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(57) Provided are a fabric conveyance device and an inkjet recording apparatus capable of appropriately maintaining the surface of a fabric. The fabric conveyance device includes a conveyance belt (12) that moves a fabric placed thereon in a predetermined direction, and a

first roller (16) that presses the fabric placed on the conveyance belt (12) against the conveyance belt (12). The first roller (16) is frictionally charged with the same polarity as the fabric that is conveyed by the conveyance belt (12).

Description

Technical Field

[0001] The present invention relates to a fabric conveyance device and an inkjet recording apparatus.

Background Art

[0002] There are inkjet recording apparatuses that eject ink to form an image and/or a coating on various types of media. Such media include fabric.

[0003] There is known an inkjet recording apparatus for fabric that presses a long piece of fabric against a conveyance belt with a pressing roller such that the fabric adheres flatly to the conveyance belt, and ejects ink to form an image on the fabric while conveying the fabric by moving the conveyance belt (see, for example, JP 09-254366A).

Summary of Invention

Technical Problem

[0004] However, when conveying the fabric, static electricity is generated between the fabric and the roller as the roller contacts and separates from the fabric. This static electricity naps and raises the fabric surface. Therefore, it is not possible to maintain the surface in a suitable condition.

[0005] An object of the present invention is to provide a fabric conveyance device and an inkjet recording apparatus capable of maintaining the surface of fabric in a suitable condition.

Solution to Problem

[0006] In order to achieve at least one of the above-described object, according to an aspect of the present invention, a fabric conveyance device comprises:

a conveyance member that moves a fabric placed thereon in a predetermined direction; and
a first roller that presses the fabric placed on the conveyance member against the conveyance member;
wherein the first roller is frictionally charged with a same polarity as the fabric that is conveyed by the conveyance member.

[0007] The fabric conveyance device may further comprise: a second roller disposed upstream of the first roller in the predetermined direction;
wherein a pressing force with which the first roller presses the fabric against the conveyance member is less than a pressing force with which the second roller presses the fabric against the conveyance member.

[0008] It is preferred that a surface of the second roller

is made of a material containing fluorine resin or silicone.

[0009] It is preferred that an adhesive for adhesion of the fabric is applied to a conveyance surface of the conveyance member on which the fabric is placed.

[0010] It is preferred that a surface of the first roller is made of a nylon-based resin material.

[0011] It is preferred that the first roller is held in such a manner as to press the fabric with a self-weight thereof.

[0012] The fabric conveyance device may further comprise: a pressing adjuster that adjusts the pressing force with which the first roller presses the fabric.

[0013] The fabric conveyance device may further comprise: a restrictor that restricts movement of the first roller in a direction opposite to a pressing direction of the first roller.

[0014] The fabric conveyance device may further comprise: a retractor that retracts the first roller in a direction away from the conveyance surface of the conveyance member on which the fabric is placed.

[0015] The fabric conveyance device may further comprise: a retractor that retracts the first roller in a direction away from the conveyance surface of the conveyance member on which the fabric is placed;

wherein the retractor retracts the first roller together with the second roller.

[0016] According to another aspect of the present invention, an inkjet recording apparatus comprises:

the above-described fabric conveyance device; and
a recorder that ejects ink onto the fabric that is conveyed.

Advantageous Effects of Invention

[0017] According to an aspect of the present invention, a fabric conveyance device is provided that is capable of maintaining the surface of fabric in a suitable condition.

Brief Description of Drawings

[0018]

FIG. 1 is a schematic diagram illustrating the overall configuration of an inkjet recording apparatus;
FIG. 2A is an enlarged front view illustrating a first roller, a second roller, and a third roller;
FIG. 2B is an enlarged front view illustrating the first roller, the second roller, and the third roller;
FIG. 3A illustrates a modification of the configuration of the first roller and the second roller; and
FIG. 3B illustrates the modification of the configuration of the first roller and the second roller.

Description of Embodiments

[0019] Hereinafter, embodiments of the present invention will be described with reference to the accompanying drawings.

