similar paper" in the corrected patent invention 13 from the point of view of meaning of the words, function, or the structure. Similarly, the "feed device 1" corresponds to the "feeder", and "the sheet" corresponds to "the printed sheet". The phrase in the Evidence A No. 3 invention such that "the sheet is taken up by a chain transfer device 18 and the sheet runs past a marking device 19, and this device 19 applies a mark to the sheets that have been found to be defective during quality check of the printing by reflection or transmission" corresponds to a phrase such that "the printed sheets are transferred to a marking unit and are marked as defective if the result of one of the first to third inspection shows a defect" in the corrected patent invention 13, and a phrase such that "after that, sheets are directed toward a stacking device, and the acceptable sheets are separated from those that are not" corresponds to a phrase such that "once marking has been performed, the printed sheets are transported in a delivery unit and sorted in delivery piles depending on whether or not the printed sheets are marked as being defective".

(B) According to the description such that "the sheets which have not been treated, whether not checked or not numbered" in the Evidence A No. 3(E), the "processing" in the Evidence A No. 3 invention includes the inspection. Therefore, "A method for operating a device for treating a printed sheet, for example, papers of value such as bank notes" in the Evidence A No. 3 invention corresponds to "An inspection process for printed matter in the form of printed sheet such as valuable securities, paper money, bank notes, a passport, and other similar paper" in the corrected patent invention 13.

(C) The "drum 4", the "camera 5", "the illumination device 6", "the device 8", and "the optoelectronic reflection-based checking device 7" configure a single inspection unit as a whole. Similarly, "the drum 10", "the optoelectronic reflection-based checking device 7'", and "the illumination device 8'" configure another inspection unit.

(D) In the Evidence A No. 3 invention, "in a first position inside the drum 4 we have a camera 5 which makes it possible to check by transmission, and facing this camera outside the drum 4 there is a device 6 for illuminating the sheet on its opposite side

relative to the sheet, the sheet continues its travel and arrives so as to face an optoelectronic reflection-based checking device 7 illuminated by devices 8, and the quality check is made as the first drum 4 rotates past the quality checking device 7", "the sheet is taken by a seizing device to the drum 10, and goes past another optoelectronic reflection-based checking device 7', the sheet being illuminated by an illumination device 8', and the quality check is also carried out", and "next, the sheet is taken up by a chain transfer device 18". Therefore, the camera 5 checks by transmission, and the optoelectronic reflection-based checking device 7 checks one side of the sheet, and another optoelectronic reflection-based checking device 7' checks another side of the sheet. After all the checks including the check of another side of the sheet have been completed, the sheet is taken up by the chain transfer device 18.

All of "The camera 5", "the optoelectronic reflection-based checking device 7", and "another optoelectronic reflection-based checking device 7'" in the Evidence A No. 3 invention and "the first linear camera", "the second linear camera", and "the third linear camera" in the corrected patent invention 13 are "inspection devices" in common.

(E) In the Evidence A No. 3 invention, "the sheet is taken up by a drum 4, the sheet continues its travel, the quality check is made as the first drum 4 rotates, and after that, the sheet is taken by a seizing device to the drum 10, and goes past another optoelectronic reflection-based checking device 7', and the quality check is carried out". Therefore, it can be said that the sheet is transferred by the drums 4 and 10 at the time of quality check.

All of "the drum 4" and "the drum 10" in the Evidence A No. 3 invention and "the first inspection cylinder", "the second inspection cylinder", and "the third inspection cylinder" in the corrected patent invention 13 are "inspection cylinders" in common.

