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(54) **MEDIUM TRANSPORT DEVICE, RECORDING DEVICE, AND CONTROL METHOD FOR MEDIUM TRANSPORT DEVICE**

(71) Applicant: **SEIKO EPSON CORPORATION**, Tokyo (JP)

(72) Inventors: **Yoshikazu KOIKE**, CHINO-SHI (JP); **Kazuhiro KOBAYASHI**, SHIOJIRI-SHI (JP)

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(52) **U.S. Cl.**

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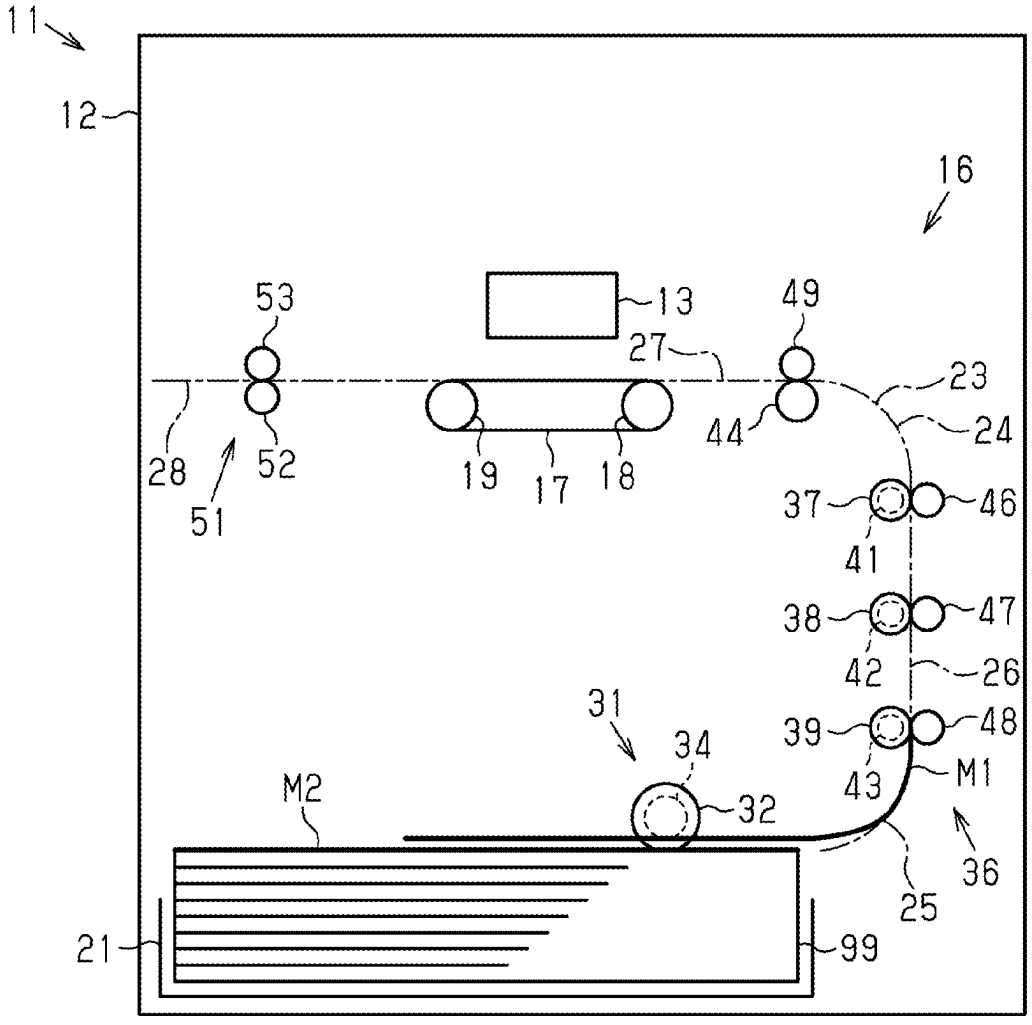
(57) **ABSTRACT**

A medium transport device includes a feed roller that feeds a medium; a transport roller that transports the medium fed by the feed roller; a registration roller that corrects skew of the medium transported by the transport roller; a transport path extending from the feed roller toward the registration roller; and a control section that rotates the transport roller so as to transport the medium at a first speed and that rotates the registration roller so as to transport the medium at a second speed that is higher than the first speed, wherein the transport path includes a curved portion extending while curving between the transport roller and the registration roller and the control section rotates the feed roller such that a subsequent medium fed next after a preceding medium overlaps the preceding medium until a leading edge of the preceding medium reaches the registration roller.



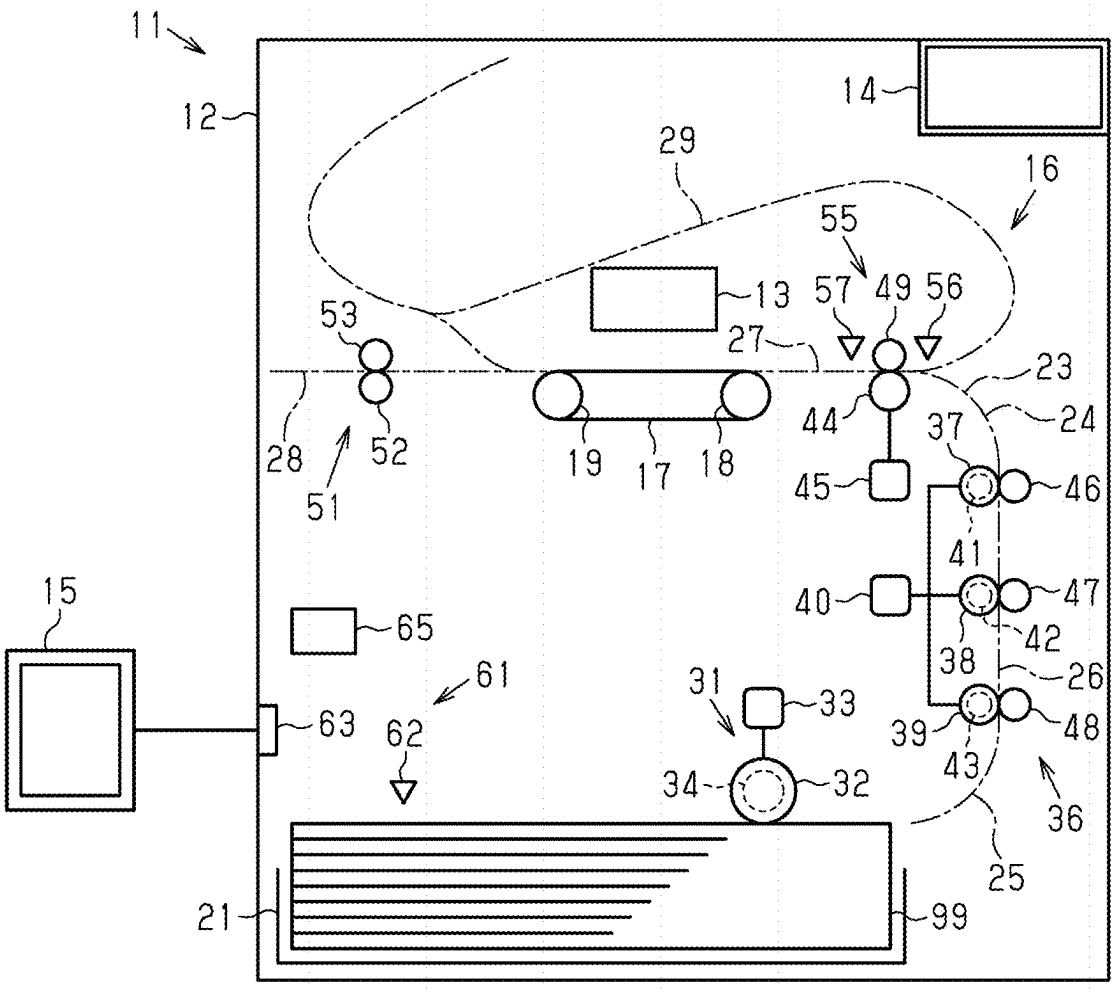

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FIG. 1

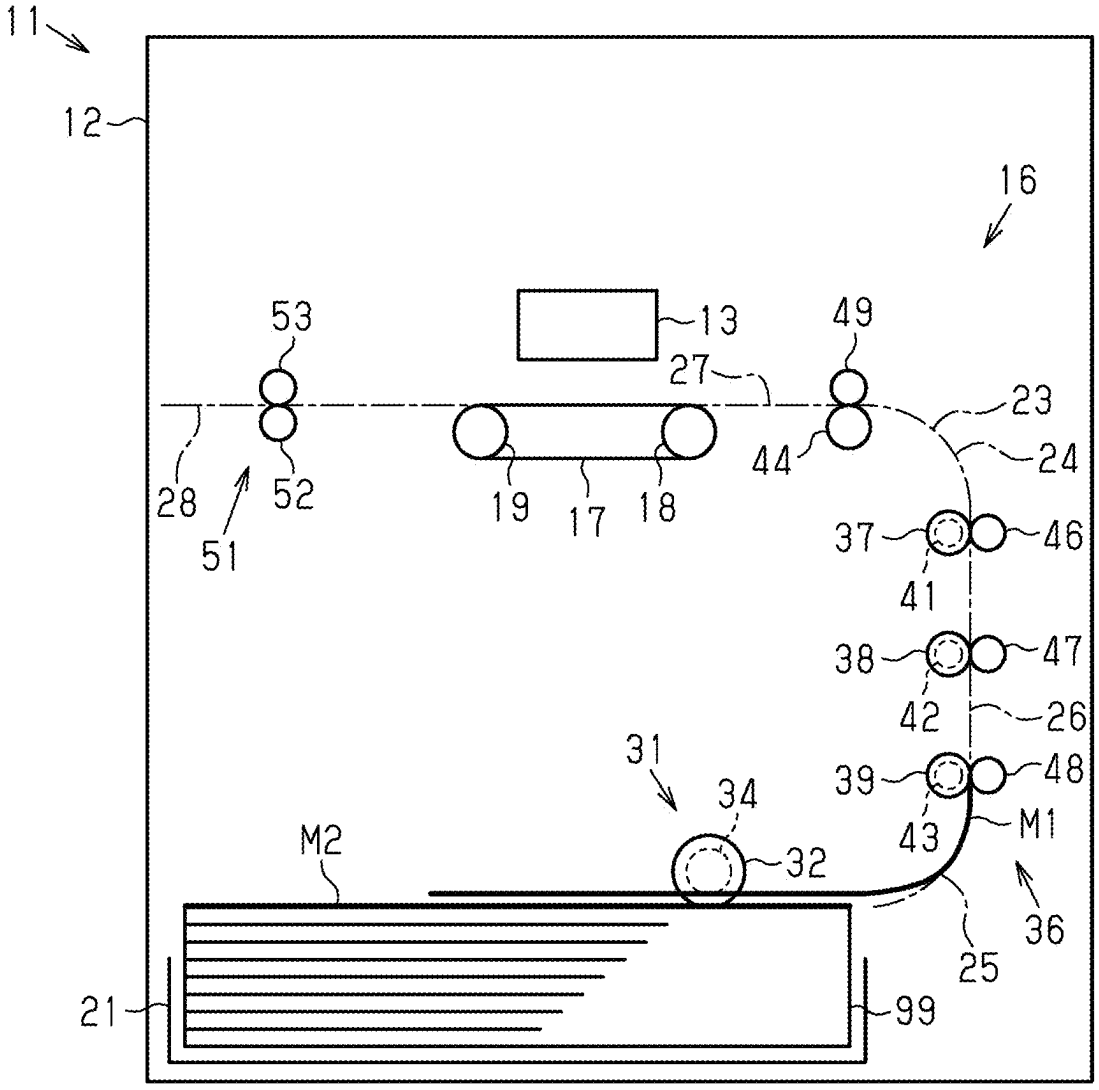
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FIG. 2

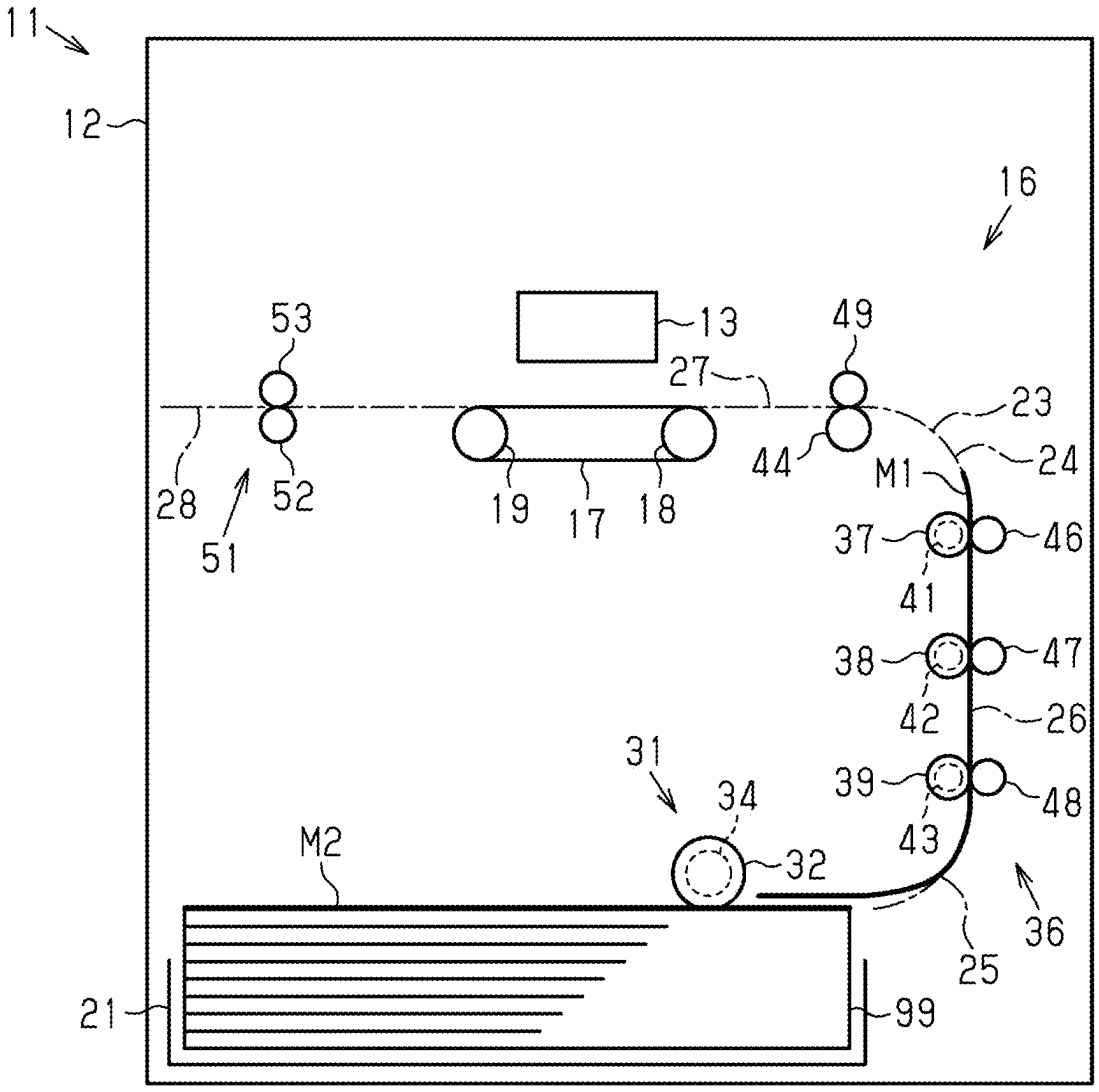
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FIG. 3

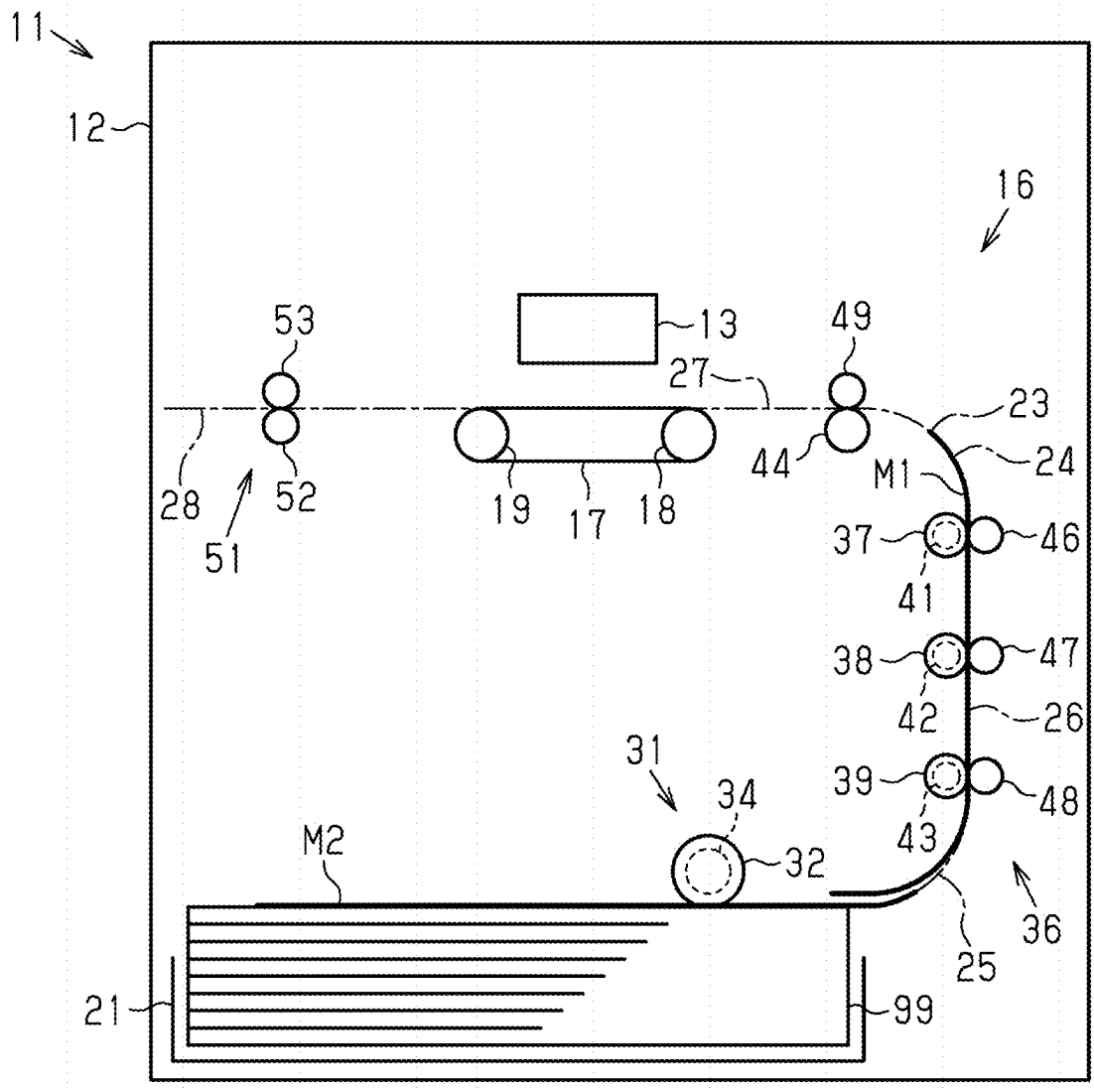
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FIG. 4

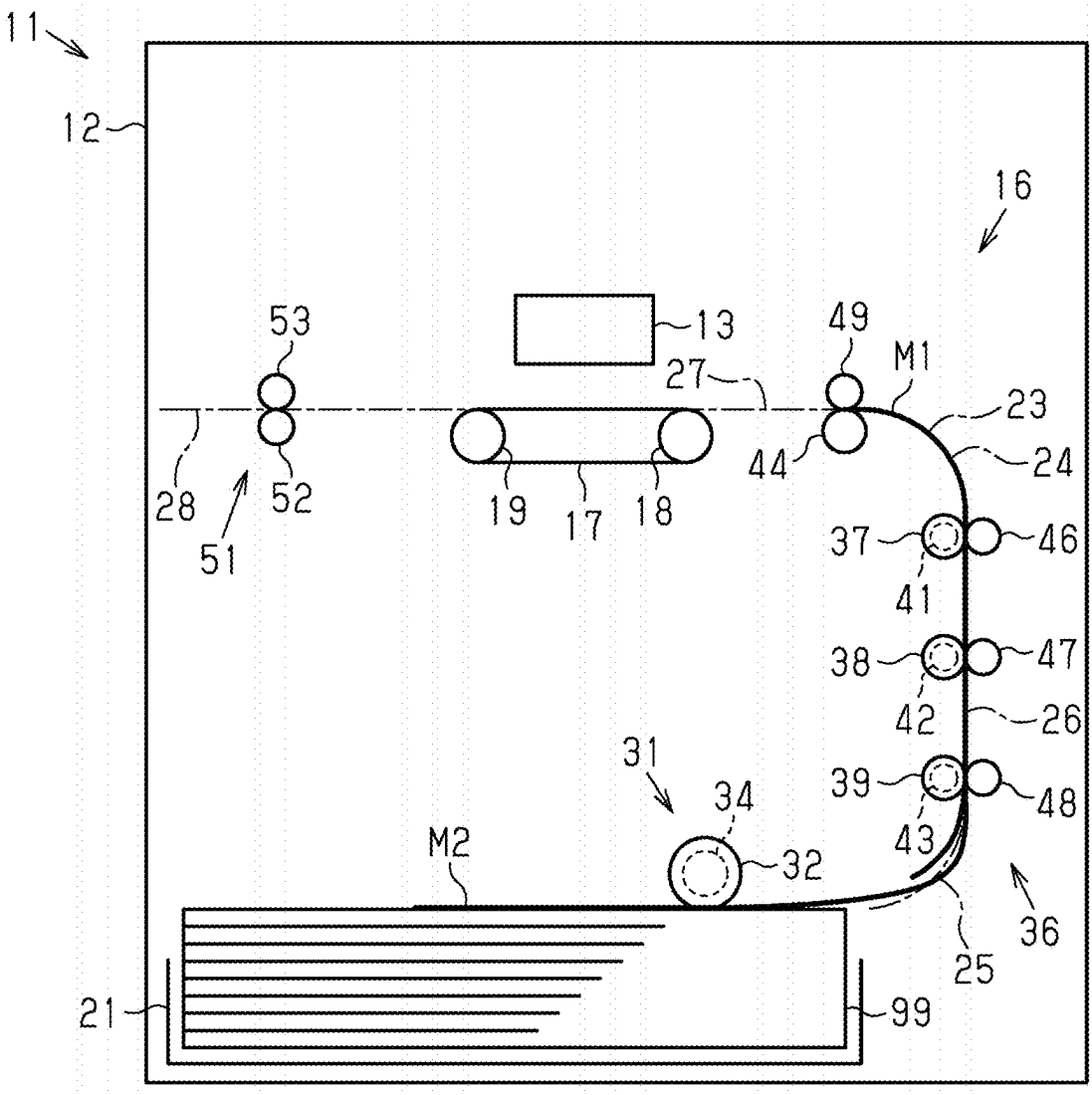
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FIG. 5