[0020] FIG. 1 is a schematic diagram illustrating the overall configuration of an inkjet recording apparatus 1 according to an embodiment.

[0021] The inkjet recording apparatus 1 includes a conveyor 10, a recorder 30, and a separator 50.

[0022] The conveyor 10, which is a fabric conveyance device according to the present embodiment, includes a driving roller 11, a conveyance belt 12 (conveyance member), a driven roller 13, a conveyance motor 14, a first roller 16, a second roller 17, and a third roller 18.

[0023] The conveyance belt 12 is an endless member and extends around the driving roller 11 and the driven roller 13. The conveyance belt 12 rotates along a rotation path, in accordance with the rotation of the driving roller 11 that is driven by the conveyance motor 14. The conveyor 10 moves the conveyance belt 12 to move the outer peripheral surface thereof as a conveyance surface relative to the recorder 30 in a predetermined conveyance direction (predetermined direction). The conveyor 10 thus performs a conveyance operation to move a recording medium M (fabric as will be described below) placed on the conveyance surface at a predetermined conveyance speed in the conveyance direction. The conveyance belt 12 is made of a material that flexibly bends at the contact surfaces with the driving roller 11 and the driven roller 13 and reliably supports the recording medium M. The conveyance belt 12 may be, for example, a belt made of resin such as rubber. The driven roller 13 rotates with the movement of the conveyance belt 12.

[0024] The conveyance belt 12 is formed and treated so as to prevent the recording medium M placed thereon from lifting. For example, an adhesive 12a for adhesion of the recording medium M is applied to the surface (conveyance surface) of the conveyance belt 12. The recording medium M contacts the conveyance surface at the upstream side in the conveyance direction with respect to an image recording position where the recorder 30 performs an image recording operation. Then, the recording medium M is held and pressed between the second roller 17 and the third roller 18, and is thus smoothed out to adhere to the conveyance surface. Subsequently, the recording medium M is slightly pressed against the conveyance surface by the first roller 16 to reduce nap on its surface and raised edges of the fabric from the conveyance belt 12 (collectively referred to as "nap and the like").

[0025] When the recording medium M is on the conveyance path (that is, a movement path from where the recording medium M adheres to the conveyance surface to where the recording medium M is separated from the conveyance surface), an image is formed on its surface by the recorder 30. After the image is formed, the separator 50 operates such that the recording medium M is pulled in a direction away from the conveyance belt 12 (upward in FIG. 1) by a separation roller 51 with a predetermined force or greater. Thus, the recording medium M is pulled off and separated from the conveyance surface. The adhesive 12a may be applied regularly, or oc-

asionally in accordance with the status of adhesion, by the user or the operator.

[0026] The recording medium M in this embodiment is, for example, fabric of wool, silk, cotton, rayon, linen or the like. After the recording medium M is separated from the conveyance surface by the operation of the separator 50, a plurality of images formed at appropriate intervals on the recording medium M are dried (ink is fixed) by a post-processing device (not illustrated). Then, the recording medium M is rolled up or subjected to flicking, and/or cut into pieces.

[0027] The conveyance motor 14 is controlled by a hardware processor (not illustrated) so as to rotate the driving roller 11 at a predetermined rotational speed. The conveyance motor 14 can rotate the driving roller 11 also in the reverse direction that is opposite to the normal conveyance direction. Thus, the conveyance belt 12 conveys the recording medium M at a conveyance speed corresponding to the rotational speed of the driving roller 11.

[0028] The first roller 16 is a lightweight pressing roller. The first roller 16 presses the recording medium M against the conveyance belt 12 so as to reduce nap and the like and smooth out the surface.

[0029] The second roller 17 presses the recording medium M against the conveyance surface and removes wrinkles on the surface and lifting from the conveyance surface. The pressing force of the second roller 17 with respect to the recording medium M is greater than the pressing force of the first roller 16.