(F) According to the above (C) to (E), the expression such that "including a feed device 1 for successively feeding the sheets of paper is included, and these sheets enter a transfer drum 3 via a feed roll 2 and are taken up by a drum 4 driven in rotation in the direction of the arrow F1,

in a first position inside the drum 4 we have a camera 5 which makes it possible to check by transmission, and facing this camera outside the drum 4 there is a device 6 for illuminating the sheet on its opposite side relative to the sheet, the sheet

continues its travel and arrives so as to face an optoelectronic reflection-based checking device 7 illuminated by devices 8, and the quality check is made as the first drum 4 rotates past the quality checking device 7,

thereafter, when the sheet arrives at the point of contact between the drum 4 and a drum 10, the sheet is taken by a seizing device to the drum 10, and goes past another optoelectronic reflection-based checking device 7', the sheet being illuminated by an illumination device 8', and the quality check is also carried out" in the Evidence A No. 3 invention and the expression such that "successive printed sheets are transferred from a feeder to a first inspection unit in which a first inspection by positive transparency is carried out by a first linear camera for the inspection, and the printed sheets being transported in the first inspection unit by a first inspection cylinder (4);

once the first inspection by the first linear camera is terminated, the printed sheets are transferred to a second inspection unit in which a second inspection of a first side of the printed sheets is carried out, the printed sheets being transported in the second inspection unit by a second inspection cylinder (7);

once the second inspection by the second linear camera is terminated, the printed sheets are transported to a third inspection unit in which a third inspection on a second side of the printed sheets is carried out, the printed sheets are transported in the third inspection unit by a third inspection cylinder (12)" in the corrected patent invention 13 have the following common points. The points include that "the printed successive sheets are transferred from the feeder to a single inspection unit of the plurality of pairs of inspection units for the inspection, the printed sheet is transferred to the inspection unit where the inspection by the inspection cylinder of the inspection unit, in which the inspection is carried out, is carried out,

the inspection carried out by the inspection device in the plurality of pairs of inspection units includes an inspection by transparency, an inspection of a first side of the printed sheet, and an inspection of a second side of the printed sheet,

the printed sheet is transferred to the next inspection unit after the inspection by the single inspection unit, the inspection of the printed sheet is carried out by the inspection device, and the printed sheet is transferred to the inspection unit where the inspection by the inspection cylinder of the inspection unit, in which the inspection is carried out, is carried out".

(G) Since "when the sheet arrives at the point of contact between the drum 4 and a drum 10, the sheet is taken by a seizing device to the drum 10" in the Evidence A No.

3 invention, the sheet is directly transferred from the drum 4 to the drum 10.

According to (A) to (G) above, corresponding features and different features between the corrected patent invention 13 and the Evidence A No. 3 invention are as follows.

(Corresponding feature)

An inspection process for a printed matter in the form of printed sheet such as valuable securities, paper money, bank notes, a passport, and other similar paper, wherein the process comprises the following steps:

successive printed sheets are transferred from a feeder to a single inspection unit of a plurality of pairs of inspection units for an inspection, and the printed sheets are transferred to the inspection unit where the inspection by the inspection cylinder of the inspection unit, in which the inspection is carried out, is carried out, the inspection carried out by the inspection device in the plurality of pairs of inspection units includes an inspection by transparency, an inspection of a first side of the printed sheet, and an inspection of a second side of the printed sheet;

once the inspection by the single inspection unit is terminated, the printed sheets are transferred to the next inspection unit, the inspection of the printed sheet is carried out by the inspection device, and the printed sheet is transferred to the inspection unit where the inspection by the inspection cylinder of the inspection unit, in which the inspection is carried out, is carried out;

once inspections by all the inspection devices are terminated, the printed sheets are transferred to a marking unit and are marked as defective if one of the results indicates a defect; and

once marking has been performed, the printed sheets are transported in a delivery unit and sorted in delivery piles depending on whether or not the printed sheets are marked as being defective, and transfer of the printed sheets from the inspection unit to another inspection unit are made directly from the inspection cylinder to another inspection cylinder.

(The different feature 4)

In the corrected patent invention 13, the number of pairs of a plurality of inspection units is three, the inspection device included in each inspection device is the linear camera, and the printed sheet is transferred to the next inspection unit or the marking unit after the inspection by the linear camera in each inspection unit is terminated. Whereas, in the Evidence A No. 3 invention, the number of pairs of

inspection units is two, and it is not known where the inspection device included in each inspection unit is the linear camera, and although the printed sheet is transferred to the next inspection unit or the marking unit after the inspection by the inspection device in each inspection unit, it is not known whether the transfer is performed after the inspection is terminated.