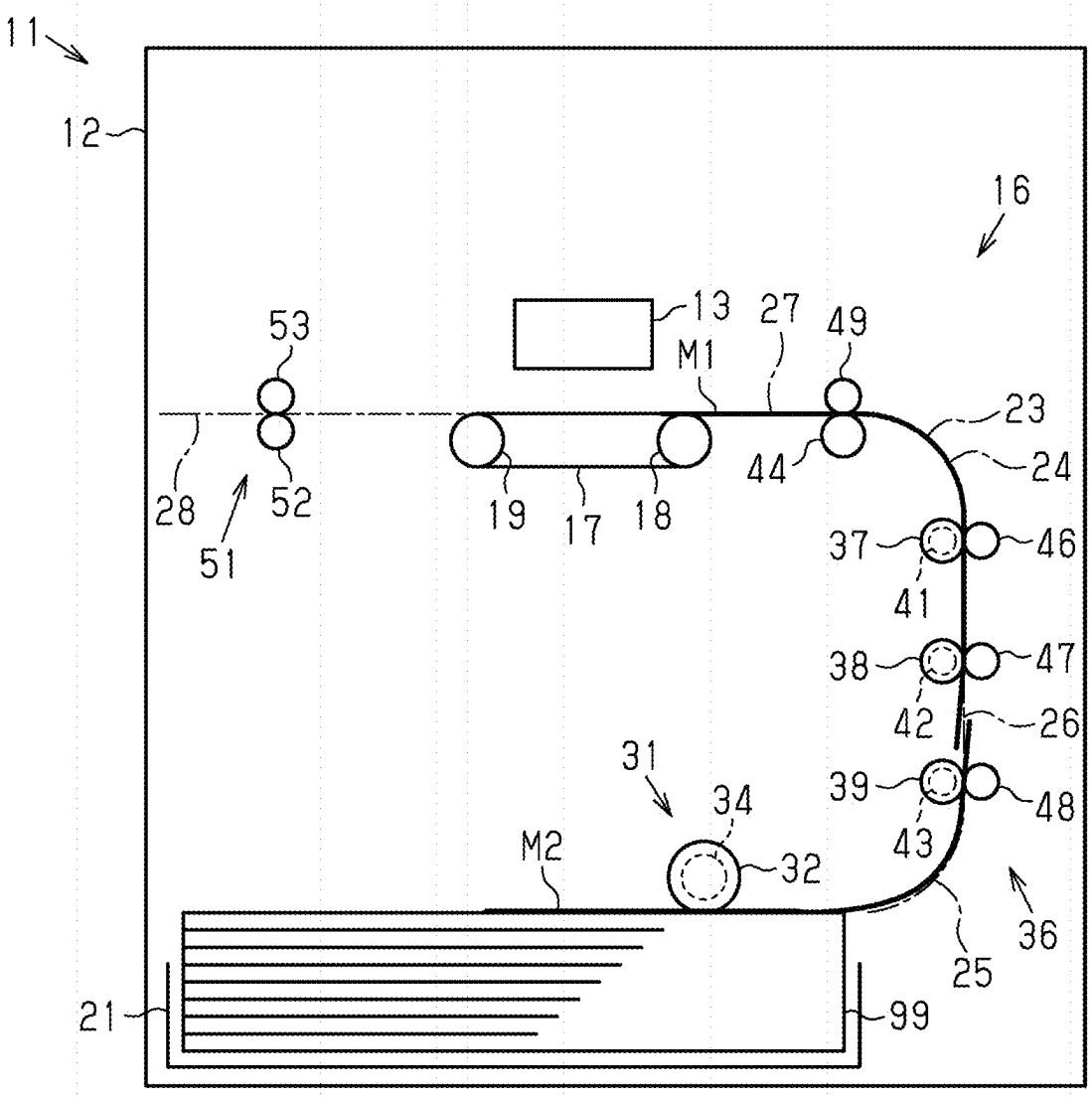
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FIG. 6

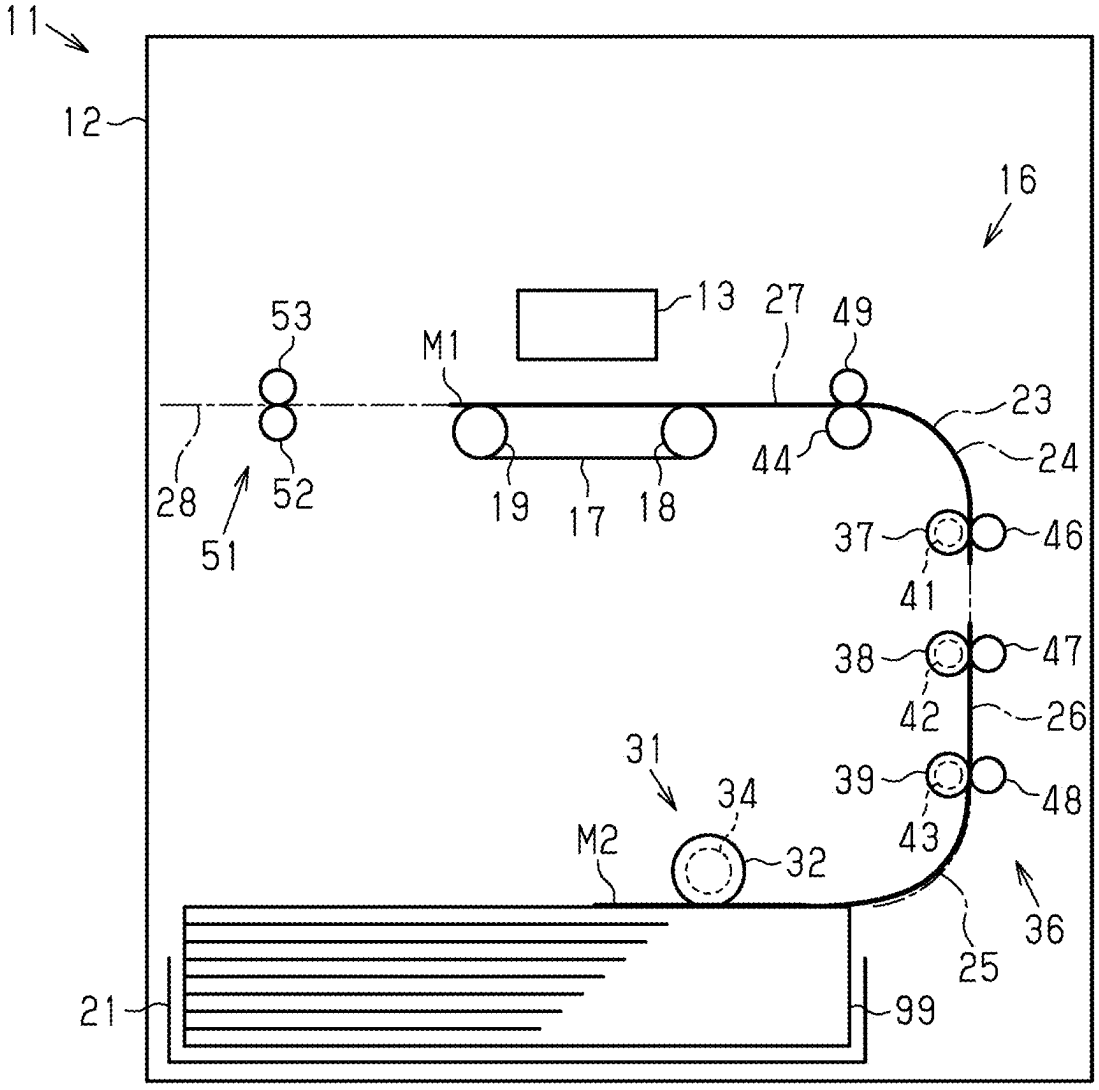
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FIG. 7

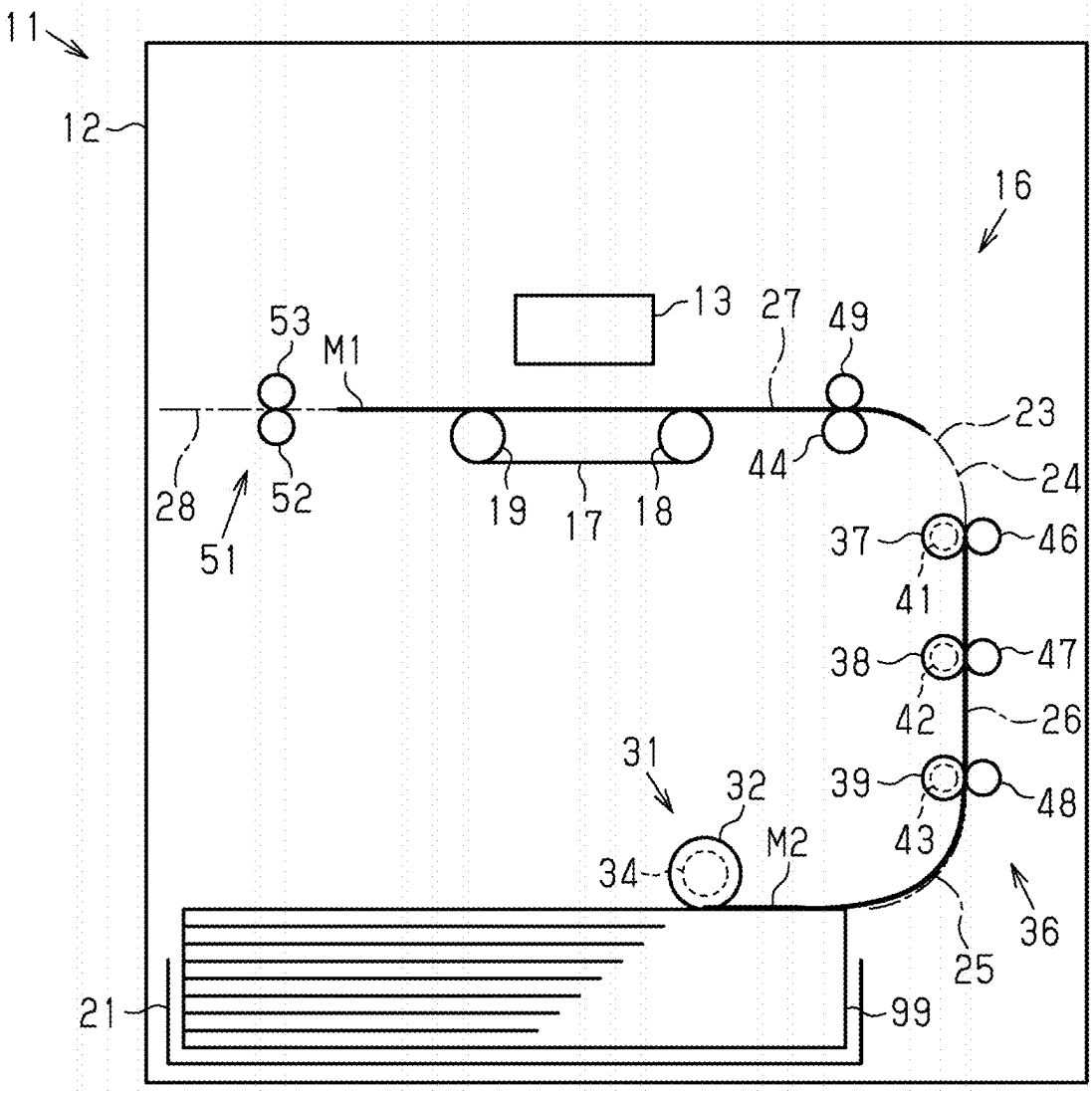
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FIG. 8

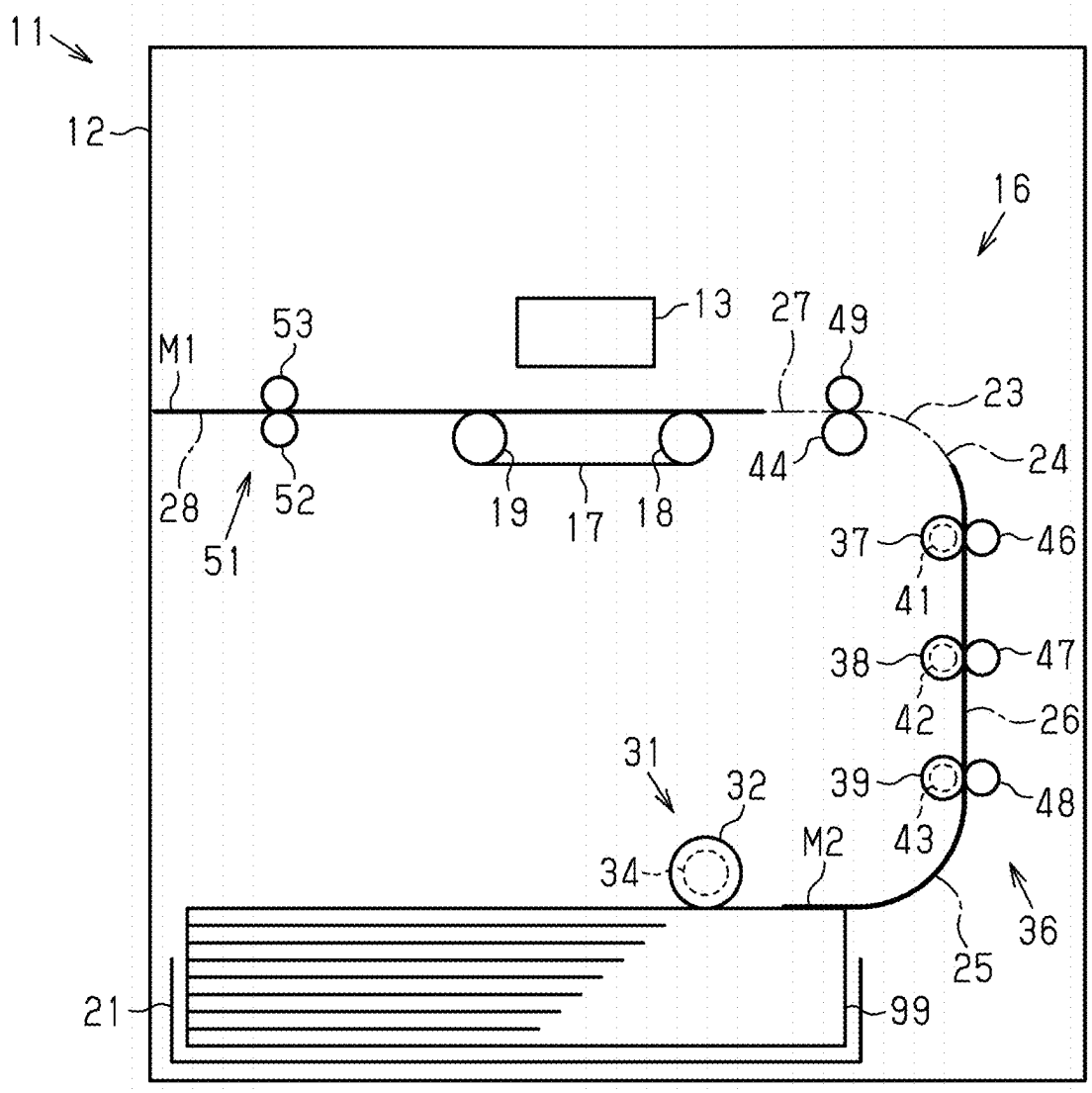
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FIG. 9

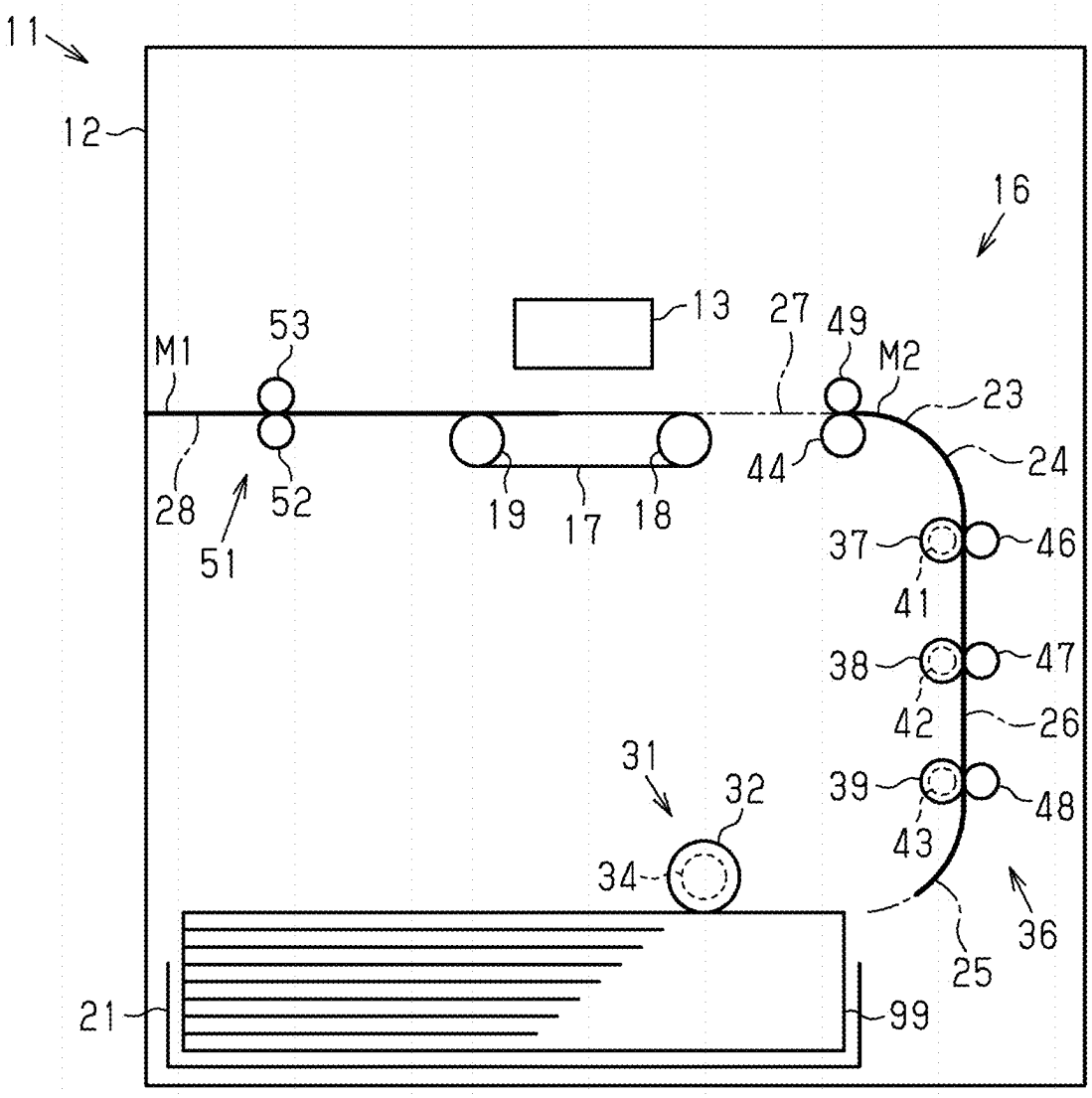
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FIG. 10

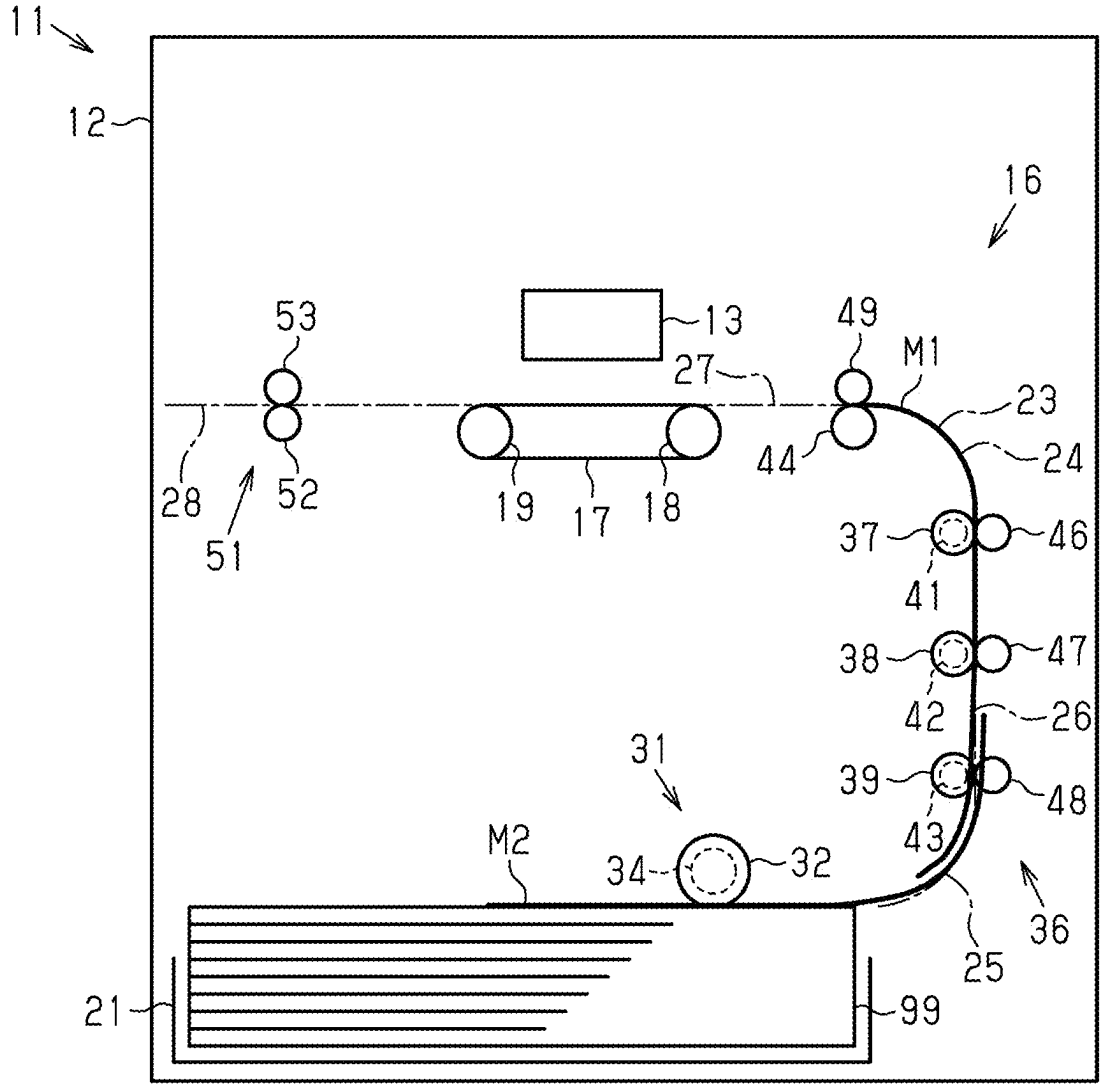
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FIG. 11