[0030] The third roller 18 is a backup roller that supports the conveyance belt 12 and prevents the conveyance belt 12 and the recording medium M on the conveyance belt 12 from bending in the pressing direction when the second roller 17 presses the recording medium M. In this embodiment, the third roller 18 is a driven roller that is in contact with the conveyance belt 12 and rotates with the movement of the conveyance belt 12.

[0031] The recorder 30 performs a recording operation so as to eject ink from a nozzle onto the surface of the recording medium M (the opposite surface from the surface in contact with the conveyance surface). The recorder 30 may be capable of ejecting inks of different colors. The number and type of colors of ink that can be ejected are not specifically limited. The recorder 30 includes, for example, four head units (not illustrated) that eject inks of four colors, yellow, magenta, cyan, and black, respectively. Each of the head units is, but not limited to, a line head that includes nozzles arranged in one dimension or two dimensions in a plane parallel to the conveyance surface and whose width range of the arrangement area is determined in accordance with the recordable width of the recording medium M that can be conveyed by the conveyance belt 12.

[0032] The separator 50 pulls the recording medium M off the conveyance belt 12 at an appropriate position when the recording medium M attached on the conveyance surface is conveyed by the conveyance belt 12 of

the conveyer 10, and conveys the recording medium M to the post-processing device (not illustrated). The separator 50 includes the separation roller 51 and a separation motor 52.

[0033] When the recording medium M attached on the conveyance belt 12 is conveyed to the separation roller 51, the separation roller 51 pulls up the recording medium M from the outer peripheral surface of the conveyance belt 12 with a predetermined force in accordance with the rotation of the separation motor 52. Thus, the separation roller 51 pulls the recording medium M off the conveyance surface and conveys the recording medium M to the post-processing device. The surface of the separation roller 51 is preferably made of a material that exhibits high friction against the recording medium M.

[0034] The separation motor 52 rotates the separation roller 51 at a rotational speed corresponding to a control signal. Usually, the separation motor 52 rotates the separation roller 51 so as to pull up the recording medium M at a speed synchronized with the conveyance speed of the recording medium M.

[0035] In the following, the first roller 16, the second roller 17, and the third roller 18 will be described in detail.

[0036] FIGS. 2A and 2B are enlarged front views each illustrating the first roller 16, the second roller 17, and the third roller 18.

[0037] As illustrated in FIG. 2A, the third roller 18 is normally in a fixed position to maintain the height of the conveyance belt 12. The height of the position of contact between the third roller 18 and the conveyance belt 12 may be appropriately adjustable so as to be on the line connecting the point where the conveyance belt 12 contacts the driving roller 11 and the point where the conveyance belt 12 separates from the driven roller 13.

[0038] The second roller 17 rotates about a rotating shaft 171. In this embodiment, the rotating shaft 171 is fixed to arms 192 held by supports 191 disposed at the opposite ends in the width direction of the conveyance belt 12. Each arm 192 is movable by an air cylinder (not illustrated) with respect to the support 191 in the direction of the line passing through the center of the third roller 18 and the center of the second roller 17, that is, the vertical direction in this embodiment. The pressing force with respect to the recording medium M is determined in accordance with the thickness of the recording medium M and the height of the second roller 17. In this embodiment, the pressing force thus determined is large enough to remove lifting and wrinkles of the recording medium M on the conveyance belt 12.

[0039] The surface of the second roller 17 is made of a material that has high durability and that does not cause degradation such as separation or alteration of the adhesive 12a applied to the surface of the conveyance belt 12. The material of the surface of the second roller 17 in this embodiment mainly contains, for example, fluorine resin or silicone. These surface materials may be disposed on the entire surface of the second roller 17, or may be disposed in a stripe pattern, a mesh pattern, or

a lattice pattern, to cover the surface in an appropriate proportion or greater.