(The different feature 5)

In the corrected patent invention 13, the inspection by transparency is the inspection by positive transparency. Whereas, in the Evidence A No. 3 invention, it is not known whether the inspection by transparency is the inspection by the positive transparency.

(The different feature 6)

In the corrected patent invention 13, "transfer of the printed sheets from the first inspection unit to the second inspection unit and that from the second inspection unit to the third inspection unit are made directly from the first inspection cylinder (4) to the second inspection cylinder (7) and from the second inspection cylinder (7) to the third inspection cylinder (12)". Whereas, in the Evidence A No. 3 invention, the number of pairs of the inspection units is two, and "transfer of the printed sheets from the first inspection unit to the second inspection unit and that from the second inspection unit to the third inspection unit are not made directly from the first inspection cylinder (4) to the second inspection cylinder (7) and from the second inspection cylinder (7) to the third inspection cylinder (12)"

5-2 Judgment

As examined on the different feature 4, the different feature 4 is not substantially different from the different feature 1.

The different feature 1 is the different feature between the corrected patent invention 1 and the Evidence A No. 1 invention described in the Evidence A No. 1. Therefore, it is obvious that the Evidence A No. 1 invention does not include the specified matters of the corrected patent invention 13 according to the different feature 4.

Accordingly, according to the reason similar to that of the corrected patent invention 1 indicated in 3-2 above, there is no incentive to lead the specified matter of the corrected patent invention 13 according to the different feature 4 by organically combining the Evidence A No. 1 invention to the Evidence A No. 6 invention.

In the corrected patent invention 13, by employing the specified matters of the corrected patent invention 13 according to the different feature 4 in combination with the specified matters of the corrected patent invention 13 according to the different features 5 and 6, the operation effect described in the corrected patent specification can be expected such that "to improve the known inspection machine and process, to optimize necessary transfer and inspection time to inspect the printed sheet, to build an inspection machine with a compact configuration, and to provide an easy and reliable inspection machine and process". (described matter A)

5-3 Summary

According to the above, the corrected patent invention 13 could not be easily made by a person skilled in the art based on the inventions described in the Evidence A No. 1 to No. 6 without examining the different features 5 and 6.

Therefore, since the corrected patent invention 13 is not in breach of Article 29(2) of the Patent Act, the Reason 1 for invalidation regarding the patent according to the corrected patent invention 13 has no reasons.

6. Regarding corrected patent inventions 14 to 18

The corrected patent inventions 14 to 18 correspond to the invention including all the specified matters of the invention of the Corrected invention 13 and having other specified matters of the invention added thereto.

Therefore, the corrected patent inventions 14 to 18 could not be easily made by a person skilled in the art based on the inventions described in the Evidence A No. 1 to No. 6 according to the reason similar to that of the corrected patent invention 13.

Therefore, since the corrected patent inventions 14 to 18 are not in breach of Article 29(2) of the Patent Act, the Reason 1 for invalidation regarding the patent according to the corrected patent inventions 14 to 18 has no reasons.

No. 8 Conclusion

As described above, the Correction of the case is made for any of the purposes as provided in Article 134-2(1)(i) and 134-2(1) (iii) and fall under the provisions of Article 126(3) and 126(4) of the Patent Act which is applied mutatis mutandis pursuant to the provisions of Article 134(2)(v) of the Patent Act. Therefore, the correction shall be approved.

The patent according to the corrected patent inventions 1 to 18 is not made in breach of Article 29(2) of the Patent Act. Also, the patent according to the corrected

patent inventions 1 to 18 is not made relative to the patent application which does not meet the requirement stipulated in Article 36(6)(i) of the Patent Act. The reasons and the means of proof alleged by the demandant cannot invalidate the patent according to the corrected patent inventions 1 to 18.

The costs in connection with the trial shall be borne by the demandant under the provisions of Article 61 of the Code of Civil Procedure which is applied *mutatis mutandis* in the provisions of Article 169(2) of the Patent Act.

Therefore, the trial decision shall be made as described in the conclusion.

August 22, 2012

Chief administrative judge: MURATA, Naohide

Administrative judge: SEKIYA, Kazuo

Administrative judge: TAGO, Hiroyuki