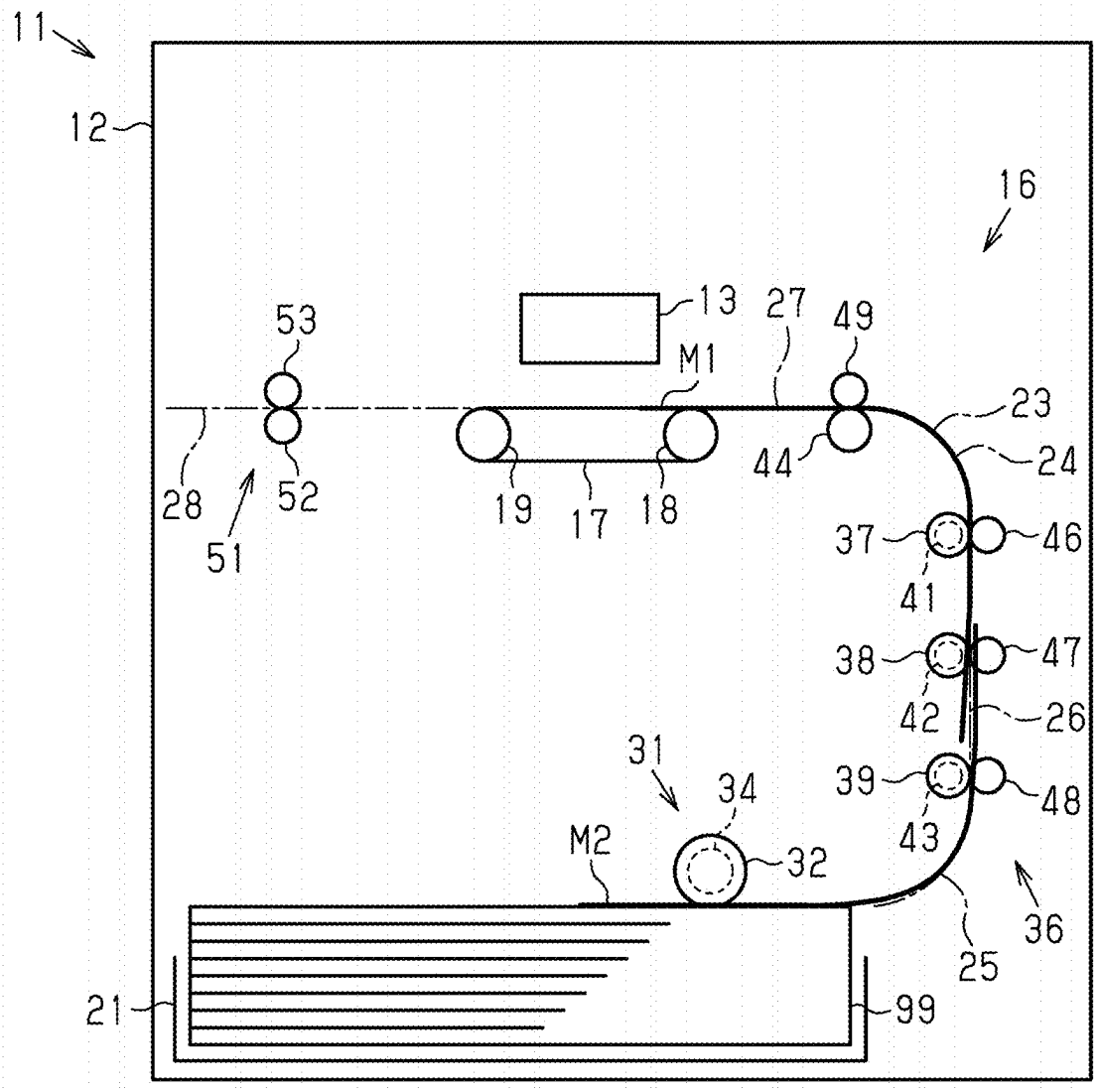
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FIG. 12

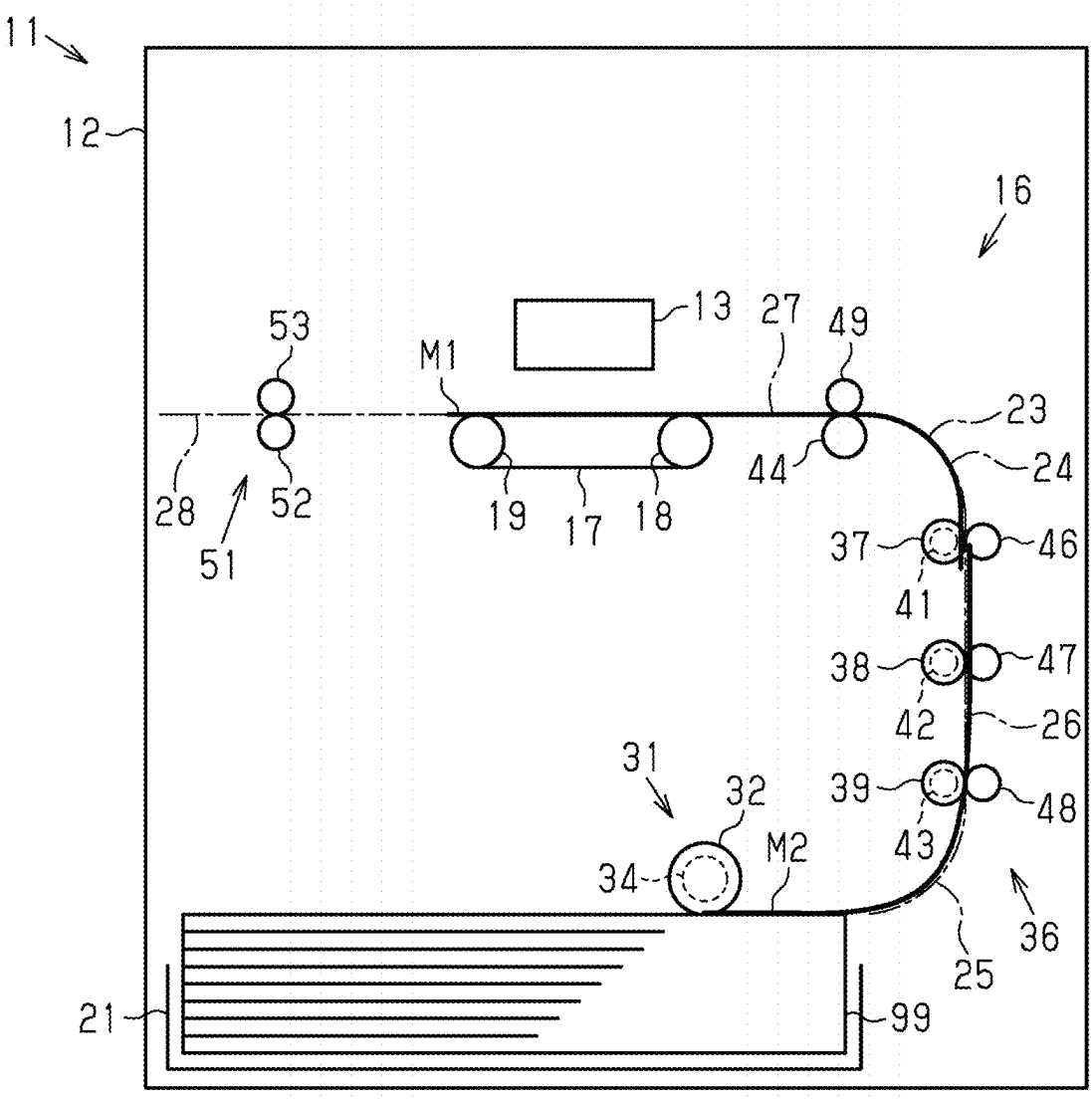
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FIG. 13

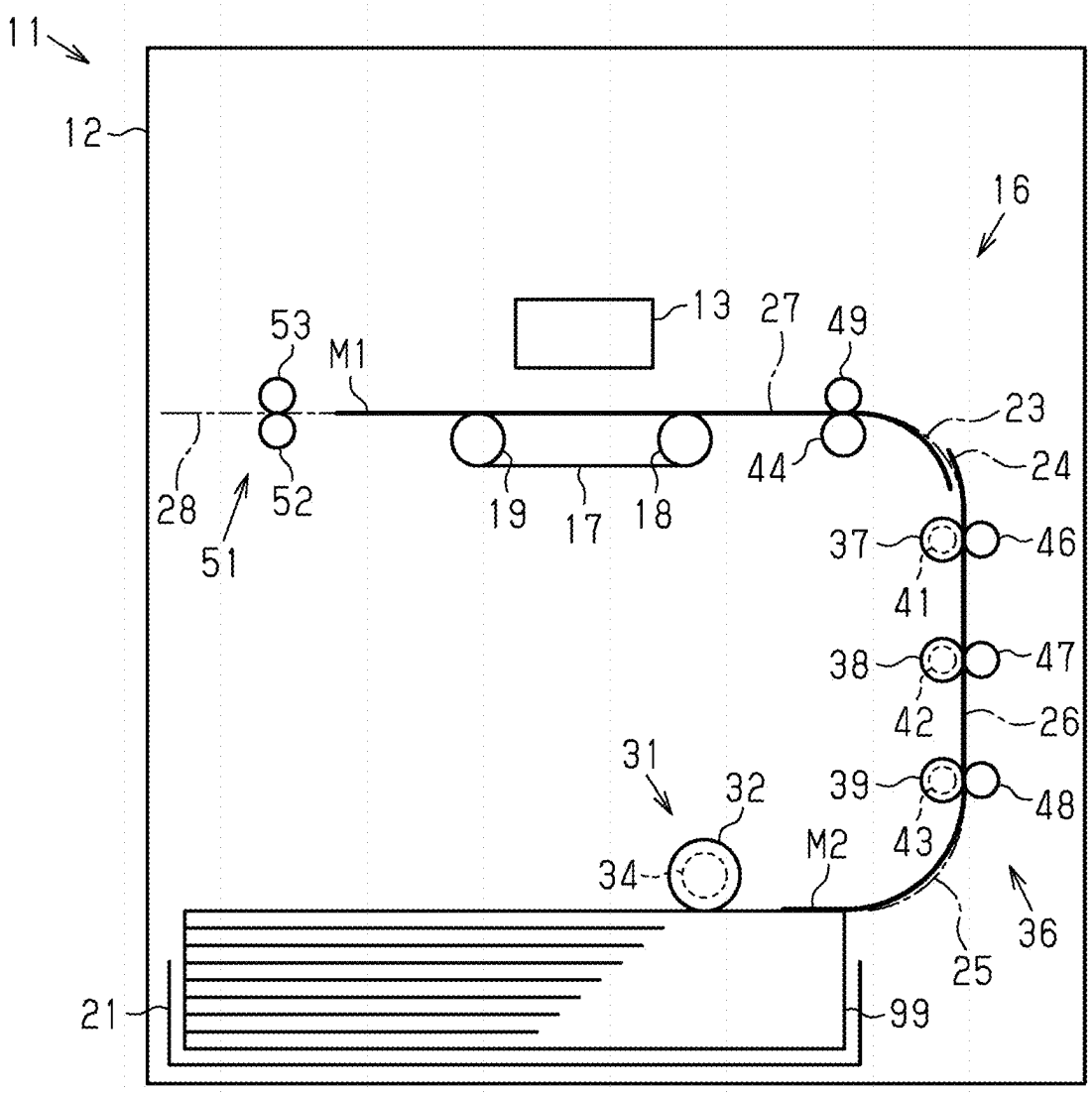
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FIG. 14

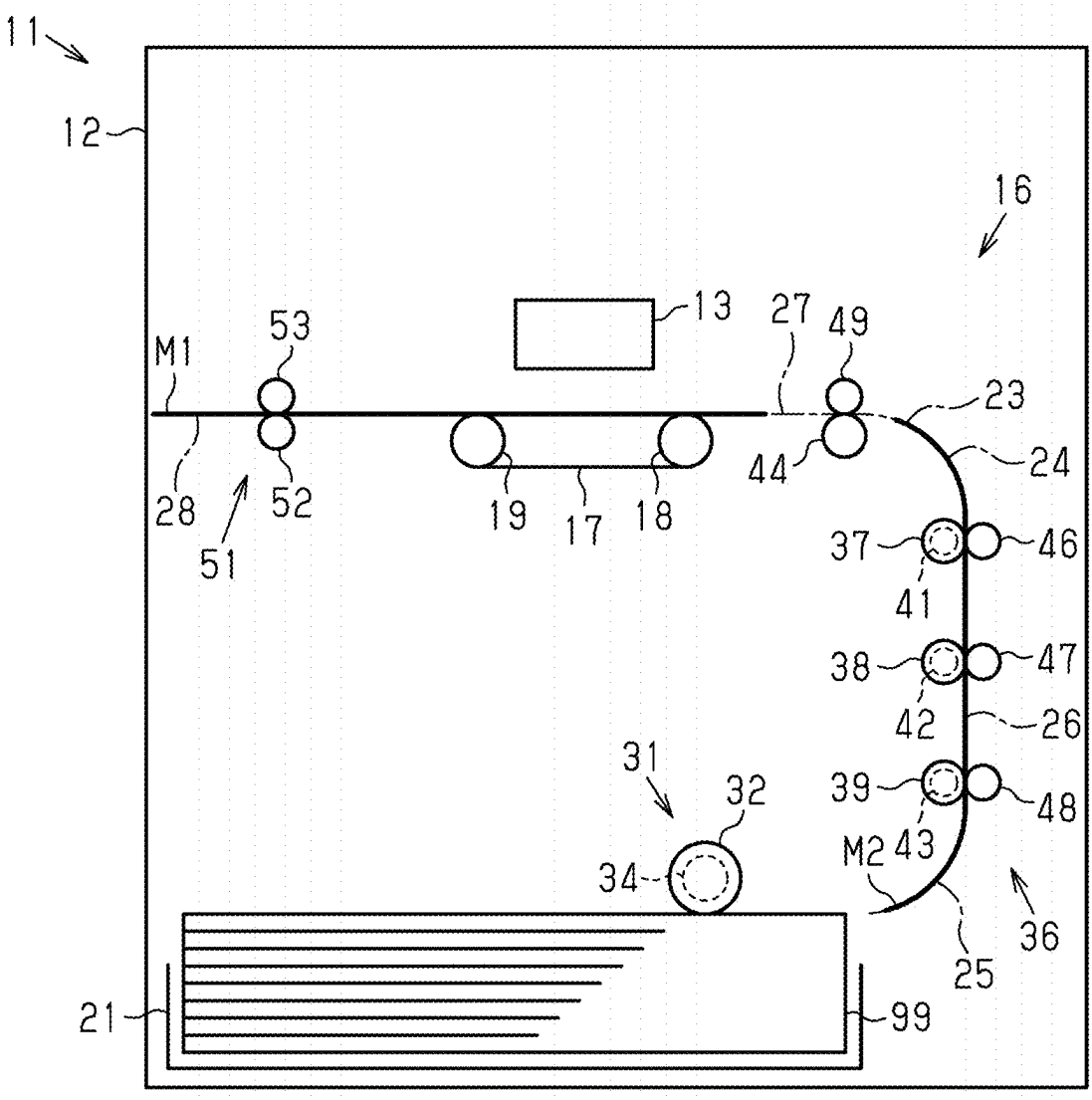
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FIG. 15

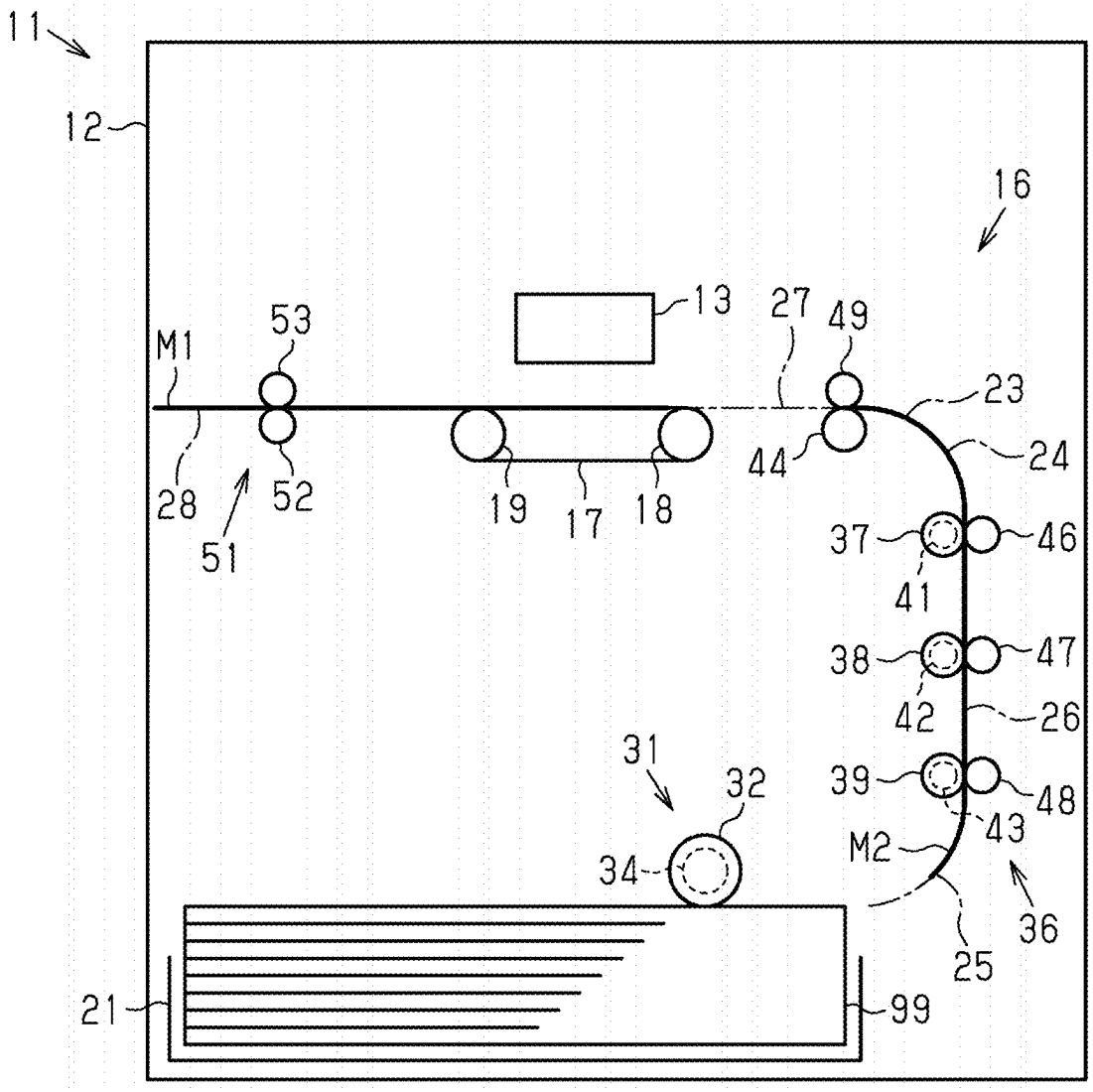
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FIG. 16