[0040] Fluorine resin and silicone, which are materials easily negatively charged by contact and friction against other dielectrics, are on the negative side with respect to, for example, paper (plain paper) in the triboelectric series. In this embodiment, such materials are regarded as being negatively frictionally charged. Meanwhile, the fabrics used as the recording media M, in particular, wool, silk, and rayon mentioned above, which are materials easily positively charged by contact and friction against other dielectrics, and are on the positive side with respect to paper in the triboelectric series. In this embodiment, such materials are regarded as being positively frictionally charged. Accordingly, even when lifting and wrinkles are removed by pressing, static electricity is likely to be generated at the time of separation, which may produce nap on the fabric and the like. The nap and the like thus produced reduce the quality of images to be recorded. Moreover, the fibers of the fabric raised from the conveyance surface due to the nap and the like may contact the bottom surface (the surface facing the recording medium M and the conveyance belt 12) of the recorder 30, and damage and degrade the recorder 30.

[0041] In the inkjet recording apparatus 1, the first roller 16 is disposed downstream of the second roller 17 in the conveyance direction in the area where the recording medium M is placed on the conveyance surface so as to reduce nap of the fabric and the like. The surface of the first roller 16 is mainly coated with, for example, a nylon-based resin material. The nylon-based resin material is a material that is positively frictionally charged, and has the same polarity (is on the same side with respect to paper) as the above-mentioned fabrics to be conveyed. Thus, when the nylon-based resin material having the same polarity as the fabrics in the triboelectric series, in particular, the nylon-based resin material close to the fabrics in the triboelectric series contacts and/or separates from the fabrics, large static electricity is not likely to be generated. After the second roller 17 disposed upstream of the first roller 16 in the conveyance direction presses the fabric, the first roller 16 described above presses the fabric again, thereby reducing nap of the fabric and the like. Similar to the second roller 17, the surface of the first roller 16 does not have to be entirely uniformly coated with the nylon-based resin material, but may be partially coated therewith. The first roller 16 may have an uneven surface formed by embossing.

[0042] On the other hand, the nylon-based resin material affects the adhesive 12a on the conveyance surface more than fluorine resin and silicone. To prevent degradation of the adhesive 12a on the conveyance belt 12 due to pressing by the first roller 16, the pressing force of the first roller 16 is selected to be less than the pressing force of the second roller 17. That is, since lifting and wrinkles are removed by the second roller 17, the first roller 16 only needs to reduce nap and the like.

[0043] The first roller 16 includes a rotating shaft 161

extending between and held in grooves of holders 193 disposed at the opposite ends in the width direction of the conveyance belt 12. The first roller 16 is vertically movable in the grooves. As the bottom surface of each groove is fixed below the conveyance surface, the surface of the first roller 16 contacts the recording medium M (and the conveyance surface of the conveyance belt 12), and the first roller 16 presses the recording medium M with its own weight.

[0044] As illustrated in FIG. 2B, each holder 193 may include a restrictor 194 (pressing adjuster). The restrictor 194 presses the rotating shaft 161 of the first roller 16 from the upper side and restricts temporary upward movement of the first roller 16 (in the direction opposite to the pressing direction), such as bouncing due to the presence or absence of the recording medium M and the irregularities of the recording medium M. Thus, the restrictor 194 serves as a restrictor. The restrictor 194 may be fixed within a range in which the downward pressing force of the first roller 16 is not significantly increased. This allows the first roller 16 to stably and continuously press the recording medium M.

[0045] Alternatively, the restrictor 194 may be capable of pressing down the rotating shaft 161 of the first roller 16 at a set pressure using a motor or an elastic member such as a spring (not illustrated). This allows adjustment of the pressing force of the first roller 16 to an appropriate value depending on the material. The self-weight (that is, pressing force) of the first roller 16 may be adjusted by attaching a weight to a rotating shaft 161. The weight may be manually attached and removed by the user. In this manner, the restrictor 194 serves as a pressing adjuster.

[0046] The holder 193 may serve as a retractor and can be moved upward relative to the support 191. When the holder 193 is moved upward (in a direction away from the conveyance surface) while the rotating shaft 161 of the first roller 16 is in contact with the bottom surface of the groove, the first roller 16 is separated and retracted from the recording medium M and the conveyance surface.

Modifications

[0047] FIGS. 3A and 3B illustrate a modification of the configuration of the first roller 16 and the second roller 17 of FIGS. 2A and 2B.