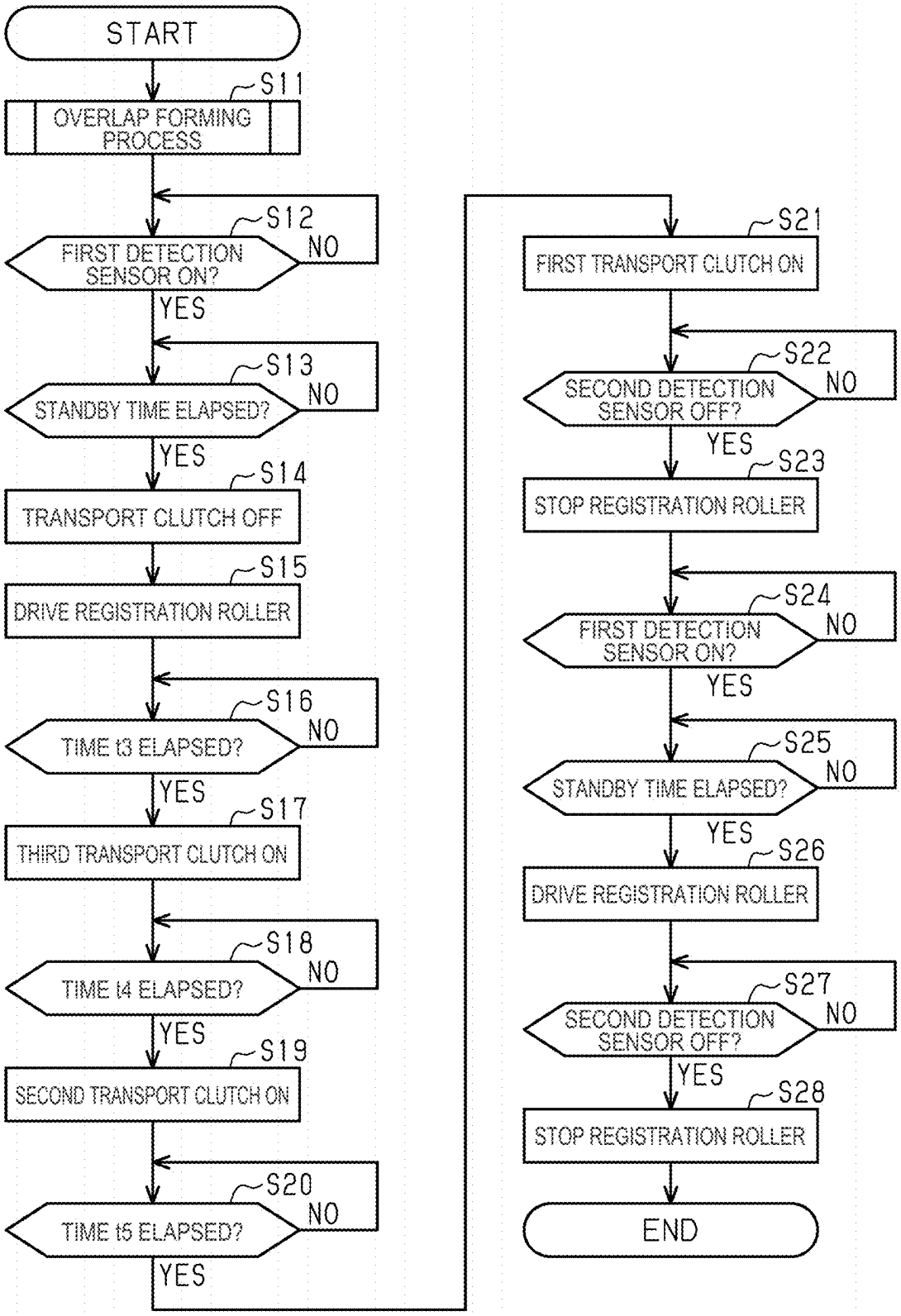
START
S11
OVERLAP FORMING PROCESS
S12
FIRST DETECTION SENSOR ON?
NO
YES
S13
STANDBY TIME ELAPSED?
NO
YES
S14
TRANSPORT CLUTCH OFF
S15
DRIVE REGISTRATION ROLLER
S16
TIME t3 ELAPSED?
NO
YES
S17
THIRD TRANSPORT CLUTCH ON
S18
TIME t4 ELAPSED?
NO
YES
S19
SECOND TRANSPORT CLUTCH ON
S20
TIME t5 ELAPSED?
NO
YES
S21
FIRST TRANSPORT CLUTCH ON
S22
SECOND DETECTION SENSOR OFF?
NO
YES
S23
STOP REGISTRATION ROLLER
S24
FIRST DETECTION SENSOR ON?
NO
YES
S25
STANDBY TIME ELAPSED?
NO
YES
S26
DRIVE REGISTRATION ROLLER
S27
SECOND DETECTION SENSOR OFF?
NO
YES
S28
STOP REGISTRATION ROLLER
END

FIG. 17

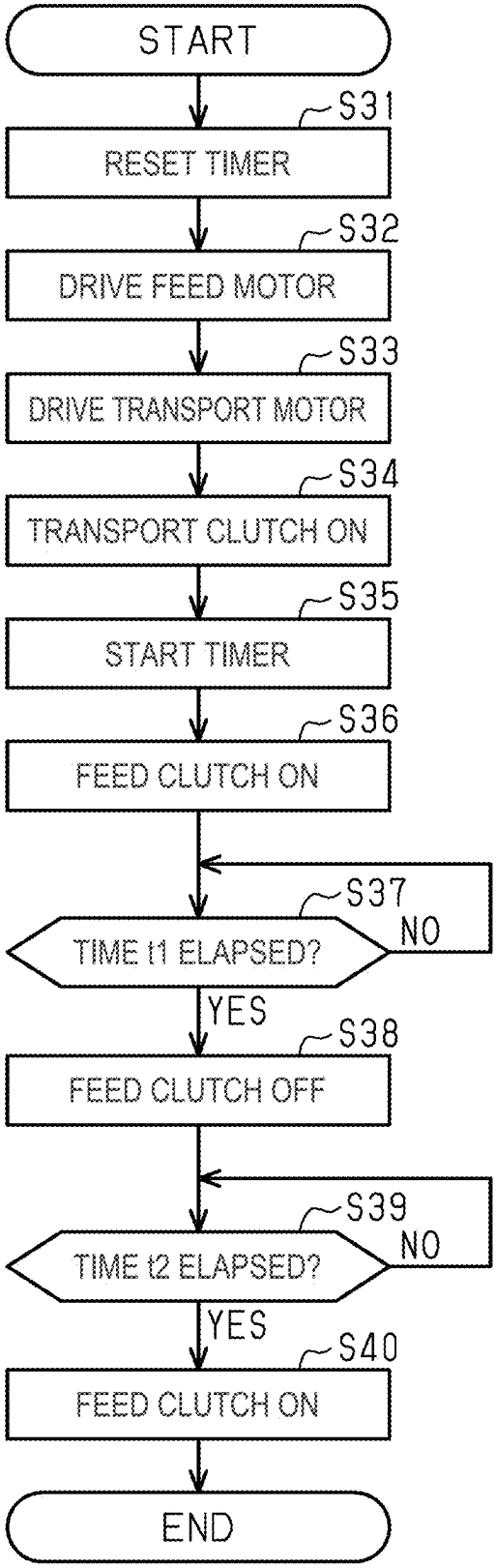
START
S31
RESET TIMER
S32
DRIVE FEED MOTOR
S33
DRIVE TRANSPORT MOTOR
S34
TRANSPORT CLUTCH ON
S35
START TIMER
S36
FEED CLUTCH ON
S37
TIME t1 ELAPSED?
NO
YES
S38
FEED CLUTCH OFF
S39
TIME t2 ELAPSED?
NO
YES
S40
FEED CLUTCH ON
END

FIG. 18

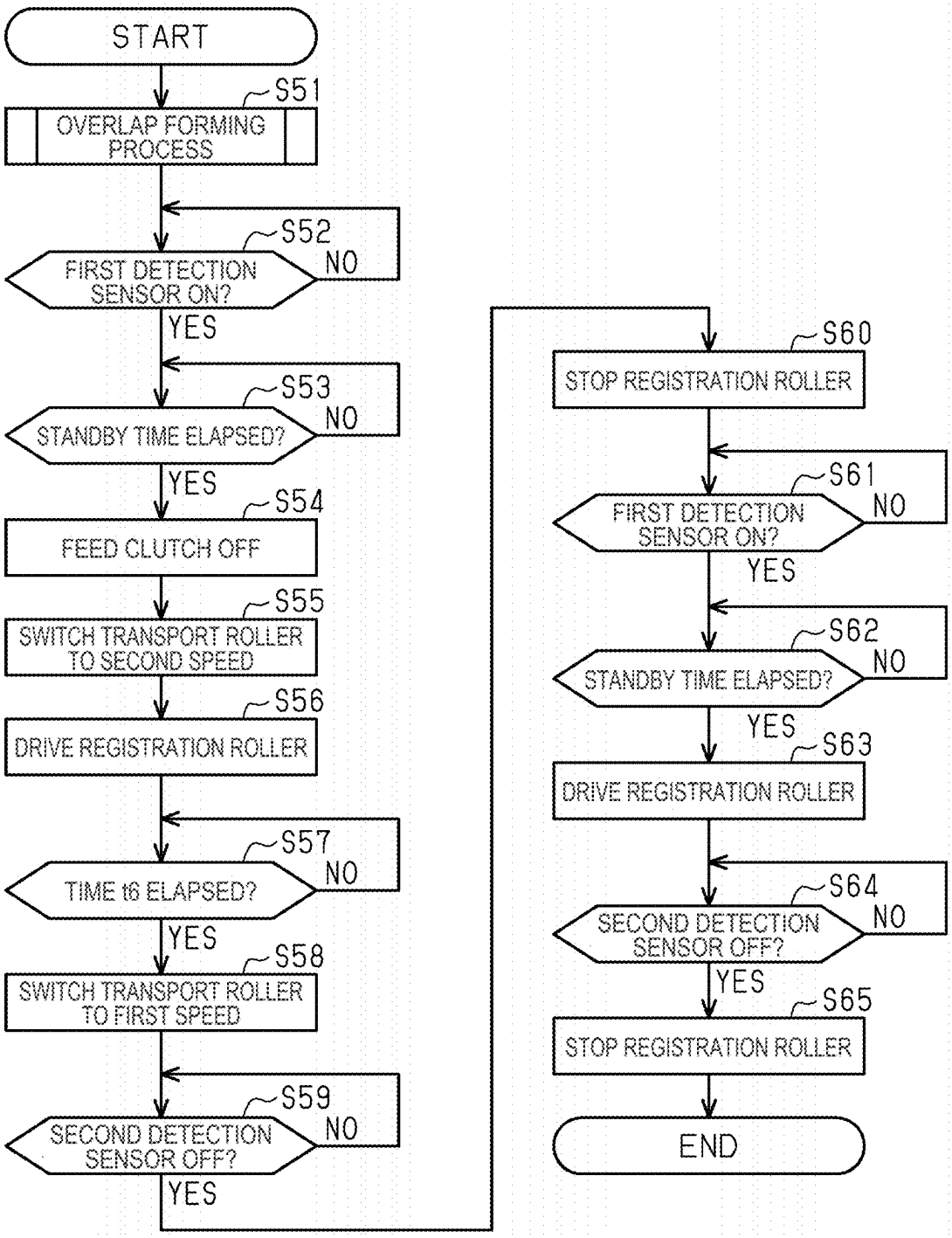
START
S51
OVERLAP FORMING PROCESS
S52
FIRST DETECTION SENSOR ON?
NO
YES
S53
STANDBY TIME ELAPSED?
NO
YES
S54
FEED CLUTCH OFF
S55
SWITCH TRANSPORT ROLLER TO SECOND SPEED
S56
DRIVE REGISTRATION ROLLER
S57
TIME t6 ELAPSED?
NO
YES
S58
SWITCH TRANSPORT ROLLER TO FIRST SPEED
S59
SECOND DETECTION SENSOR OFF?
NO
YES
S60
STOP REGISTRATION ROLLER
S61
FIRST DETECTION SENSOR ON?
NO
YES
S62
STANDBY TIME ELAPSED?
NO
YES
S63
DRIVE REGISTRATION ROLLER
S64
SECOND DETECTION SENSOR OFF?
NO
YES
S65
STOP REGISTRATION ROLLER
END

FIG. 19

MEDIUM TRANSPORT DEVICE, RECORDING DEVICE, AND CONTROL METHOD FOR MEDIUM TRANSPORT DEVICE

[0001] The present application is based on, and claims priority from JP Application Serial Number 2024-023562, filed Feb. 20, 2024, the disclosure of which is hereby incorporated by reference herein in its entirety.

BACKGROUND

1. Technical Field

[0002] The present disclosure relates to a medium transport device, a recording device, and a control method for a medium transport device.

2. Related Art

[0003] JP-A-2017-109837 describes a medium transport device that includes a feed roller that feeds a medium, a transport roller that transports the fed medium, and a registration roller that corrects skew of the transported medium. The registration roller corrects skew of the medium when a leading edge of the medium abuts against the registration roller. The transport roller transports the medium along a transport path that includes a curved portion.

[0004] In such a medium transport device, if the leading edge of the medium rubs against the curved portion, paper dust may be generated from the medium or the medium may be charged. Therefore, it is necessary to transport the medium at a low speed in the curved portion. However, when the medium is transported at a low speed, a processing speed of the medium decreases.

SUMMARY

[0005] A medium transport device that overcomes the above-described problem includes a feed roller that feeds a medium; a transport roller that transports the medium fed by the feed roller; a registration roller that corrects skew of the medium transported by the transport roller; a transport path extending from the feed roller toward the registration roller; and a control section that rotates the transport roller so as to transport the medium at a first speed and that rotates the registration roller so as to transport the medium at a second speed that is higher than the first speed, wherein the transport path includes a curved portion extending while curving between the transport roller and the registration roller and the control section rotates the feed roller such that a subsequent medium fed next after a preceding medium overlaps the preceding medium until a leading edge of the preceding medium reaches the registration roller.

[0006] A recording device that overcomes the above-described problem includes the above-described medium transport device and a recording section that records an image on the medium transported by the medium transport device, wherein the medium transport device continuously transports the medium on which recording is being performed by the recording section.

[0007] A recording device that overcomes the above-described problem includes the above-described medium transport device and a recording section that records an image on the medium transported by the medium transport device.

[0008] A control method that overcomes the above-described problem for a medium transport device, the medium transport device including a feed roller that feeds a medium, a transport roller that transports the medium fed by the feed roller, a registration roller that corrects skew of the medium transported by the transport roller, and a transport path extending from the feed roller toward the registration roller, wherein the transport path includes a curved portion extending while curving between the transport roller and the registration roller, the control method includes rotating the transport roller so as to transport the medium whose leading edge is positioned on the transport path at a first speed; rotating the registration roller so as to transport the medium whose leading edge has reached the registration roller at a second speed that is higher than the first speed; and rotating the feed roller such that a subsequent medium fed after a preceding medium overlaps with the preceding medium until a leading edge of the preceding medium reaches the registration roller.

[0009] A control method that overcomes the above-described problem for a medium transport device, the medium transport device including a feed roller that feeds a medium, a transport roller that transports the medium fed by the feed roller, a registration roller that corrects skew of the medium transported by the transport roller, and a transport path extending from the feed roller toward the registration roller, wherein the transport path includes a curved portion extending while curving between the transport roller and the registration roller, and an upstream portion positioned upstream of the curved portion and having a curvature smaller than that of the curved portion, the control method includes rotating the transport roller so as to transport the medium whose leading edge is positioned at the curved portion at a first speed; rotating the transport roller so as to transport the medium whose leading edge is positioned at the upstream portion at a second speed that is higher than the first speed; rotating the registration roller so as to transport the medium whose leading edge has reached the registration roller at the second speed; and rotating the feed roller such that a subsequent medium fed after a preceding medium overlaps with the preceding medium until a leading edge of the preceding medium reaches the registration roller.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] FIG. **1** is a schematic diagram showing an embodiment of a recording device that includes a medium transport device.

[0011] FIG. **2** is a schematic diagram when a preceding medium is fed.

[0012] FIG. **3** is a schematic diagram when a subsequent medium is fed.

[0013] FIG. **4** is a schematic diagram when the subsequent medium is fed while being overlapped on the preceding medium.

[0014] FIG. **5** is a schematic diagram when a leading edge of the preceding medium reaches a registration roller in a first pattern.

[0015] FIG. **6** is a schematic diagram when a trailing edge of the preceding medium has passed a third transport roller in the first pattern.

[0016] FIG. **7** is a schematic diagram when the trailing edge of the preceding medium has passed a second transport roller in the first pattern.

[0017] FIG. **8** is a schematic diagram when the trailing edge of the preceding medium has passed a first transport roller in the first pattern.

[0018] FIG. **9** is a schematic diagram when the trailing edge of the preceding medium has passed the registration roller in the first pattern.

[0019] FIG. **10** is a schematic diagram when a leading edge of the subsequent medium reaches the registration roller in the first pattern.

[0020] FIG. **11** is a schematic diagram when the leading edge of the preceding medium reaches the registration roller in a second pattern.

[0021] FIG. **12** is a schematic diagram when the trailing edge of the preceding medium has passed the third transport roller in the second pattern.

[0022] FIG. **13** is a schematic diagram when the trailing edge of the preceding medium has passed the second transport roller in the second pattern.

[0023] FIG. **14** is a schematic diagram when the trailing edge of the preceding medium has passed the first transport roller in the second pattern.

[0024] FIG. **15** is a schematic diagram when the trailing edge of the preceding medium has passed the registration roller in the second pattern.

[0025] FIG. **16** is a schematic diagram when the leading edge of the subsequent medium reaches the registration roller in the second pattern.

[0026] FIG. **17** is a flowchart showing a first transport process.

[0027] FIG. **18** is a flowchart showing an overlap forming process.

[0028] FIG. **19** is a flowchart showing a second transport process.

DESCRIPTION OF EMBODIMENTS

[0029] An embodiment of a recording device that includes a medium transport device will be described below with reference to the drawings. The recording device is, for example, an inkjet type printer that records an image such as a character or a photograph by ejecting ink, which is an example of liquid, onto a medium that is a paper sheet.

Recording Device

[0030] As shown in FIG. **1**, a recording device **11** includes a housing **12**.

[0031] The recording device **11** includes a recording section **13**. The recording section **13** is configured to record an image on a medium **99**. In one example, the recording section **13** records an image on the medium **99** by ejecting liquid onto the medium **99**. The recording section **13** is configured to simultaneously eject liquid across the entire width of the medium **99**. The recording section **13** is a so-called line head. The recording section **13** may be configured to eject liquid while scanning the medium **99**. In this case, the recording section **13** is a so-called serial head. The recording section **13** is not limited to an inkjet, and may record an image on the medium **99** by fixing toner to the medium **99**. The recording device **11** is not limited to an inkjet printer and may be a laser printer.

[0032] The recording device **11** may include an operation section **14**. A user operates the recording device **11** through the operation section **14**. A user inputs information to the recording device **11** or gives an instruction to the recording device **11** by operating the operation section **14**. The operation section **14** is, for example, a touch-screen. The operation section **14** may include a switch, a button, a lever, or the like.

[0033] The recording device **11** may be configured to communicate with a control device **15**. A user operates the recording device **11** by operating the control device **15**. By operating the control device **15**, the user inputs information to the recording device **11** and gives an instruction to the recording device **11**. The control device **15** is a smartphone, a personal computer, or the like.

[0034] The recording device **11** includes a medium transport device **16**. The medium transport device **16** is configured to transport the medium **99**. The medium transport device **16** transports the medium **99** within the housing **12**. In the recording device **11**, the medium transport device **16** transports the medium **99** before recording to the recording section **13**. That is, the recording section **13** records an image on the medium **99** transported by the medium transport device **16**. In one example, the medium transport device **16** continuously transports the medium **99** during recording. This is because the recording section **13** is a line head. Since the line head can simultaneously eject liquid across the entire width of the medium **99**, it is not necessary to stop the medium **99** during recording. When recording section **13** is a serial head, the medium transport device **16** intermittently transports the medium **99** during recording. In a case of the serial head, it is necessary to stop the transport of the medium **99** while the recording section **13** scans the medium **99**. In the recording device **11**, the medium transport device **16** discharges the recorded medium **99** from the housing **12**.

Medium Transport Device

[0035] The medium transport device **16** may include a transport belt **17**. The transport belt **17** faces the recording section **13**. The transport belt **17** supports the medium **99**. The transport belt **17** supports the medium **99** during recording. The medium transport device **16** may include a support section that supports the medium **99** instead of the transport belt **17**.

[0036] The medium transport device **16** is configured to attract the medium **99** to the transport belt **17**. In one example, the medium **99** is attracted to the transport belt **17** by an electrostatic force. By this, the posture of the medium **99** is stabilized on the transport belt **17**. As a result, the recording quality is improved. Not limited to an electrostatic force, the medium **99** may be attracted to the transport belt **17** by, for example, a negative pressure due to suction.

[0037] The transport belt **17** is configured to transport the medium **99**. The transport belt **17** is configured to transport the medium **99** while attracting the medium **99**. The transport belt **17** transports the medium **99** by rotating. In one example, the transport belt **17** continuously transports the medium **99**. That is, the transport belt **17** transports the medium **99** during recording without stopping the medium **99**. The transport belt **17** may transport the medium **99** intermittently. In this case, the transport belt **17** and the recording section **13** repeat the transport, stop, and recording of the medium **99** in order.

[0038] The medium transport device **16** may include a plurality of pulleys. In one example, the medium transport device **16** includes a first pulley **18** and a second pulley **19**. The transport belt **17** is wound around the first pulley **18** and

the second pulley **19**. When the first pulley **18** and the second pulley **19** rotate, the transport belt **17** rotates.

[0039] The medium transport device **16** includes a stacking section **21**. The stacking section **21** is configured to stack a plurality of sheets of the medium **99**. The medium **99** before recording is stacked on the stacking section **21**. In one example, the stacking section **21** is a cassette. The stacking section **21** is configured to be insertable into and removable from the housing **12**. The stacking section **21** is not limited to a cassette and may be a tray.

[0040] The medium transport device **16** includes a transport path **23**. The transport path **23** is a path on which the medium **99** is transported. The transport path **23** extends from the stacking section **21**. In one example, the transport path **23** extends from the stacking section **21** toward the recording section **13**. The transport path **23** extends from the stacking section **21** to the recording section **13** while curving. The medium **99** is transported from the stacking section **21** to the recording section **13** through the transport path **23**.

[0041] The transport path **23** includes one or more curved portions. In one example, the transport path **23** includes a first curved portion **24** and a second curved portion **25**. The curved portion is a portion that curves in the transport path **23**. The first curved portion **24** is positioned downstream of the second curved portion **25** in the transport path **23**.

[0042] The transport path **23** includes an upstream portion **26**. The upstream portion **26** is positioned upstream of the first curved portion **24** in the transport path **23**. The curvature of the upstream portion **26** is smaller than the curvature of the first curved portion **24**. The curvature of the upstream portion **26** is smaller than the curvature of the second curved portion **25**. In one example, the upstream portion **26** is a portion extending linearly upstream of the first curved portion **24** in the transport path **23**. The upstream portion **26** is connected to the first curved portion **24**. In one example, the upstream portion **26** is positioned between the first curved portion **24** and the second curved portion **25**. The upstream portion **26** is connected to the first curved portion **24** and the second curved portion **25**.