[0048] In this modification, as illustrated in FIG. 3A, an interlock fixing plate 195 is fixed to each arm 192a, and the rotating shaft 171 of the second roller 17 is fixed to the interlock fixing plate 195. The interlock fixing plate 195 has an opening 1921 extending vertically, and the rotating shaft 161 of the first roller 16 is vertically movable within the opening 1921.

[0049] Further, as illustrated in FIG. 3B, when the interlock fixing plate 195 is moved upward while the first roller 16 is in contact with the bottom of the opening 1921, the first roller 16 is separated and retracted from the con-

veyance surface and the recording medium M, together with the second roller 17. This retraction operation may be performed under control of the hardware processor every time an image recording operation is suspended, or may be performed when an image recording operation and/or a conveyance operation is stopped for more than a predetermined time. Further, the first roller 16 may be retractable manually by the user.

[0050] In this modification, the restrictor 194 is not illustrated. However, the restrictor 194 may be provided. In this case, the restrictor 194 may press the shaft of the first roller 16 from the upper side and retract in conjunction with the vertical movement of the interlock fixing plate 195. The restrictor 194 may be displaced by being pushed up with a predetermined force or greater. Alternatively, the user of the inkjet recording apparatus 1 may simply manually move the restrictor 194.

[0051] As described above, the conveyer 10 of the present embodiment, which is an embodiment of the fabric conveyance device, includes the conveyance belt 12 that moves a fabric placed thereon in a predetermined direction, and the first roller 16 that presses the fabric placed on the conveyance belt 12 against the conveyance belt 12. The first roller 16 is frictionally charged with the same polarity as the fabric to be conveyed by the conveyance belt 12.

[0052] Since the roller has charging characteristics closer to those of fabric than in the related art, it is possible to reduce nap of fabric and raised edges due to static electricity generated by contact/separation between the fabric and the first roller 16. Therefore, the surface of the fabric can be appropriately maintained. Accordingly, in the inkjet recording apparatus 1, it is possible to prevent the fabric from damaging the nozzle face of the recorder 30, from jamming in other parts, and from adversely affecting adhesion of ejected ink.

[0053] The conveyer 10 includes the second roller 17 disposed upstream of the first roller 16 in the conveyance direction in the conveyance area of the recording medium M. The pressing force with which the first roller 16 presses the recording medium M against the conveyance belt 12 is less than the pressing force with which the second roller 17 presses the recording medium M against the conveyance belt 12.

[0054] Thus, wrinkles and lifting of the recording medium M are removed using the second roller 17, and the pressing force of the first roller 16 is reduced to the level required to reduce nap and the like. Accordingly, it is possible to prevent the first roller 16 from negatively affecting the conveyance belt 12 and the adhesive 12a on the surface thereof.

[0055] Further, the surface of the second roller 17 is made of a material containing fluorine resin or silicone.

[0056] The second roller 17 is made of a material that emphasizes the durability and the reduced influence on the conveyance belt 12 and the adhesive 12a as in the related art while the first roller 16 is disposed downstream of the second roller 17 to reduce nap and the like. This

configuration is efficient because the surface of the rollers and the conveyance surface can be maintained in a good condition for a longer time than in the case where only the first roller 16 is used to reduce wrinkles and lifting as well as to reduce nap and the like.

[0057] Further, the adhesive 12a for adhesion of the recording medium M is applied to the conveyance surface of the conveyance belt 12. Therefore, it is possible to fix the recording medium M to the conveyance surface of the conveyance belt 12 more appropriately when conveying the recording medium M. Further, especially in the case where the adhesive 12a is applied to the conveyance surface as described above, by using both the first roller 16 and the second roller 17, it is possible to reduce the influence of the first roller 16 on the adhesive 12a and to achieve adhesion of the recording medium M to the conveyance surface while effectively reducing nap and the like.

[0058] The surface of the first roller 16 is made of a nylon-based resin material. Therefore, it is possible to effectively reduce nap and the like of the recording medium M, and reduce the influence on the adhesive 12a.