[0043] The upstream portion **26** is not limited to a portion extending linearly. In other words, in a case where the medium **99** is transported at a second speed that is relatively high, the upstream portion **26** may include a portion that is curved to such an extent that a problem such as generation of paper dust or charging is unlikely to occur. Therefore, it can be said that the curved portion is a portion that is curved to such an extent that a problem such as generation of paper dust or charging is likely to occur in a case where the medium **99** is transported at a second speed that is relatively high.

[0044] The transport path **23** may include a connection portion **27**. The connection portion **27** is a portion that is connected to the transport belt **17** in the transport path **23**. The medium **99** is transported to the transport belt **17** through the connection portion **27**. The connection portion **27** is positioned downstream of the first curved portion **24** in the transport path **23**. The connection portion **27** is connected to the first curved portion **24**. The connection portion **27** extends linearly from the first curved portion **24** toward the transport belt **17**.

[0045] The medium transport device **16** may include a discharge path **28**. The discharge path **28** is a path through which the medium **99** is discharged. In one example, the discharge path **28** is a path through which the recorded medium **99** is discharged. The discharge path **28** extends from the transport belt **17** toward the outside of the housing **12**. The medium **99** is discharged to the outside of the housing **12** through the discharge path **28**.

[0046] The medium transport device **16** may include a re-transport path **29**. The re-transport path **29** is a path that extends from the discharge path **28** to the transport path **23**. The medium **99** is returned from the discharge path **28** to the transport path **23** through the re-transport path **29**. The medium **99** is switched back in the re-transport path **29**. Therefore, when the medium **99** is returned from the discharge path **28** to the transport path **23** through the re-transport path **29**, the front and back of the medium **99** is inverted. By this, the recording device **11** can record images on both sides of the medium **99**.

[0047] The medium transport device **16** includes a feed section **31**. The feed section **31** is configured to feed the medium **99**. The feed section **31** feeds the medium **99** from the stacking section **21**. Specifically, the feed section **31** feeds the medium **99** toward a transport section **36** (to be described later).

[0048] The feed section **31** feeds the medium **99** along the transport path **23**. Specifically, the feed section **31** feeds the medium **99** to the transport section **36** along the transport path **23**. The feed section **31** feeds the medium **99** to the transport section **36** through the second curved portion **25**.

[0049] The feed section **31** includes a feed roller **32**. The feed roller **32** feeds the medium **99** by rotating. The feed roller **32** is positioned so as to be in contact with the medium **99** stacked on the stacking section **21**. In one example, the feed roller **32** contacts the uppermost medium **99** among the medium **99** stacked on the stacking section **21**. The feed roller **32** feeds a sheet of the medium **99** one by one from the stacking section **21**. The feed roller **32** feeds the medium **99** along the transport path **23**. The feed roller **32** feeds the medium **99** along the second curved portion **25**.

[0050] The feed section **31** includes a feed motor **33**. The feed motor **33** is connected to the feed roller **32**. The feed roller **32** is rotated by a power of the feed motor **33**.

[0051] The feed section **31** includes a feed clutch **34**. The feed clutch **34** is connected to the feed roller **32** and the feed motor **33**. The feed clutch **34** is positioned between the feed roller **32** and the feed motor **33**. The feed clutch **34** is configured to transmit the power of the feed motor **33** to the feed roller **32**. The feed clutch **34** is configured to be able to interrupt power transmission between the feed roller **32** and the feed motor **33**. When the feed clutch **34** interrupts power transmission, the feed roller **32** does not apply a feed force to the medium **99**. In this case, the feed roller **32** can be rotated following the medium **99**.

[0052] The medium transport device **16** includes the transport section **36**. The transport section **36** is configured to transport the medium **99**. The transport section **36** transports the medium **99** fed by the feed section **31**. The transport section **36** transports the medium **99** along the transport path **23**. In one example, the transport section **36** transports the medium **99** toward the recording section **13**.

[0053] The transport section **36** includes one or more transport rollers. In one example, the transport section **36** includes three transport rollers. The transport section **36** includes a first transport roller **37**, a second transport roller **38**, and a third transport roller **39**. The transport rollers transport the medium **99** fed by the feed roller **32**.

[0054] A plurality of transport rollers are arranged along the transport path **23**. The first transport roller **37**, the second transport roller **38**, and the third transport roller **39** are arranged in this order from downstream to upstream of the transport path **23**. That is, the first transport roller **37** is positioned downstream of the second transport roller **38** and the third transport roller **39** in the transport path **23**. The second transport roller **38** is positioned downstream of the third transport roller **39** in the transport path **23**. In one example, the first transport roller **37**, the second transport roller **38**, and the third transport roller **39** are positioned in the upstream portion **26**. The transport roller may be positioned in the curved portion. For example, the first transport roller **37** may be positioned in the first curved portion **24**. The first transport roller **37** may be positioned upstream of a portion having the largest curvature in the first curved portion **24**. The third transport roller **39** may be positioned in the second curved portion **25**. The third transport roller **39** may be positioned downstream of a portion having the largest curvature in the second curved portion **25**. Therefore, it can be said that the second curved portion **25** is a portion extending while curving between the feed roller **32** and the transport roller.

[0055] The transport section **36** may be configured such that the rotation speed of the transport roller is variable. The transport section **36** may change the rotation speed of the transport roller by an applied voltage, or may change the rotation speed of the transport roller by a reduction ratio.

[0056] The transport section **36** includes a transport motor **40**. The transport motor **40** is connected to the transport roller. In one example, the transport motor **40** is connected to the first transport roller **37**, the second transport roller **38**, and the third transport roller **39**. The first transport roller **37**, the second transport roller **38**, and the third transport roller **39** are each rotated by a power of the transport motor **40**. The transport section **36** may include the transport motor **40** for each transport roller.

[0057] The transport section **36** may include one or more transport clutches. In one example, the transport section **36** includes three transport clutches. The transport section **36** includes a first transport clutch **41**, a second transport clutch **42**, and a third transport clutch **43**.

[0058] The transport clutch is connected to the transport roller and the transport motor **40**. The first transport clutch **41** is connected to the first transport roller **37** and the transport motor **40**. The second transport clutch **42** is connected to the second transport roller **38** and the transport motor **40**. The third transport clutch **43** is connected to the third transport roller **39** and the transport motor **40**.

[0059] The transport clutch is positioned between the transport roller and the transport motor **40**. The first transport clutch **41** is positioned between the first transport roller **37** and the transport motor **40**. The second transport clutch **42** is positioned between the second transport roller **38** and the transport motor **40**. The third transport clutch **43** is positioned between the third transport roller **39** and the transport motor **40**.

[0060] The transport clutch is configured to transmit the power of the transport motor **40** to the transport roller. The first transport clutch **41** is configured to transmit the power of the transport motor **40** to the first transport roller **37**. The second transport clutch **42** is configured to transmit the power of the transport motor **40** to the second transport roller **38**. The third transport clutch **43** is configured to transmit the power of the transport motor **40** to the third transport roller **39**.

[0061] The transport clutch is configured to be able to interrupt power transmission between the transport roller and the transport motor **40**. The first transport clutch **41** is configured to be able to interrupt power transmission between the first transport roller **37** and the transport motor **40**. When the first transport clutch **41** interrupts power transmission, the first transport roller **37** is in a state in which it does not apply a transporting force to the medium **99**. In this case, the first transport roller **37** can be rotated following the medium **99**. The second transport clutch **42** is configured to be able to interrupt power transmission between the second transport roller **38** and the transport motor **40**. When the second transport clutch **42** interrupts power transmission, the second transport roller **38** is in a state in which it does not apply a transporting force to the medium **99**. In this case, the second transport roller **38** can be rotated following the medium **99**. The third transport clutch **43** is configured to be able to interrupt power transmission between the third transport roller **39** and the transport motor **40**. When the third transport clutch **43** interrupts power transmission, the third transport roller **39** is in a state in which it does not apply a transporting force to the medium **99**. In this case, the third transport roller **39** can be rotated following the medium **99**.

[0062] The transport section **36** may be configured to move the transport roller. For example, the transport section **36** may move the transport roller so as to be switched between a state of being in contact with the medium **99** and a state of being separated from the medium **99**. That is, the transport roller may be configured to be movable to a position where it does not come into contact with the medium **99** passing through the transport path **23**. When the transport roller is separated from medium **99**, it does not apply a transporting force to medium **99**.

[0063] The transport section **36** includes a registration roller **44**. The registration roller **44** is a roller that corrects skew of the medium **99**. Specifically, skew of the medium **99** is corrected when the medium **99** is abutted against the stopped registration roller **44**. The medium **99** transported along the transport path **23** abuts against the registration roller **44**.

[0064] The registration roller **44** is positioned downstream of the transport roller in the transport path **23**. The medium **99** transported by the transport roller abuts against the registration roller **44**. Therefore, it can be said that the transport path **23** extends from the feed roller **32** toward the registration roller **44**. The registration roller **44** corrects skew of the medium **99** transported by the transport roller. The registration roller **44** transports the medium **99** transported by the transport roller.

[0065] The registration roller **44** is positioned downstream of the first curved portion **24**. Specifically, the registration roller **44** is positioned downstream of a portion having the largest curvature in the first curved portion **24**. Therefore, a leading edge of the medium **99** reaches the registration roller **44** after passing through a portion having the largest curvature in the first curved portion **24**. In one example, the registration roller **44** is positioned downstream of the first curved portion **24**. The registration roller **44** is positioned, for example, at the connection portion **27**. The registration roller **44** may be positioned at the first curved portion **24** as

long as the registration roller **44** is positioned downstream of a portion having the largest curvature in the first curved portion **24**. From these facts, it can be said that the first curved portion **24** is a portion extending while curving between the transport roller and the registration roller **44**. In one example, the first curved portion **24** is positioned between the upstream portion **26** and the registration roller **44**.

[0066] The registration roller **44** is positioned upstream of the transport belt **17** in the transport path **23**. The registration roller **44** transports the medium **99** transported by the transport roller to the transport belt **17**. The registration roller **44** transports the medium **99** during recording. In one example, the registration roller **44**, together with the transport belt **17**, transports the medium **99** during recording. Therefore, the registration roller **44** transports the medium **99** at the same speed as the transport belt **17**.

[0067] The transport section **36** includes a registration motor **45**. The registration motor **45** is connected to the registration roller **44**. The registration roller **44** rotates by a power of the registration motor **45**. The transport section **36** may include a registration clutch that transmits a power between the registration motor **45** and the registration roller **44** and interrupts power transmission.

[0068] The transport section **36** includes a plurality of driven rollers. The transport section **36** includes a driven roller facing the transport roller and a driven roller facing the registration roller **44**. In one example, the transport section **36** includes a first driven roller **46**, a second driven roller **47**, a third driven roller **48**, and a fourth driven roller **49**. The driven roller is driven to rotate by a facing roller. The first driven roller **46** faces the first transport roller **37**. The second driven roller **47** faces the second transport roller **38**. The third driven roller **48** faces the third transport roller **39**. The fourth driven roller **49** faces the registration roller **44**.

[0069] The medium transport device **16** includes a discharge section **51**. The discharge section **51** is configured to discharge the medium **99**. The discharge section **51** discharges the medium **99** along the discharge path **28**. The discharge section **51** includes a discharge roller **52**. The discharge section **51** includes a sub-roller **53**. The sub-roller **53** faces the discharge roller **52**.

[0070] The medium transport device **16** includes a detection section **55**. The detection section **55** is configured to detect the medium **99**. The detection section **55** detects the medium **99** transported on the transport path **23**. The detection section **55** includes one or more detection sensors. In one example, the detection section **55** includes a first detection sensor **56** and a second detection sensor **57**. The detection sensor is, for example, an optical sensor. The first detection sensor **56** is positioned upstream of the second detection sensor **57** in the transport path **23**. The first detection sensor **56** is positioned upstream of the registration roller **44** in the transport path **23**. The second detection sensor **57** is positioned downstream of the registration roller **44** in the transport path **23**. The medium transport device **16** recognizes that the medium **99** reaches the registration roller **44** when the first detection sensor **56** detects a leading edge of the medium **99**. The medium transport device **16** recognizes that the medium **99** reaches the recording section **13** when the second detection sensor **57** detects the leading edge of the medium **99**. When the second detection sensor **57** detects a trailing edge of the medium **99**, the medium transport device **16** recognizes that the medium **99** has passed the registration roller **44**.

[0071] The medium transport device **16** may include an acquisition section **61**. The acquisition section **61** is configured to acquire information relating to transport of the medium **99**. The information relating to transport of medium **99** includes, for example, the size of medium **99**, the type of medium **99**, and the setting of a transport method. In the recording device **11**, the information relating to transport of the medium **99** includes the setting of a recording method. The transport method is a high-speed transport that emphasizes a processing speed, a low-speed transport that emphasizes quality, or the like. The recording method includes double-sided recording, single-sided recording, monochrome recording, and full-color recording.

[0072] The acquisition section **61** may include an acquisition sensor **62**. The acquisition sensor **62** is, for example, an optical sensor. The acquisition sensor **62** is positioned to face the medium **99** stacked on the stacking section **21**. The acquisition sensor **62** acquires information relating to transport of the medium **99** from the medium **99**. The acquisition sensor **62** acquires the size of the medium **99**, the type of the medium **99**, and the like by irradiating the medium **99** with light, for example.

[0073] The acquisition section **61** includes a connection body **63**. The connection body **63** is, for example, an interface connected to the operation section **14**, the control device **15**, and the like. The connection body **63** acquires information relating to transport of the medium **99** from a user through the operation section **14**, the control device **15**, and the like. That is, the connection body **63** acquires the size of the medium **99**, the type of the medium **99**, the setting of the transport method, the setting of the recording method, and the like, which are set through the operation section **14**, the control device **15**, and the like.

[0074] The medium transport device **16** includes a control section **65**. The control section **65** controls the medium transport device **16**. The control section **65** controls the transport belt **17**, the first pulley **18**, the second pulley **19**, the feed section **31**, the transport section **36**, the discharge section **51**, and the like. The control section **65** may control the recording device **11**. For example, the control section **65** may control the recording section **13**.

[0075] The control section **65** may be constituted by one or more processors that execute various processes in accordance with a computer program. The control section **65** may be configured by one or more dedicated hardware circuits such as an ASIC that executes at least a part of various processes. The control section **65** may be configured as a circuit including a combination of a processor and a hardware circuit. The processor includes a CPU and memory such as a RAM and a ROM. The memory stores program code or commands configured to cause the CPU to perform processes. Memory, that is computer-readable medium, includes any readable medium that can be accessed by a general-purpose or dedicated computer.

[0076] The control section **65** controls the feed section **31** and the transport section **36**, thereby transporting the medium **99** on the transport path **23**. At this time, if a leading edge of the medium **99** rubs against the curved portion, paper dust may be generated from the medium **99** or the medium **99** may be charged. In order to suppress the generation of paper dust and charging, the medium transport

device **16** needs to transport the medium **99**, whose leading edge is positioned in the curved portion, at a low speed.

[0077] The control section **65** controls the feed section **31** and the transport section **36** so as to transport the medium **99**, whose leading edge is positioned in the curved portion, at a low speed. Specifically, the control section **65** rotates the feed roller **32** so as to feed the medium **99** at a first speed. The control section **65** rotates the transport roller so as to transport the medium **99** at the first speed. The control section **65** rotates the registration roller **44** to transport the medium **99** at a second speed. The second speed is higher than the first speed. In one example, the second speed is the speed of medium **99** during recording. By causing the medium **99** to be transported at a speed relatively lower than the second speed, the control section **65** suppresses the generation of paper dust, charging, and the like, as compared with a case where the medium **99** is always transported at the second speed.

[0078] When medium **99** is transported at a low speed, a processing speed may be reduced. That is, the time required to transport the medium **99** may increase. When the transport roller transports the medium **99** at a low speed relative to the registration roller **44**, the transport interval of sheets of the medium **99** may increase. In one example, there is a possibility that the arrival interval of sheets of medium **99** with respect to the recording section **13** increases.

[0079] The control section **65** controls the feed section **31** and the transport section **36** so as to reduce the transport interval of sheets of the medium **99**. In one example, the control section **65** controls the feed section **31** and the transport section **36** so as to reduce the arrival interval of sheets of the medium **99** with respect to the recording section **13**. By this, a decrease in a processing speed is suppressed.

[0080] The control section **65** controls the feed section **31** and the transport section **36** such that sheets of the medium **99** are transported while overlapping each other in order to reduce the transport interval of sheets of the medium **99**. Specifically, the control section **65** controls the feed section **31** and the transport section **36** such that sheets of the medium **99** are transported while overlapping each other. The control section **65** rotates the feed roller **32** and the transport roller such that sheets of the medium **99** are transported while overlapping each other. The control section **65** suppresses a decrease in a processing speed by overlapping sheets of the medium **99**.

[0081] Due to the speed difference between the registration roller **44** and the transport roller, the overlap between sheets of the medium **99** is gradually eliminated. That is, the overlap between sheets of the medium **99** is gradually eliminated in a process of being transported on the transport path **23**. As the timing at which the overlap between sheets of the medium **99** is eliminated is later, a processing speed is improved. For example, the arrival interval of sheets of the medium **99** with respect to the recording section **13** decreases as the timing at which the overlap between sheets of the medium **99** is eliminated is later.

[0082] While the later the timing at which the overlap between sheets of medium **99** is eliminated, the higher a processing speed, if the timing at which the overlap between sheets of medium **99** is eliminated is too late, there is a possibility that the quality is degraded. For example, when sheets of the medium **99** reach the recording section **13** while overlapping each other, there is a possibility that the recording quality may be affected. For example, when sheets of the medium **99** reach the transport belt **17** while overlapping each other, there is a possibility that the recording quality may be affected. Therefore, the overlap between a preceding medium **99** and a subsequent medium **99** needs to be eliminated at least before the subsequent medium **99** reaches the recording section **13**. Desirably, the overlap between the preceding medium **99** and the subsequent medium **99** is eliminated before the subsequent medium **99** reaches the transport belt **17**. In this case, the medium **99** is effectively attracted to the transport belt **17**. More desirably, the overlap between the preceding medium **99** and the subsequent medium **99** may be eliminated before the subsequent medium **99** reaches the registration roller **44**. In this case, the subsequent medium **99** can be abutted against the registration roller **44**. That is, skew can be corrected for the subsequent medium **99** without stopping the transport of the preceding medium **99**.

[0083] In order to reduce the transport interval of sheets of the medium **99**, the control section **65** transports the sheets of medium **99** so as to eliminate the overlap between sheets of the medium **99**. Specifically, the control section **65** controls the feed section **31** and the transport section **36** so as to eliminate the overlap between sheets of the medium **99**. The control section **65** rotates the feed roller **32** and the transport roller so as to eliminate the overlap between sheets of the medium **99**. The control section **65** suppresses a decrease in the quality by eliminating the overlap between sheets of the medium **99**.

[0084] The control section **65** may be configured to be able to execute a first mode and a second mode. The first mode is a mode in which sheets of medium **99** are transported while overlapping each other. The second mode is a mode in which sheets of the medium **99** are transported without overlapping each other. Specifically, the first mode is a mode in which the feed roller **32** rotates so that the preceding medium **99** and the subsequent medium **99** overlap each other. The second mode is a mode in which the feed roller **32** rotates so that the preceding medium **99** and the subsequent medium **99** do not overlap each other.

[0085] The control section **65** selects the first mode or the second mode based on the operation of the operation section **14**, the control device **15**, or the like by a user. For example, when the user places importance on suppression of generation of paper dust or suppression of charging, the control section **65** can select the first mode. When the user places importance on a processing speed rather than suppression of paper dust generation or suppression of charging, the control section **65** can select the second mode and set a transport speed to the second speed that is relatively high. In addition to this, for example, when the user places importance on the suppression of paper dust generation and suppression of charging while placing importance on a processing speed, the control section **65** can select the first mode. When the user places importance to the quality while placing importance to suppression of paper dust generation and suppression of charging, the control section **65** can select the second mode and set a transport speed to the first speed that is relatively low. By this, the medium transport device **16** can operate in accordance with the user's needs.

Control of Medium Transport Device

[0086] Next, a control of the medium transport device **16** by the control section **65** will be described in terms of transporting sheets of the medium **99** while overlapping each other.

[0087] As shown in FIGS. **2**, **3**, and **4**, the control section **65** controls the feed section **31** such that sheets of the medium **99** are fed while overlapping each other. The control section **65** rotates the feed roller **32** so as to feed sheets of the medium **99** while overlapping each other. The control section **65** rotates the feed roller **32** so that a preceding medium M**1** and a subsequent medium M**2** are fed while overlapping each other. The preceding medium M**1** is the medium **99**, which precedes the subsequent medium M**2**. The preceding medium M**1** is, for example, a first sheet of the medium **99**. The subsequent medium M**2** is the medium **99** subsequent to the preceding medium M**1**. The subsequent medium M**2** is medium **99** to be fed next to the preceding medium M**1**. The subsequent medium M**2** is, for example, a second sheet of the medium **99**. The control section **65** rotates the feed roller **32** such that a leading edge portion of the subsequent medium M**2** overlaps a trailing edge portion of the preceding medium M**1**.

[0088] The control section **65** controls the rotation timing of the feed roller **32** to feed sheets of the medium **99** overlapping each other. For example, the control section **65** controls the rotation timing of the feed roller **32** by controlling the feed clutch **34**. Specifically, the control section **65** controls the rotation timing of the feed roller **32** by transmitting or interrupting a power. The control section **65** controls the rotation timing of the feed roller **32** by turning on and off the feed clutch **34**. When the feed clutch **34** is turned on, a power is transmitted to the feed roller **32**. When the feed clutch **34** is turned off, power transmission of the feed roller **32** is interrupted. The control section **65** repeatedly turns the feed clutch **34** on and off, thereby feeding sheets of the medium **99** while overlapping each other. In one example, the control section **65** turns on the feed clutch **34** before the fed preceding medium M**1** passes the stacking section **21**, thereby feeding the subsequent medium M**2** while overlapping the subsequent medium M**2** on the preceding medium M**1**.

[0089] The control section **65** may rotate the feed roller **32** so as to sequentially overlap the subsequent medium **99** with respect to the preceding medium **99**. For example, the control section **65** may rotate the feed roller **32** so as to overlap a third sheet of the medium **99** on a second sheet of the medium **99**.

[0090] The control section **65** may rotate the feed roller **32** such that an even-numbered sheet of the medium **99** is overlapped on an odd-numbered sheet of the medium **99**. For example, the control section **65** may rotate the feed roller **32** so as to overlap a second sheet of the medium **99** on a first sheet of the medium **99** and then rotate the feed roller **32** so as to overlap a fourth sheet of the medium **99** on a third sheet of the medium **99**.

[0091] The control section **65** may feed the medium **99** while appropriately changing the way of overlapping sheets of the medium **99**. For example, the control section **65** may rotate the feed roller **32** such that a second sheet of the medium **99** is overlapped on a first sheet of the medium **99**, and then rotate the feed roller **32** such that third and subsequent sheets of medium **99** are sequentially overlapped.

[0092] The control section **65** rotates the feed roller **32** to feed the medium **99** at the first speed. Specifically, the control section **65** rotates the feed roller **32** so as to feed the medium **99**, whose leading edge is positioned in the second curved portion **25**, at the first speed. The control section **65** turns on the feed clutch **34** to rotate the feed roller **32** so as to feed the medium **99** at the first speed. The control section **65** does not apply a feed force to the medium **99** from the feed roller **32** by turning off the feed clutch **34**. In this case, the feed roller **32** may be driven to rotate with respect to the medium **99** to be transported, but does not contribute to the transport of the medium **99**. When the leading edge of the medium **99** passes the second curved portion **25** at the first speed, the generation of paper dust and charging are suppressed.

[0093] The control section **65** may rotate the feed roller **32** to feed the medium **99** at a speed different from the first speed. For example, the control section **65** may rotate the feed roller **32** to feed the medium **99** at a speed lower than the first speed. In this case, in the second curved portion **25**, the possibility that paper dust is generated from the medium **99** or the medium **99** is charged is further reduced. The control section **65** may rotate the feed roller **32** to feed the medium **99** at a speed higher than the first speed. For example, the feed roller **32** may be rotated to feed the medium **99** at a speed higher than the first speed and lower than the second speed. Even in this case, it is possible to reduce the possibility that paper dust is generated from the medium **99** or the medium **99** is charged, compared to a case where the medium **99** is fed at the second speed. In addition, for example, if the transport path **23** does not include the second curved portion **25**, the control section **65** may feed the medium **99** at a high speed equal to or higher than the second speed using the feed roller **32**.

[0094] The control section **65** rotates the feed roller **32** such that the subsequent medium M**2** overlaps the preceding medium M**1** until a leading edge of the preceding medium M**1** reaches the registration roller **44**. The control section **65** controls the rotation timing of the feed roller **32** such that the subsequent medium M**2** overlaps the preceding medium M**1** until the leading edge of the preceding medium M**1** reaches the registration roller **44**. The control section **65** controls the overlap amount between sheets of the medium **99** by controlling the rotation timing of the feed roller **32**. The control section **65** rotates the feed roller **32** such that the overlap amount between the preceding medium M**1** and the subsequent medium M**2** is sufficient until the leading edge of the preceding medium M**1** reaches the registration roller **44**. By this, the transport interval between the preceding medium M**1** and the subsequent medium M**2** is reduced.

[0095] When the feed roller **32** feeds the medium **99** at the first speed, the overlap amount of the subsequent medium M**2** with respect to the preceding medium M**1** is maintained until the leading edge of the preceding medium M**1** reaches the registration roller **44**. When the feed roller **32** feeds the medium **99** at a speed different from the first speed, the overlap amount of the subsequent medium M**2** with respect to the preceding medium M**1** changes before the leading edge of the preceding medium M**1** reaches the registration roller **44**.

[0096] The control section **65** rotates the feed roller **32** such that the overlap between the preceding medium M**1** and the subsequent medium M**2** is eliminated before the leading edge of the subsequent medium M**2** reaches the registration roller **44**. The control section **65** controls the rotation timing of the feed roller **32** so that the overlap between the preceding medium M**1** and the subsequent medium M**2** is eliminated before the subsequent medium M**2** reaches the recording section **13**. That is, the control section **65** rotates

the feed roller **32** so that the overlap amount between the preceding medium M**1** and the subsequent medium M**2** is eliminated before the leading edge of the subsequent medium M**2** reaches the registration roller **44**. This reduces degradation in the quality. The control section **65** may rotate the feed roller **32** such that the overlap between the preceding medium M**1** and the subsequent medium M**2** is eliminated before the leading edge of the subsequent medium M**2** reaches the recording section **13**. The control section **65** may rotate the feed roller **32** such that the overlap between the preceding medium M**1** and the subsequent medium M**2** is eliminated before the leading edge of the subsequent medium M**2** reaches the transport belt **17**.

[0097] The control section **65** determines the overlap amount between sheets of the medium **99** on the basis of information relating to transport acquired by the acquisition section **61**. The control section **65** rotates the feed roller **32** so as to obtain the overlap amount determined based on information relating to transport. For example, in a case where high-speed transport in which a processing speed is emphasized is set, the control section **65** increases the overlap amount between sheets of the medium **99**. In a case where low-speed transport in which the quality is emphasized is set, the control section **65** reduces the overlap amount between sheets of the medium **99**. The control section **65** can reduce the speed difference between the first speed and the second speed by reducing the overlap amount between sheets of the medium **99**. For example, the control section **65** can reduce the overlap amount between sheets of the medium **99**, thereby reducing a transport speed of the medium **99** by the registration roller **44**. When the speed difference becomes small, it takes time to eliminate the overlap amount, but this can be dealt with by reducing the overlap amount. It can be said that control section **65** determines the overlap amount according to the speed difference between the first speed and the second speed. The overlap amount between sheets of the medium **99** may be determined on the basis of information relating to transport other than a transport speed, and the first speed and the second speed may be determined according to the overlap amount.

[0098] The control section **65** controls the transport section **36** to transport the medium **99** at the first speed and the second speed. The control section **65** rotates the transport roller to transport the medium **99** at the first speed. Specifically, the control section **65** rotates the transport rollers so as to transport the medium **99**, whose leading edge is positioned at the first curved portion **24**, at the first speed. By this, the medium **99**, whose leading edge is positioned at the first curved portion **24**, is transported at the first speed. The control section **65** may rotate the transport roller so as to transport the medium **99** at the second speed. For example, the control section **65** may rotate the transport roller so as to transport the medium **99**, whose leading edge is positioned at the upstream portion **26**, at the second speed. The control section **65** may rotate the transport roller so as to transport the medium **99**, whose leading edge is positioned on the transport path **23**, at the first speed. That is, the control section **65** may rotate the transport roller so as to transport the medium **99** at the first speed on the transport path **23**. In this case, the medium **99** is also transported at the first speed at the upstream portion **26**.

[0099] The control section **65** rotates the registration roller **44** so as to transport the medium **99** at the second speed. The control section **65** rotates the registration roller **44** so as to transport the medium **99**, whose leading edge has reached the registration roller **44**, at the second speed. Specifically, the control section **65** rotates the registration roller **44** so as to transport the medium **99**, whose skew was corrected by the abutment of the leading edge, at the second speed. In a case where the transport roller transports the medium **99** at the first speed, the speed difference is generated between the preceding medium M**1** and the subsequent medium M**2** when the leading edge of the preceding medium M**1** reaches the registration roller **44**. For this reason, in a case where the transport roller transports the medium **99** at the first speed, the preceding medium M**1** and the subsequent medium M**2** are transported while overlapping each other at least until the leading edge of the preceding medium M**1** reaches the registration roller **44**.

[0100] When the medium **99** is fed by the feed roller **32**, it reaches the transport roller. Specifically, a leading edge of the medium **99** reaches the third transport roller **39**. At this time, in one example, the medium **99** is fed by the feed roller **32** at the first speed and is transported by the third transport roller **39** at the first speed. Since there is no speed difference between the feed roller **32** and the third transport roller **39**, the possibility that a load is applied to the medium **99** in contact with the feed roller **32** and the third transport roller **39** is reduced. If there is the speed difference between the feed roller **32** and the third transport roller **39**, a load may be applied to the medium **99**. Specifically, when the third transport roller **39** pulls the medium **99** from the feed roller **32**, there is a possibility that the medium **99** may be stretched. The same applies to the first transport roller **37** and the second transport roller **38**. When the medium **99** is transported by the third transport roller **39**, it reaches the second transport roller **38**. The medium **99** is transported at the first speed by the second transport roller **38**. Since there is no speed difference between the feed roller **32** and the second transport roller **38**, the possibility that a load is applied to the medium **99** is reduced. The medium **99** reaches the first transport roller **37** by being transported to the second transport roller **38**. The medium **99** is transported at the first speed by the first transport roller **37**. Since there is no speed difference between the feed roller **32** and the first transport roller **37**, the possibility that a load is applied to the medium **99** is reduced. In a case where the leading edge of the medium **99** reaches the transport roller, the feed roller **32** may be switched to a state where a feed force is not applied to the medium **99**. Also in this case, the possibility that the medium **99** is stretched is reduced.

[0101] When the medium **99** is transported by the transport roller, it reaches the registration roller **44**. Specifically, when the medium **99** is transported by the first transport roller **37**, it reaches the registration roller **44**. The medium **99** is transported at the second speed by registration roller **44**.

[0102] If there is the speed difference between the registration roller **44** and the transport roller, a load may be applied to the medium **99** in contact with the registration roller **44** and the transport roller. For example, if there is the speed difference between the registration roller **44** and the first transport roller **37**, a load may be applied to the medium **99**. Specifically, when the registration roller **44** pulls the medium **99** from the first transport roller **37**, there is the possibility that the medium **99** is stretched. The same applies to the second transport roller **38** and the third transport roller **39**. If there is the speed difference between the registration

roller **44** and the second transport roller **38**, a load may be applied to the medium **99**. If there is the speed difference between the registration roller **44** and the third transport roller **39**, a load may be applied to the medium **99**.

[0103] The control section **65** controls the transport section **36** so that the medium **99** is not stretched by the registration roller **44** and the transport roller. The control section **65** controls the transport roller so that the medium **99** is not stretched by the registration roller **44** and the transport roller. For example, when the leading edge of medium **99** reaches the registration roller **44**, the control section **65** switches the transport roller to a state in which a transporting force is not applied to medium **99**. In one example, the control section **65** switches the transport roller to a state in which a transporting force is not applied to the medium **99** by turning off the transport clutch. By this, the possibility that the medium **99** is stretched is reduced. The control section **65** may switch the transport roller to a state in which a transporting force is not applied to the medium **99** by separating the transport roller from the driven roller. The control section **65** may control one of the three transport rollers to turn off the transport clutch, and separate the other transport rollers from the driven rollers.

[0104] When the leading edge of the preceding medium M**1** reaches the registration roller **44** and the transport roller is switched to a state in which a transporting force is not applied to the medium **99**, the subsequent medium M**2** may not be transported by the transport roller. Therefore, when a trailing edge of the preceding medium M**1** passes the transport roller, the control section **65** switches the transport roller to a state in which a transporting force is applied to the medium **99**. For example, after the trailing edge of the preceding medium M**1** passes the third transport roller **39**, the third transport roller **39** is switched to a state in which a transporting force is applied to the medium **99**. By this, the third transport roller **39** can transport the subsequent medium M**2** without the preceding medium M**1** being stretched. The same applies to the first transport roller **37** and the second transport roller **38**. After the trailing edge of the preceding medium M**1** has passed the second transport roller **38**, the control section **65** switches the second transport roller **38** to a state in which a transporting force is applied to the medium **99**. After the trailing edge of the preceding medium M**1** has passed the first transport roller **37**, the control section **65** switches the first transport roller **37** to a state in which a transporting force is applied to the medium **99**.

[0105] The subsequent medium M**2** is fed by the feed roller **32** until the third transport roller **39** is switched to a state of applying a transporting force to the medium **99**. After switching the third transport roller **39** to a state in which a transporting force is applied to the medium **99**, the control section **65** may switch the feed roller **32** to a state in which a feed force is not applied to the medium **99**. In this case, there is little possibility of the feed roller **32** and the transport roller applying a load to the medium **99**.

[0106] The control section **65** may rotate the transport roller so as to transport the medium **99** at the second speed in order to prevent the medium **99** from being stretched by the registration roller **44** and the transport roller. Specifically, when the leading edge of the medium **99** reaches the registration roller **44**, the control section **65** may rotate the transport roller so as to transport the medium **99** at the second speed. In this case, there is no speed difference between the registration roller **44** and the transport roller, so there is little possibility of a load being applied to the medium **99**.

[0107] When the leading edge of the preceding medium M**1** reaches the registration roller **44** and the speed of the transport roller is switched to the second speed, the subsequent medium M**2** is transported by the transport roller at the second speed. In this case, there is the possibility that the leading edge of the subsequent medium M**2** passes the first curved portion **24** at the second speed. Therefore, when the trailing edge of the preceding medium M**1** passes the first transport roller **37**, the control section **65** switches the first transport roller **37**, the second transport roller **38**, and the third transport roller **39** to the first speed. After the trailing edge of the preceding medium M**1** has passed the first transport roller **37**, the control section **65** rotates the first transport roller **37**, the second transport roller **38**, and the third transport roller **39** to transport the subsequent medium M**2** at the first speed. By this, the subsequent medium M**2** is transported at the first speed without the preceding medium M**1** being stretched. In this case, when the trailing edge of the preceding medium M**1** passes the first transport roller **37**, the leading edge of the subsequent medium M**2** needs to be positioned upstream of the portion in the first curved portion **24** where the curvature is largest. Therefore, when the trailing edge of the preceding medium M**1** passes the first transport roller **37**, the control section **65** controls the overlap amount so that the leading edge of the subsequent medium M**2** is positioned upstream of the portion in the first curved portion **24** where the curvature is largest.

[0108] When the leading edge of the preceding medium M**1** reaches the registration roller **44** and the speed of the transport roller is switched to the second speed, the subsequent medium M**2** is transported by the transport roller at the second speed. In this case, a load may be applied to the subsequent medium M**2** due to the speed difference between the feed roller **32** and the transport roller. Therefore, when the leading edge of the preceding medium M**1** reaches the registration roller **44**, the control section **65** switches the feed roller **32** to a state where a feed force is not applied to the medium **99**. This reduces the possibility that a load is applied to the subsequent medium M**2** due to the speed difference between the feed roller **32** and the transport roller. In this case, when the feed roller **32** is switched to a state in which a feed force is not applied, the leading edge of the subsequent medium M**2** needs to reach the third transport roller **39**. Therefore, when the leading edge of the preceding medium M**1** reaches the registration roller **44**, the control section **65** controls the overlap amount so that the leading edge of the subsequent medium M**2** reaches the third transport roller **39**.

[0109] Next, regarding a control for transporting the medium **99** so that the medium **99** is not stretched by the registration roller **44** and the transport roller, a first pattern will be described with reference to FIGS. **5** to **10**, and a second pattern will be described with reference to FIGS. **11** to **16**. In the following description, a case in which two sheets of medium **99** are continuously transported is taken as an example, but it is needless to say that the present disclosure may be applied to a case in which three or more sheets of medium **99** are transported.

[0110] First, the first pattern will be described. The first pattern is a pattern for suppressing stretching of the medium

99 by turning off the transport clutch. In the first pattern, the transport motor 40 always rotates at the first speed.

[0111] As shown in FIG. 5, when the leading edge of the preceding medium M1 reaches the registration roller 44, the control section 65 turns off the transport clutch. Specifically, after correcting skew of the preceding medium M1, the control section 65 turns off the first transport clutch 41, the second transport clutch 42, and the third transport clutch 43. In one example, when the leading edge of the preceding medium M1 reaches the registration roller 44, the trailing edge of the preceding medium M1 has not passed the third transport roller 39. When the leading edge of the preceding medium M1 reaches the registration roller 44, the leading edge of the subsequent medium M2 has reached the third transport roller 39.

[0112] The control section 65 may detect that the leading edge of the medium 99 reaches the registration roller 44 by the first detection sensor 56. The control section 65 may detect that the leading edge of the medium 99 has reached the registration roller 44 by counting time.

[0113] As shown in FIG. 6, the control section 65 rotates the registration roller 44 so as to transport the preceding medium M1 at the second speed. By this, the trailing edge of the preceding medium M1 passes the third transport roller 39. At this time, the control section 65 rotates the third transport roller 39 so as to transport the subsequent medium M2 at the first speed. That is, the control section 65 turns on the third transport clutch 43.

[0114] As shown in FIG. 7, when the preceding medium M1 is transported by the registration roller 44, the trailing edge of the preceding medium M1 passes the second transport roller 38. At this time, the control section 65 rotates the second transport roller 38 so as to transport the subsequent medium M2 at the first speed. That is, the control section 65 turns on the second transport clutch 42. In one example, when the trailing edge of the preceding medium M1 passes the second transport roller 38, the overlap between the preceding medium M1 and the subsequent medium M2 is eliminated.

[0115] As shown in FIG. 8, when the preceding medium M1 is transported by the registration roller 44, the trailing edge of the preceding medium M1 passes the first transport roller 37. At this time, the control section 65 rotates the first transport roller 37 so as to transport the subsequent medium M2 at the first speed. That is, the control section 65 turns on the first transport clutch 41.

[0116] As shown in FIG. 9, when the preceding medium M1 is transported by the registration roller 44, the trailing edge of the preceding medium M1 passes the registration roller 44. At this time, the control section 65 stops the registration roller 44. By this, the registration roller 44 can correct skew of the subsequent medium M2 while continuing the transport of the preceding medium M1. As described above, in order to correct skew of the subsequent medium M2, the trailing edge of the preceding medium M1 needs to pass the registration roller 44 before the leading edge of the subsequent medium M2 reaches the registration roller 44. In one example, when the trailing edge of the preceding medium M1 has passed the registration roller 44, the leading edge of the subsequent medium M2 is positioned at the first curved portion 24.

[0117] The control section 65 may detect that the trailing edge of the medium 99 has passed the registration roller 44 by the second detection sensor 57. The control section 65 may detect that the trailing edge of the medium 99 has passed the registration roller 44 by counting time.

[0118] The control section 65 rotates the first transport roller 37, the second transport roller 38, and the third transport roller 39 so as to transport the subsequent medium M2, whose leading edge is positioned at the first curved portion 24, at the first speed. By this, in the subsequent medium M2, generation of paper dust, charging, and the like are suppressed.

[0119] As shown in FIG. 10, when the leading edge of the subsequent medium M2 reaches the registration roller 44, the control section 65 turns off the transport clutch. Specifically, the control section 65 turns off the first transport clutch 41, the second transport clutch 42, and the third transport clutch 43 after correcting skew of the subsequent medium M2. The control section 65 rotates the registration roller 44 to transport the subsequent medium M2 at the second speed.

[0120] Next, the second pattern will be described. The second pattern is a pattern for suppressing stretching of the medium 99 by rotating the transport roller at the second speed.

[0121] As shown in FIG. 11, when the leading edge of the preceding medium M1 reaches the registration roller 44, the control section 65 rotates the transport roller to transport the preceding medium M1 at the second speed. Specifically, after skew of the preceding medium M1 is corrected, the control section 65 rotates the transport roller so as to transport the preceding medium M1 at the second speed. When the leading edge of the preceding medium M1 reaches the registration roller 44, the control section 65 switches the transport roller from the first speed to the second speed. In one example, when the leading edge of the preceding medium M1 reaches the registration roller 44, the trailing edge of the preceding medium M1 has not passed the third transport roller 39. On the other hand, when the leading edge of the preceding medium M1 reaches the registration roller 44, the leading edge of the subsequent medium M2 has reached the third transport roller 39. That is, the leading edge of the subsequent medium M2 has passed the second curved portion 25. Since the leading edge of the subsequent medium M2 is positioned at the upstream portion 26, there is no problem even if the subsequent medium M2 is transported at the second speed.

[0122] As shown in FIGS. 12 and 13, the control section 65 rotates the registration roller 44 so as to transport the preceding medium M1 at the second speed. The control section 65 rotates the first transport roller 37, the second transport roller 38, and the third transport roller 39 at the second speed so as to transport the preceding medium M1 at the second speed. Accordingly, the subsequent medium M2 is also transported at the second speed.

[0123] As shown in FIG. 14, when the preceding medium M1 is transported, the trailing edge of the preceding medium M1 passes the first transport roller 37. At this time, the control section 65 rotates the transport roller so as to transport the subsequent medium M2 at the first speed. Specifically, the control section 65 rotates the first transport roller 37, the second transport roller 38, and the third transport roller 39 so as to transport the subsequent medium M2 at the first speed. When the trailing edge of the preceding medium M1 passes the first transport roller 37, the control section 65 switches the transport roller from the first speed to the second speed. In one example, when the trailing edge of the preceding medium M1 passes through the first trans-

port roller **37**, the leading edge of the subsequent medium M**2** is positioned at the first curved portion **24**. The leading edge of the subsequent medium M**2** does not pass a portion with the largest curvature in the first curved portion **24**. Therefore, since the subsequent medium M**2** is transported at the first speed, the generation of paper dust, charging, and the like are suppressed. When the trailing edge of the preceding medium M**1** passes the first transport roller **37**, the leading edge of the subsequent medium M**2** may be positioned at the upstream portion **26**.

[0124] The leading edge of the subsequent medium M**2** passes the first curved portion **24** while the preceding medium M**1** and the subsequent medium M**2** overlap each other. In this case, the leading edge of the subsequent medium M**2** is guided by the preceding medium M**1**. Therefore, the possibility that the leading edge of the subsequent medium M**2** violently rubs against the first curved portion **24** is reduced.

[0125] As shown in FIG. **15**, when the preceding medium M**1** is transported, the trailing edge of the preceding medium M**1** passes the registration roller **44**. At this time, the control section **65** stops the registration roller **44**. By this, the registration roller **44** can correct skew of the subsequent medium M**2** while continuing the transport of the preceding medium M**1**. In order to correct skew of the subsequent medium M**2**, it is necessary that the trailing edge of the preceding medium M**1** passes the registration roller **44** before the leading edge of the subsequent medium M**2** reaches the registration roller **44**. In one example, when the trailing edge of the preceding medium M**1** has passed the registration roller **44**, the leading edge of the subsequent medium M**2** is positioned at the first curved portion **24**.

[0126] The control section **65** rotates the first transport roller **37**, the second transport roller **38**, and the third transport roller **39** so as to transport the subsequent medium M**2**, whose leading edge is positioned at the first curved portion **24**, at the first speed. By this, in the subsequent medium M**2**, generation of paper dust, charging, and the like are suppressed.

[0127] As shown in FIG. **16**, when the leading edge of the subsequent medium M**2** reaches the registration roller **44**, the control section **65** turns off the transport clutch. Specifically, the control section **65** turns off the first transport clutch **41**, the second transport clutch **42**, and the third transport clutch **43** after correcting skew of the subsequent medium M**2**. The control section **65** rotates the registration roller **44** to transport the subsequent medium M**2** at the second speed.

Flowchart

[0128] Next, a transport process executed by the control section **65** will be described. The transport process is a process of transporting sheets of the medium **99** while overlapping each other. The transport process is started when a user's instruction is input. For example, the control section **65** starts the transport process by selecting the first mode. In the following description, a case in which two sheets of the medium **99** are continuously transported is taken as an example, but it is needless to say that the present disclosure may be applied to a case in which three or more sheets of the medium **99** are transported.

[0129] Regarding the transport process, a first transport process and a second transport process will be described. The first transport process is a process of transporting the medium **99** according to the first pattern described above. The second transport process is a process of transporting medium **99** according to the second pattern described above.

[0130] First, the first transport process will be described.

[0131] As shown in FIG. **17**, the control section **65** starts an overlap forming process in step S**11**. The overlap forming process is a process of overlapping sheets of the medium **99**. The control section **65** feeds the medium **99** while overlapping sheets of the mediums **99** by the overlap forming process. The control section **65** starts the overlap forming process in accordance with the flowchart shown in FIG. **18**.

[0132] As shown in FIG. **18**, the control section **65** resets a timer in step S**31**. Specifically, the control section **65** resets time counted by itself.

[0133] In step S**32**, the control section **65** drives the feed motor **33**. Specifically, the control section **65** drives the feed motor **33** such that the feed roller **32** feeds the medium **99** at the first speed. At this time, since the feed clutch **34** is turned off, the feed roller **32** does not rotate. That is, a feed force is not applied to the medium **99** from the feed roller **32**.

[0134] In step S**33**, the control section **65** drives the transport motor **40**. Specifically, the control section **65** drives the transport motor **40** such that the medium **99** is transported at the first speed by the transport roller. The control section **65** drives the transport motor **40** so that the medium **99** is transported at the first speed by the first transport roller **37**, the second transport roller **38**, and the third transport roller **39**. At this time, since the first transport clutch **41**, the second transport clutch **42**, and the third transport clutch **43** are turned off, the first transport roller **37**, the second transport roller **38**, and the third transport roller **39** do not rotate. That is, a transporting force is not applied to medium **99** from the transport roller.

[0135] In step S**34**, the control section **65** turns on the transport clutch. Specifically, the control section **65** turns on the first transport clutch **41**, the second transport clutch **42**, and the third transport clutch **43**. By this, the first transport roller **37**, the second transport roller **38**, and the third transport roller **39** rotate.

[0136] In step S**35**, the control section **65** starts the timer. That is, the control section **65** starts counting time. The control section **65** counts time elapsed since the start of the feeding of the medium **99**.

[0137] In step S**36**, the control section **65** turns on the feed clutch **34**. By this, the feed roller **32** rotates. The preceding medium M**1** is fed by the rotation of the feed roller **32**. By this, the recording device **11** is in the state shown in FIG. **2**.

[0138] In step S**37**, the control section **65** determines whether a time t**1** has elapsed. Specifically, the control section **65** determines whether the time t**1** has elapsed since step S**35**. The time t**1** may be a time previously stored in the control section **65** or may be a time calculated by the control section **65**. The time t**1** is a time when the leading edge of medium **99** fed in step S**36** is expected to reach the third transport roller **39**. That is, in step S**37**, the control section **65** determines whether the preceding medium M**1** has reached the third transport roller **39**. When the time t**1** has elapsed, the control section **65** shifts the process to step S**38**. When the time t**1** has not elapsed, the control section **65** repeats the process of step S**37**. The control section **65** may determine whether the preceding medium M**1** has reached the third transport roller **39** based on a detection result of a sensor, not limited to the elapse of time.

[0139] In step S**38**, the control section **65** turns off the feed clutch **34**. By this, the feed roller **32** is driven to rotate with

respect to the preceding medium M1. That is, the feed roller **32** is in a state of not applying a feed force to the preceding medium M1.

[0140] In step S**39**, the control section **65** determines whether a time t**2** has elapsed. Specifically, the control section **65** determines whether the time t**2** has elapsed since step S**35**. The time t**2** may be a time previously stored in the control section **65** or may be a time calculated by the control section **65**. The time t**2** is a time for determining the feeding timing of the subsequent medium M**2**. The time t**2** is a time for determining the overlap amount between the preceding medium M**1** and the subsequent medium M**2**. When the time t**2** has elapsed, the control section **65** shifts the process to step S**40**. When the time t**2** has not elapsed, the control section **65** repeats the process of step S**39**.

[0141] In step S**40**, the control section **65** turns on the feed clutch **34**. By this, the feed roller **32** rotates. The subsequent medium M**2** is fed by the rotation of the feed roller **32**. That is, the subsequent medium M**2** is fed in a state of overlapping the preceding medium M**1**. By this, the recording device **11** is in the state shown in FIG. **4**. When finishing the process of step S**40**, the control section **65** finishes the overlap forming process. The control section **65** returns to the transport process when the overlap forming process is finished.

[0142] As shown in FIG. **17**, in step S**12**, the control section **65** determines whether the first detection sensor **56** is turned ON. That is, the control section **65** determines whether the preceding medium M**1** has reached the registration roller **44**. The control section **65** may determine whether the preceding medium M**1** has reached the registration roller **44** not only by a detection result of the first detection sensor **56** but also by the elapse of time. When the first detection sensor **56** is turned on, the control section **65** shifts the process to step S**13**. When the first detection sensor **56** is turned off, the control section **65** repeats the process of step S**12**.

[0143] In step S**13**, the control section **65** determines whether a standby time has elapsed. Specifically, the control section **65** determines whether the standby time has elapsed since step S**12**. The standby time is a time required for skew correction. That is, in step S**13**, the leading edge of the preceding medium M**1** is abutted against the registration roller **44**, thereby correcting skew of the preceding medium M**1**. When the standby time has elapsed, the control section **65** shifts the process to step S**14**. When the standby time has not elapsed, the control section **65** repeats the process of step S**13**.

[0144] In step S**14**, the control section **65** turns off the transport clutch. Specifically, the control section **65** turns OFF the first transport clutch **41**, the second transport clutch **42**, and the third transport clutch **43**. By this, the transport roller is driven to rotate with respect to the preceding medium M**1**. That is, the transport roller is in a state of not applying a transporting force to the preceding medium M**1**. At this time, the recording device **11** is in the state shown in FIG. **5**. It is sufficient to turn off the transport clutch of the transport roller where the preceding medium M**1** is positioned, and when there is the transport roller that the preceding medium M**1** has passed, the transport clutch of the transport roller need not be turned off.

[0145] In step S**15**, the control section **65** drives the registration roller **44**. Specifically, the control section **65** rotates the registration roller **44** to transport the preceding medium M**1** at the second speed.

[0146] In step S**16**, the control section **65** determines whether a time t**3** has elapsed. Specifically, the control section **65** determines whether the time t**3** has elapsed since step S**35**. The time t**3** is a time at which the trailing edge of the preceding medium M**1** is expected to pass the third transport roller **39**. That is, in step S**16**, the control section **65** determines whether the preceding medium M**1** has passed the third transport roller **39**. When the time t**3** has elapsed, the control section **65** shifts the process to step S**17**. When the time t**3** has not elapsed, the control section **65** repeats the process of step S**16**. The control section **65** may determine whether the preceding medium M**1** has passed the third transport roller **39** based on a detection result of a sensor, not limited to the elapse of time.

[0147] In step S**17**, the control section **65** turns on the third transport clutch **43**. By this, the third transport roller **39** rotates. The subsequent medium M**2** is transported at the first speed by the rotation of the third transport roller **39**. At this time, the recording device **11** is in the state shown in FIG. **6**. The control section **65** may turn off the feed clutch **34**.

[0148] In step S**18**, the control section **65** determines whether a time t**4** has elapsed. Specifically, the control section **65** determines whether the time t**4** has elapsed since step S**35**. The time t**4** is a time at which the trailing edge of the preceding medium M**1** is expected to pass the second transport roller **38**. That is, in step S**18**, the control section **65** determines whether the preceding medium M**1** has passed the second transport roller **38**. When the time t**4** has elapsed, the control section **65** shifts the process to step S**19**. When the time t**4** has not elapsed, the control section **65** repeats the process of step S**18**. The control section **65** may determine whether the preceding medium M**1** has passed the second transport roller **38** based on a detection result of a sensor, not limited to the elapse of time.

[0149] In step S**19**, the control section **65** turns on the second transport clutch **42**. By this, the second transport roller **38** rotates. The subsequent medium M**2** is transported at the first speed by the rotation of the second transport roller **38**. At this time, the recording device **11** is in the state shown in FIG. **7**.

[0150] In step S**20**, the control section **65** determines whether a time t**5** has elapsed. Specifically, the control section **65** determines whether the time t**5** has elapsed since step S**35**. The time t**5** is a time at which the trailing edge of the preceding medium M**1** is expected to pass the first transport roller **37**. That is, in step S**20**, the control section **65** determines whether the preceding medium M**1** has passed the first transport roller **37**. When the time t**5** has elapsed, the control section **65** shifts the process to step S**21**. When the time t**5** has not elapsed, the control section **65** repeats the process of step S**20**. The control section **65** may determine whether the preceding medium M**1** has passed the first transport roller **37** based on a detection result of a sensor, not limited to the elapse of time.

[0151] In step S**21**, the control section **65** turns on the first transport clutch **41**. By this, the first transport roller **37** rotates. The subsequent medium M**2** is transported at the first speed by the rotation of the first transport roller **37**. At this time, the recording device **11** is in the state shown in FIG. **8**.

[0152] In step S**22**, the control section **65** determines whether the second detection sensor **57** is turned off. That is, the control section **65** determines whether the preceding medium M**1** has passed the registration roller **44**. The control section **65** may determine whether the preceding medium M**1** has passed the registration roller **44** not only by a detection result of the second detection sensor **57** but also by the elapse of time. When the second detection sensor **57** is turned off, the control section **65** shifts the process to step S**23**. When the second detection sensor **57** is turned on, the control section **65** repeats the process of step S**22**.

[0153] In step S**23**, the control section **65** stops the registration roller **44**. The control section **65** completes the preparation for correcting skew of the subsequent medium M**2** by stopping the registration roller **44**. At this time, the recording device **11** is in the state shown in FIG. **9**. The preceding medium M**1** is transported by the transport belt **17**, the discharge section **51**, and the like.

[0154] In step S**24**, the control section **65** determines whether the first detection sensor **56** is turned on. That is, the control section **65** determines whether the subsequent medium M**2** has reached the registration roller **44**. The control section **65** may determine whether the subsequent medium M**2** has reached the registration roller **44** not only by a detection result of the first detection sensor **56** but also by the elapse of time. When the first detection sensor **56** is turned on, the control section **65** shifts the process to step S**25**. When the first detection sensor **56** is turned off, the control section **65** repeats the process of step S**24**.

[0155] In step S**25**, the control section **65** determines whether the standby time has elapsed. Specifically, the control section **65** determines whether the standby time has elapsed since step S**24**. The standby time is the same time as in step S**13**. That is, in step S**25**, the leading edge of the subsequent medium M**2** is abutted against the registration roller **44**, thereby correcting skew of the subsequent medium M**2**. When the standby time has elapsed, the control section **65** shifts the process to step S**26**. When the standby time has not elapsed, the control section **65** repeats the process of step S**25**.

[0156] In step S**26**, the control section **65** drives the registration roller **44**. Specifically, the control section **65** rotates the registration roller **44** so as to transport the subsequent medium M**2** at the second speed. At this time, the recording device **11** is in the state shown in FIG. **10**.

[0157] In step S**27**, the control section **65** determines whether the second detection sensor **57** is turned off. That is, the control section **65** determines whether the subsequent medium M**2** has passed the registration roller **44**. The control section **65** may determine whether the subsequent medium M**2** has passed the registration roller **44** not only by a detection result of the second detection sensor **57** but also by the elapse of time. When the second detection sensor **57** is turned off, the control section **65** shifts the process to step S**28**. When the second detection sensor **57** is turned on, the control section **65** repeats the process of step S**27**.

[0158] In step S**28**, the control section **65** stops the registration roller **44**. The subsequent medium M**2** is transported by the transport belt **17**, the discharge section **51**, and the like. When finishing the process of step S**28**, the control section **65** finishes the first transport process.

[0159] As described above, in the first transport process, the control method for the medium transport device **16** includes rotating the transport roller so as to transport the medium **99**, whose leading edge is positioned on the transport path **23**, at the first speed. The control method for the medium transport device **16** includes rotating the registration roller **44** to convey the medium **99**, whose leading edge has reached the registration roller **44**, at the second speed. The control method for the medium transport device **16** includes rotating the feed roller **32** so that the subsequent medium M**2** overlaps the preceding medium M**1** until the leading edge of the preceding medium M**1** reaches the registration roller **44**.

[0160] Next, a second transport process will be described.

[0161] As shown in FIG. **19**, the control section **65** starts the overlap forming process in step S**51**. The process of step S**51** is the same as the process of step S**11**. The control section **65** starts the overlap forming process in accordance with the flowchart shown in FIG. **18**.

[0162] In step S**52**, the control section **65** determines whether the first detection sensor **56** is turned on. Step S**52** is the same process as step S**12**. That is, the control section **65** determines whether the preceding medium M**1** has reached the registration roller **44**. When the first detection sensor **56** is turned on, the control section **65** shifts the process to step S**53**. When the first detection sensor **56** is turned off, the control section **65** repeats the process of step S**52**.

[0163] In step S**53**, the control section **65** determines whether the standby time has elapsed. Specifically, the control section **65** determines whether the standby time has elapsed since step S**52**. The process of step S**53** is the same as the process of step S**13**. That is, in step S**53**, the leading edge of the preceding medium M**1** is abutted against the registration roller **44**, thereby correcting skew of the preceding medium M**1**. When the standby time has elapsed, the control section **65** shifts the process to step S**54**. When the standby time has not elapsed, the control section **65** repeats the process of step S**53**.

[0164] In step S**54**, the control section **65** turns off the feed clutch **34**. By this, the feed roller **32** is driven to rotate with respect to the subsequent medium M**2**. That is, the feed roller **32** is in a state of not applying a feed force to the subsequent medium M**2**.

[0165] In step S**55**, the control section **65** switches the transport roller to the second speed. Specifically, the control section **65** rotates the transport roller so as to transport the preceding medium M**1** at the second speed. The control section **65** controls the transport motor **40** to rotate the first transport roller **37**, the second transport roller **38**, and the third transport roller **39** so as to transport the preceding medium M**1** at the second speed. As the preceding medium M**1** is transported at the second speed, the subsequent medium M**2** is also transported at the second speed. At this time, the recording device **11** is in the state shown in FIG. **11**.

[0166] In step S**56**, the control section **65** drives the registration roller **44**. Specifically, the control section **65** rotates the registration roller **44** to transport the preceding medium M**1** at the second speed.

[0167] In step S**57**, the control section **65** determines whether a time t**6** has elapsed. Specifically, the control section **65** determines whether the time t**6** has elapsed since step S**35**. The time t**6** is a time when the trailing edge of the preceding medium M**1** is expected to have passed the first transport roller **37**. That is, in step S**57**, the control section **65** determines whether the preceding medium M**1** has

passed the first transport roller **37**. When the time t**6** has elapsed, the control section **65** shifts the process to step S**58**. When the time t**6** has not elapsed, the control section **65** repeats the process of step S**57**. The control section **65** may determine whether the preceding medium M**1** has passed the first transport roller **37** based on a detection result of a sensor, not limited to the elapse of time.

[0168] In step S**58**, the control section **65** switches the transport roller to the first speed. Specifically, the control section **65** rotates the transport roller so as to transport the subsequent medium M**2** at the first speed. The control section **65** controls the transport motor **40** to rotate the first transport roller **37**, the second transport roller **38**, and the third transport roller **39** so as to transport the subsequent medium M**2** at the first speed. By this, the preceding medium M**1** is transported at the first speed, while the subsequent medium M**2** is transported at the first speed. At this time, the recording device **11** is in the state shown in FIG. **14**.

[0169] In step S**59**, the control section **65** determines whether the second detection sensor **57** is turned off. The control section **65** determines whether the preceding medium M**1** has passed the registration roller **44**. The control section **65** may determine whether the preceding medium M**1** has passed the registration roller **44** not only by a detection result of the second detection sensor **57** but also by the elapse of time. When the second detection sensor **57** is turned off, the control section **65** shifts the process to step S**60**. When the second detection sensor **57** is turned on, the control section **65** repeats the process of step S**59**.

[0170] In step S**60**, the control section **65** stops the registration roller **44**. The control section **65** completes the preparation for correcting skew of the subsequent medium M**2** by stopping the registration roller **44**. At this time, the recording device **11** is in the state shown in FIG. **15**. The preceding medium M**1** is transported by the transport belt **17**, the discharge section **51**, and the like.

[0171] In step S**61**, the control section **65** determines whether the first detection sensor **56** is turned on. The control section **65** determines whether the subsequent medium M**2** has reached the registration roller **44**. The control section **65** may determine whether the subsequent medium M**2** has reached the registration roller **44** not only by a detection result of the first detection sensor **56** but also by the elapse of time. When the first detection sensor **56** is turned on, the control section **65** shifts the process to step S**62**. When the first detection sensor **56** is turned off, the control section **65** repeats the process of step S**61**.

[0172] In step S**62**, the control section **65** determines whether the standby time has elapsed. Specifically, the control section **65** determines whether the standby time has elapsed since step S**61**. In step S**62**, the leading edge of the subsequent medium M**2** is abutted against the registration roller **44**, thereby correcting skew of the subsequent medium M**2**. At this time, the recording device **11** is in the state shown in FIG. **16**. When the standby time has elapsed, the control section **65** shifts the process to step S**63**. When the standby time has not elapsed, the control section **65** repeats the process of step S**62**.

[0173] In step S**63**, the control section **65** drives the registration roller **44**. Specifically, the control section **65** drives the registration roller **44** to transport the subsequent medium M**2** at the second speed. At this time, the control section **65** may switch the transport roller to the second speed in the same manner as in step S**55**, or may turn off the transport clutch in the same manner as in step S**14**.

[0174] In step S**64**, the control section **65** determines whether the second detection sensor **57** is turned off. That is, the control section **65** determines whether the subsequent medium M**2** has passed the registration roller **44**. The control section **65** may determine whether the subsequent medium M**2** has passed the registration roller **44** not only by a detection result of the second detection sensor **57** but also by the elapse of time. When the second detection sensor **57** is turned off, the control section **65** shifts the process to step S**65**. When the second detection sensor **57** is turned on, the control section **65** repeats the process of step S**64**.

[0175] In step S**65**, the control section **65** stops the registration roller **44**. The subsequent medium M**2** is transported by the transport belt **17**, the discharge section **51**, and the like. When finishing the process of step S**65**, the control section **65** finishes the second transport process.

[0176] As described above, in the second transport process, the control method for the medium transport device **16** includes rotating the transport rollers so as to transport the medium **99**, whose leading edge is positioned at the first curved portion **24**, at the first speed. The control method for the medium transport device **16** includes rotating the transport roller so as to transport the medium **99**, whose leading edge is positioned at the upstream portion **26**, at the second speed. The control method for the medium transport device **16** includes rotating the registration roller **44** to convey the medium **99**, whose leading edge has reached the registration roller **44**, at the second speed. The control method for the medium transport device **16** includes rotating the feed roller **32** so that the subsequent medium M**2** overlaps the preceding medium M**1** until the leading edge of the preceding medium M**1** reaches the registration roller **44**.

Operations and Effects of the Embodiment

[0177] Next, operations and effects of the above-described embodiment will be described.

[0178] (1) The control section **65** rotates the transport roller to transport the medium **99** at the first speed. The control section **65** rotates the registration roller **44** to transport the medium **99** at the second speed. The control section **65** rotates the feed roller **32** such that the subsequent medium M**2** overlaps the preceding medium M**1** until the leading edge of the preceding medium M**1** reaches the registration roller **44**. According to the above-described configuration, the medium **99**, whose leading edge is positioned at the first curved portion **24**, is transported by the transport roller at the first speed, which is relatively low. By this, the possibility that paper dust is generated from the medium **99** or the medium **99** is charged is reduced. Since the feed roller **32** feeds the medium **99** such that the subsequent medium M**2** overlaps the preceding medium M**1**, a decrease in a processing speed is suppressed.

[0179] (2) The control section **65** rotates the transport roller so as to transport the medium **99**, whose leading edge is positioned on the transport path **23**, at the first speed. According to the above-described configuration, the medium **99**, whose leading edge is positioned on the transport path **23**, is transported by the transport roller at the first speed, which is relatively low. By this, the possibility that paper dust is generated from the medium **99** or the medium **99** is charged is reduced.

[0180] (3) When the leading edge of the medium **99** reaches the registration roller **44**, the control section **65** switches the transport roller to a state in which a transporting force is not applied to the medium **99**. The medium **99** whose leading edge reaches the registration roller **44** is transported by the registration roller **44** at the second speed, which is relatively high. At this time, a transporting force is not applied from the transport roller to the medium **99** whose leading edge reaches the registration roller **44**. Therefore, according to the above-described configuration, the possibility of the medium **99**, whose leading edge reaches the registration roller **44**, being stretched by the registration roller **44** and the transport roller is reduced.

[0181] (4) The control section **65** rotates the feed roller **32** so that the overlap between the preceding medium M**1** and the subsequent medium M**2** is eliminated before the leading edge of the subsequent medium M**2** reaches the registration roller **44**. According to the above-described configuration, the preceding medium M**1** passes the registration roller **44** before the subsequent medium M**2** reaches the registration roller **44**. Therefore, after the preceding medium M**1** passes the registration roller **44**, the subsequent medium M**2** abuts against the registration roller **44**. By this, skew of the subsequent medium M**2** is smoothly corrected.

[0182] (5) After the preceding medium M**1** has passed the second transport roller **38**, the control section **65** rotates the second transport roller **38** so as to transport the subsequent medium M**2** at the first speed. According to the above-described configuration, it is possible to transport the subsequent medium M**2** by the second transport roller **38** while reducing the possibility that the preceding medium M**1** is stretched by the registration roller **44** and the second transport roller **38**.

[0183] (6) The control section **65** rotates the transport roller so as to transport the medium **99**, whose leading edge is positioned at the first curved portion **24**, at the first speed. The control section **65** rotates the transport roller to transport the medium **99**, whose leading edge is positioned at the upstream portion **26**, at the second speed. According to the above-described configuration, the medium **99**, whose leading edge is positioned at the first curved portion **24**, is transported by the transport roller at the first speed, which is relatively low. By this, the possibility that paper dust is generated from the medium **99** or the medium **99** is charged is reduced. The medium **99**, whose leading edge is positioned at the upstream portion **26**, is transported by the transport roller at the second speed, which is relatively high. By this, a decrease in processing speed is more effectively suppressed.

[0184] (7) The control section **65** rotates the feed roller **32** such that the overlap between the preceding medium M**1** and the subsequent medium M**2** is eliminated before the leading edge of the subsequent medium M**2** reaches the registration roller **44**. According to the above-described configuration, the preceding medium M**1** passes the registration roller **44** before the subsequent medium M**2** reaches the registration roller **44**. Therefore, after the preceding medium M**1** passes registration roller **44**, the subsequent medium M**2** can abut against the registration roller **44**. By this, skew of the subsequent medium M**2** is smoothly corrected.

[0185] (8) The control section **65** rotates the transport roller so as to transport the preceding medium M**1** and the subsequent medium M**2** at the second speed until the preceding medium M**1** passes the transport roller. According to the above-described configuration, in the upstream portion **26**, the medium **99** is transported by the transport roller at the second speed, which is relatively high. By this, a decrease in processing speed is more effectively suppressed.

[0186] (9) The control section **65** rotates the transport roller to transport the subsequent medium M**2** at the first speed after the preceding medium M**1** passes the transport roller. According to the above-described configuration, the possibility of the preceding medium M**1** being stretched by the registration roller **44** and the transport roller is reduced, while the subsequent medium M**2** can be transported by the transport roller.

[0187] (10) The control section **65** rotates the feed roller **32** so as to feed the medium **99**, whose leading edge is positioned at the second curved portion **25**, at the first speed. According to the above-described configuration, the medium **99** whose leading edge is positioned at the second curved portion **25** is fed by the feed roller **32** at the first speed, which is relatively low. By this, the possibility that paper dust is generated from the medium **99** or the medium **99** is charged is reduced.

[0188] (11) The control section **65** rotates the feed roller **32** so as to feed the medium **99** at the first speed. According to the above-described configuration, the possibility that paper dust is generated from the medium **99** or the medium **99** is charged is reduced.

[0189] (12) The control section **65** determines the overlap amount between the preceding medium M**1** and the subsequent medium M**2** based on information acquired by the acquisition section **61**. Depending on the length of the medium **99**, a transport method, or the like, the first speed may change or the second speed may change. When the first speed, the second speed, or the like changes, it is necessary to change the overlap amount between the preceding medium M**1** and the subsequent medium M**2**. According to the above-described configuration, an appropriate overlap amount is determined based on information relating to transport of medium **99**. By this, a processing speed is maintained based on the information relating to transport of the medium **99**.

[0190] (13) The control section **65** selects the first mode or the second mode based on information acquired by the acquisition section **61**. According to the above-described configuration, it is possible to transport the preceding medium M**1** and the subsequent medium M**2** without overlapping in the second mode.

[0191] (14) The medium transport device **16** continuously transports the medium **99** during recording. According to the above-described configuration, since the overlap between the preceding medium M**1** and the subsequent medium M**2** is eliminated before the leading edge of the subsequent medium M**2** reaches the registration roller **44**, skew of the subsequent medium M**2** can be corrected by the registration roller **44**.

[0192] (15) The transport belt **17** is positioned downstream of the registration roller **44**. According to the above-described configuration, the transport belt **17**

attracts the medium **99** that has passed the registration roller **44**. This stabilizes the posture of the medium **99**.

Modifications

[0193] The above-described embodiment can be modified as follows. The above-described embodiment and the following modifications can be implemented in combination with each other to the extent that they are not technically contradictory.

[0194] The medium transport device **16** may be applied to an image reading device that reads an image of the medium **99**. The image reading device is, for example, a scanner or an automatic document reading device (ADF). In this case, the acquisition section **61** may acquire a reading method of the medium **99** as information relating to transport of the medium **99**. The control section **65** may determine the overlap amount between sheets of the medium **99** based on the reading method of the medium **99**.

[0195] The transport section **36** may include another roller positioned upstream of the registration roller **44**. The control section **65** may change a transport speed of the medium **99** or eliminate the overlap amount based on the roller.

[0196] Liquid ejected by the recording section **13** is not limited to ink, and may be, for example, a liquid body in which particles of a functional material are dispersed or mixed in liquid. For example, the recording section **13** may eject a liquid body including a material such as electrode material or pixel material used for manufacturing a liquid crystal display, an electroluminescent display, or a surface emitting display in a dispersed or dissolved form.

[0197] At least a part of the feed motor **33**, the transport motor **40**, and the registration motor **45** may be a common motor as long as it is possible to appropriately change a speed.

[0198] The acquisition sensor **62** is not limited to an optical sensor, and may be a mechanical sensor or an ultrasonic sensor. A plurality of sensors may be combined.

[0199] When the overlap amount is determined based on information relating to transport, the control section **65** may calculate the overlap amount based on the information, or the control section **65** may select the overlap amount based on a predetermined relationship between the information and the overlap amount.

Technical Ideas

[0200] Hereinafter, technical ideas grasped from the above-described embodiment and modifications, and operations and effects thereof, will be described.

[0201] (A) A medium transport device includes a feed roller that feeds a medium; a transport roller that transports the medium fed by the feed roller; a registration roller that corrects skew of the medium transported by the transport roller; a transport path extending from the feed roller toward the registration roller; and a control section that rotates the transport roller so as to transport the medium at a first speed and that rotates the registration roller so as to transport the medium at a second speed that is higher than the first speed, wherein the transport path includes a curved portion extending while curving between the transport roller and the registration roller and the control section rotates the feed roller such that a subsequent medium fed next after a preceding medium overlaps the preceding medium until a leading edge of the preceding medium reaches the registration roller.

[0202] According to the above-described configuration, the medium whose leading edge is positioned at the curved portion is transported by the transport roller at the first speed, which is relatively low. By this, the possibility that paper dust is generated from the medium or the medium is charged is reduced. A decrease in a processing speed is suppressed by the feed roller feeding the medium such that the subsequent medium overlaps the preceding medium. The subsequent medium may overlap the preceding medium at least until the leading edge of the preceding medium reaches the registration roller, and the subsequent medium may overlap the preceding medium even after the leading edge of the preceding medium reaches the registration roller.

[0203] (B) The above-described medium transport device may be configured such that the control section rotates the transport roller so as to transport the medium whose leading edge is positioned on the transport path at the first speed.

[0204] According to the above-described configuration, the medium whose leading edge is positioned on the transport path is transported by the transport roller at the first speed, which is relatively low. By this, the possibility that paper dust is generated from the medium or the medium is charged is reduced.

[0205] (C) The above-described medium transport device may be configured such that when the leading edge of the medium reaches the registration roller, the control section switches the transport roller to a state of not applying a transporting force to the medium.

[0206] The medium whose leading edge reaches the registration roller is transported by the registration roller at the second speed, which is relatively high. At this time, a transporting force is not applied from the transport roller to the medium whose leading edge reaches the registration roller. Therefore, according to the above-described configuration, the possibility that the medium whose leading edge reaches the registration roller is stretched by the registration roller and the transport roller is reduced.

[0207] (D) The above-described medium transport device may be configured such that the control section rotates the feed roller such that an overlap between the preceding medium and the subsequent medium is eliminated before a leading edge of the subsequent medium reaches the registration roller.

[0208] According to the above-described configuration, the preceding medium passes the registration roller before the subsequent medium reaches the registration roller. Therefore, after the preceding medium passes the registration roller, the subsequent medium abuts against the registration roller. By this, skew of the subsequent medium is smoothly corrected.

[0209] (E) The above-described medium transport device may be configured such that the transport roller is a first transport roller, the medium transport device includes a second transport roller positioned upstream of the first transport roller, and the control section rotates the second transport roller so as to transport the subsequent medium at the first speed after the preceding medium passes the second transport roller.

[0210] According to the above-described configuration, it is possible to transport the subsequent medium by the

second transport roller while reducing the possibility that the preceding medium is stretched by the registration roller and the second transport roller. The possibility that the preceding medium transported at the second speed is stretched by the first transport roller is reduced.

[0211] (F) The above-described medium transport device may be configured such that the transport path includes an upstream portion positioned upstream of the curved portion, the upstream portion is a portion having a smaller curvature than the curved portion, and the control section rotates the transport roller so as to transport the medium whose leading edge is positioned at the curved portion at the first speed, and rotates the transport roller so as to transport the medium whose leading edge is positioned at the upstream portion at the second speed.

[0212] According to the above-described configuration, the medium whose leading edge is positioned at the curved portion is transported by the transport roller at the first speed, which is relatively low. By this, the possibility that paper dust is generated from the medium or the medium is charged is reduced. The medium whose leading edge is positioned at the upstream portion is transported by the transport roller at the second speed, which is relatively high. By this, a decrease in a processing speed is suppressed.

[0213] (G) The above-described medium transport device may be configured such that the control section rotates the feed roller such that an overlap between the preceding medium and the subsequent medium is eliminated before a leading edge of the subsequent medium reaches the registration roller.

[0214] According to the above-described configuration, the preceding medium passes the registration roller before the subsequent medium reaches the registration roller. Therefore, after the preceding medium passes the registration roller, the subsequent medium can abut against the registration roller. By this, skew of the subsequent medium is smoothly corrected.

[0215] (H) The above-described medium transport device may be configured such that the curved portion is positioned between the upstream portion and the registration roller, the transport roller is positioned at the upstream portion, and the control section rotates the transport roller so as to transport the preceding medium and the subsequent medium at the second speed until the preceding medium passes the transport roller.

[0216] According to the above-described configuration, in the upstream portion, the medium is transported by the transport roller at the second speed, which is relatively high. By this, a decrease in a processing speed is suppressed.

[0217] (I) The above-described medium transport device may be configured such that the control section rotates the transport roller so as to transport the subsequent medium at the first speed after the preceding medium passes the transport roller.

[0218] According to the above-described configuration, it is possible to transport the subsequent medium by the transport roller while reducing the possibility that the preceding medium is stretched by the registration roller and the transport roller.

[0219] (J) The above-described medium transport device may be configured such that the curved portion is a first curved portion, the transport path includes a second curved portion positioned upstream of the upstream portion, the second curved portion is a portion with having a larger curvature than the upstream portion, the feed roller feeds the medium along the second curved portion, and the control section rotates the feed roller so as to feed the medium whose leading edge is positioned at the second curved portion at the first speed.

[0220] According to the above-described configuration, the medium whose leading edge is positioned at the second curved portion is fed by the feed roller at the first speed, which is relatively low. By this, the possibility that paper dust is generated from the medium or the medium is charged is reduced.

[0221] (K) The above-described medium transport device may be configured such that the control section rotates the feed roller so as to feed the medium at the first speed.

[0222] According to the above-described configuration, the possibility that paper dust is generated from the medium or the medium is charged is reduced.

[0223] (L) The above-described medium transport device may be configured such that the medium transport device further includes an acquisition section that acquires information relating to transport of the medium, wherein the control section determines an overlap amount between the preceding medium and the subsequent medium based on the information acquired by the acquisition section.

[0224] Depending on the length of the medium, a transport method, or the like, the first speed may change or the second speed may change. When the first speed, the second speed, or the like changes, it is necessary to change the overlap amount between the preceding medium and the subsequent medium. According to the above-described configuration, an appropriate overlap amount is determined based on information relating to transport of the medium. By this, a processing speed is maintained based on the information relating to transport of the medium.

[0225] (M) The above-described medium transport device may be configured such that an acquisition section that acquires information relating to transport of the medium, wherein based on the information acquired by the acquisition section, the control section selects a first mode in which the feed roller is rotated such that the preceding medium and the subsequent medium overlap each other, or a second mode in which the feed roller is rotated such that the preceding medium and the subsequent medium do not overlap each other.

[0226] According to the above-described configuration, it is also possible to transport the preceding medium and the subsequent medium without overlapping each other by the second mode.

[0227] (N) A recording device includes the above-described medium transport device and a recording section that records an image on the medium transported by the medium transport device, wherein the medium transport device continuously transports the medium on which recording is being performed by the recording section.

[0228] According to the above-described configuration, since the overlap between the preceding medium and the subsequent medium is eliminated before the leading edge of the subsequent medium reaches the registration roller, skew of the subsequent medium can be corrected by the registration roller.

[0229] (O) The above-described recording device may be configured such that the medium transport device includes a transport belt that faces the recording section and that, while attracting the medium to itself, transports the medium on

which recording is performed by the recording section and the transport belt is positioned downstream of the registration roller.

[0230] According to the above-described configuration, the medium that has passed the registration roller is attracted to the transport belt. This stabilizes the posture of the medium.

[0231] (P) A recording device includes the above-described medium transport device and a recording section that records an image on the medium transported by the medium transport device.

[0232] According to the above-described configuration, in the recording device, a decrease in a processing speed is suppressed.

[0233] (Q) A control method for a medium transport device, the medium transport device including a feed roller that feeds a medium, a transport roller that transports the medium fed by the feed roller, a registration roller that corrects skew of the medium transported by the transport roller, and a transport path extending from the feed roller toward the registration roller, wherein the transport path includes a curved portion extending while curving between the transport roller and the registration roller, the control method includes rotating the transport roller so as to transport the medium whose leading edge is positioned on the transport path at a first speed; rotating the registration roller so as to transport the medium whose leading edge has reached the registration roller at a second speed that is higher than the first speed; and rotating the feed roller such that a subsequent medium fed after a preceding medium overlaps with the preceding medium until a leading edge of the preceding medium reaches the registration roller.

[0234] According to the above-described method, the medium whose leading edge is positioned on the transport path is transported by the transport roller at the first speed, which is relatively low. By this, the possibility that paper dust is generated from the medium or the medium is charged is reduced. A decrease in a processing speed is suppressed by the feed roller feeding the medium such that the subsequent medium overlaps the preceding medium.

[0235] (R) A control method for a medium transport device, the medium transport device including a feed roller that feeds a medium, a transport roller that transports the medium fed by the feed roller, a registration roller that corrects skew of the medium transported by the transport roller, and a transport path extending from the feed roller toward the registration roller, wherein the transport path includes a curved portion extending while curving between the transport roller and the registration roller, and an upstream portion positioned upstream of the curved portion and having a curvature smaller than that of the curved portion, the control method includes rotating the transport roller so as to transport the medium whose leading edge is positioned at the curved portion at a first speed; rotating the transport roller so as to transport the medium whose leading edge is positioned at the upstream portion at a second speed that is higher than the first speed; rotating the registration roller so as to transport the medium whose leading edge has reached the registration roller at the second speed; and rotating the feed roller such that a subsequent medium fed after a preceding medium overlaps with the preceding medium until a leading edge of the preceding medium reaches the registration roller.

[0236] According to the above-described method, the medium whose leading edge is positioned at the curved portion is transported by the transport roller at the first speed, which is relatively low. By this, the possibility that paper dust is generated from the medium or the medium is charged is reduced. A decrease in a processing speed is suppressed by the feed roller feeding the medium such that the subsequent medium overlaps the preceding medium.

What is claimed is:

1. A medium transport device comprising:
- a feed roller that feeds a medium;
- a transport roller that transports the medium fed by the feed roller;
- a registration roller that corrects skew of the medium transported by the transport roller;
- a transport path extending from the feed roller toward the registration roller; and
- a control section that rotates the transport roller so as to transport the medium at a first speed and that rotates the registration roller so as to transport the medium at a second speed that is higher than the first speed, wherein
- the transport path includes a curved portion extending while curving between the transport roller and the registration roller and
- the control section rotates the feed roller such that a subsequent medium fed next after a preceding medium overlaps the preceding medium until a leading edge of the preceding medium reaches the registration roller.

2. The medium transport device according to claim **1**, wherein
- the control section rotates the transport roller so as to transport the medium whose leading edge is positioned on the transport path at the first speed.

3. The medium transport device according to claim **2**, wherein
- when the leading edge of the medium reaches the registration roller, the control section switches the transport roller to a state of not applying a transporting force to the medium.

4. The medium transport device according to claim **2**, wherein
- the control section rotates the feed roller such that an overlap between the preceding medium and the subsequent medium is eliminated before a leading edge of the subsequent medium reaches the registration roller.

5. The medium transport device according to claim **2**, wherein
- the transport roller is a first transport roller,
- the medium transport device includes a second transport roller positioned upstream of the first transport roller, and
- the control section rotates the second transport roller so as to transport the subsequent medium at the first speed after the preceding medium passes the second transport roller.

6. The medium transport device according to claim **1**, wherein
- the transport path includes an upstream portion positioned upstream of the curved portion,
- the upstream portion is a portion having a smaller curvature than the curved portion, and
- the control section rotates the transport roller so as to transport the medium whose leading edge is positioned at the curved portion at the first speed, and rotates the

transport roller so as to transport the medium whose leading edge is positioned at the upstream portion at the second speed.

7. The medium transport device according to claim **6**, wherein

the control section rotates the feed roller such that an overlap between the preceding medium and the subsequent medium is eliminated before a leading edge of the subsequent medium reaches the registration roller.

8. The medium transport device according to claim **6**, wherein

the curved portion is positioned between the upstream portion and the registration roller,

the transport roller is positioned at the upstream portion, and

the control section rotates the transport roller so as to transport the preceding medium and the subsequent medium at the second speed until the preceding medium passes the transport roller.

9. The medium transport device according to claim **8**, wherein

the control section rotates the transport roller so as to transport the subsequent medium at the first speed after the preceding medium passes the transport roller.

10. The medium transport device according to claim **6**, wherein

the curved portion is a first curved portion,

the transport path includes a second curved portion positioned upstream of the upstream portion,

the second curved portion is a portion with having a larger curvature than the upstream portion,

the feed roller feeds the medium along the second curved portion, and

the control section rotates the feed roller so as to feed the medium whose leading edge is positioned at the second curved portion at the first speed.

11. The medium transport device according to claim **1**, wherein

the control section rotates the feed roller so as to feed the medium at the first speed.

12. The medium transport device according to claim **11**, further comprising:

an acquisition section that acquires information relating to transport of the medium, wherein

the control section determines an overlap amount between the preceding medium and the subsequent medium based on the information acquired by the acquisition section.

13. The medium transport device according to claim **1**, further comprising:

an acquisition section that acquires information relating to transport of the medium, wherein

based on the information acquired by the acquisition section, the control section selects a first mode in which the feed roller is rotated such that the preceding medium and the subsequent medium overlap each other, or a second mode in which the feed roller is rotated such that the preceding medium and the subsequent medium do not overlap each other.

14. A recording device comprising:

the medium transport device according to claim **4** and

a recording section that records an image on the medium transported by the medium transport device, wherein

the medium transport device continuously transports the medium on which recording is being performed by the recording section.

15. The recording device according to claim **14**, wherein

the medium transport device includes a transport belt that faces the recording section and that, while attracting the medium to itself, transports the medium on which recording is performed by the recording section and

the transport belt is positioned downstream of the registration roller.

16. A recording device comprising:

the medium transport device according to claim **1** and

a recording section that records an image on the medium transported by the medium transport device.

17. A control method for a medium transport device, the medium transport device including a feed roller that feeds a medium, a transport roller that transports the medium fed by the feed roller, a registration roller that corrects skew of the medium transported by the transport roller, and a transport path extending from the feed roller toward the registration roller, wherein the transport path includes a curved portion extending while curving between the transport roller and the registration roller,

the control method comprising:

rotating the transport roller so as to transport the medium whose leading edge is positioned on the transport path at a first speed;

rotating the registration roller so as to transport the medium whose leading edge has reached the registration roller at a second speed that is higher than the first speed; and

rotating the feed roller such that a subsequent medium fed after a preceding medium overlaps with the preceding medium until a leading edge of the preceding medium reaches the registration roller.

18. A control method for a medium transport device, the medium transport device including a feed roller that feeds a medium, a transport roller that transports the medium fed by the feed roller, a registration roller that corrects skew of the medium transported by the transport roller, and a transport path extending from the feed roller toward the registration roller, wherein the transport path includes a curved portion extending while curving between the transport roller and the registration roller, and an upstream portion positioned upstream of the curved portion and having a curvature smaller than that of the curved portion,

the control method comprising:

rotating the transport roller so as to transport the medium whose leading edge is positioned at the curved portion at a first speed;

rotating the transport roller so as to transport the medium whose leading edge is positioned at the upstream portion at a second speed that is higher than the first speed;

rotating the registration roller so as to transport the medium whose leading edge has reached the registration roller at the second speed; and

rotating the feed roller such that a subsequent medium fed after a preceding medium overlaps with the preceding medium until a leading edge of the preceding medium reaches the registration roller.

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