[0059] The first roller 16 is held in such a manner to press the recording medium M with its own weight. This can simplify the configuration of the first roller 16 and the structure for rotational movement. Therefore, it is possible to prevent an increase in size and cost due to complex structure.

[0060] The conveyor 10 may include the restrictor 194 or a weight as a pressing adjuster that adjusts the pressing force with which the first roller 16 presses the recording medium M. Accordingly, it is possible to easily apply an appropriate pressing force to the recording medium M in the case where the appropriate pressing force of the first roller 16 varies in accordance with the type of the recording medium M.

[0061] The conveyor 10 includes the restrictor 194 that restricts movement of the first roller 16 in the direction opposite to the pressing direction of the first roller 16. As described above, the pressing force of the first roller 16 is less than the pressing force of the second roller 17. Therefore, when the recording medium M has irregularities, the first roller 16 easily bounces and may fail to appropriately press the recording medium M with a stable pressing force. To cope with this issue, the restrictor 194 is disposed on the upper side of the rotating shaft 161 of the first roller 16 so as to restrict the upward movement (in the direction opposite to the pressing direction). Thus, it is possible to reduce changes in the position of the first roller 16 without applying unnecessary pressure to the first roller 16, and to continuously apply a pressing force to the recording medium M more stably.

[0062] Further, the conveyor 10 includes the holders 193 serving as a retractor that retracts the first roller 16 in a direction away from the conveyance surface of the conveyance belt 12 on which the recording medium M is placed. Thus, when it is not necessary to press the recording medium M, the first roller 16 can be separated

from the conveyance surface. This can reduce the influence on the conveyance surface, in particular, the adhesive 12a. Further, it is possible to prevent the first roller 16 from applying a pressing force to the same position on the recording medium M while conveyance is stopped, and eventually damaging the recording medium M when conveyance is stopped.

[0063] The retractor retracts the first roller 16 together with the second roller 17 by using the interlock fixing plate 195. That is, in the case where the recording medium M does not have to be pressed, the first roller 16 and the second roller 17 can be separated from the recording medium M by using a lift mechanism such as a single motor. This allows easy configuration and simplification of the control operation.

[0064] The inkjet recording apparatus 1 of the present embodiment includes the above-described conveyor 10 and the recorder 30 that ejects ink onto the conveyed recording medium M.

[0065] Thus, the inkjet recording apparatus 1 using the conveyor 10 can appropriately form an image on the surface of the recording medium M while effectively reducing nap and the like on a fabric used as the recording medium M.

[0066] The present invention is not limited to the embodiment described above, and various modifications may be made.

[0067] For example, in the above embodiment, the operation of reducing nap and the like and the operation of removing lifting and wrinkles are separately performed by the first roller 16 and the second roller 17, respectively. However, the first roller 16 may perform both the operations. In this case, the adhesive 12a may be applied to the conveyance surface at required intervals.

[0068] In the above embodiment, the pressing force of the first roller 16 is less than the pressing force of the second roller 17. However, the pressing force of the first roller 16 may be selected to be equal to or greater than the pressing force of the second roller 17 in accordance with, for example, whether the adhesive 12a is present and/or the relationship between the adhesive 12a and the first roller 16.

[0069] In the above embodiment, the adhesive 12a is applied to the conveyance surface. However, the fabric does not have to be fixed to the conveyance surface using the adhesive 12a. A specific configuration for fixing the fabric does not have to be provided. Alternatively, a configuration for reducing lifting of the fabric by static electricity or by an air flow may be provided.

[0070] In the above embodiment, nylon-based resin material is used for the first roller 16, and fluorine resin or silicone is used for the second roller 17. However, the present invention is not limited thereto. The materials that can be used for the first roller 16 are frictionally charged with the same polarity as fabrics, that is, located on the positive side with respect to paper in the triboelectric series, and include, for example, aluminum and glass fiber.

[0071] In the above embodiment, the endless convey-

ance belt 12 is illustrated by way of example. However, this is not intended to preclude a conveyance belt 12 with ends. Further, the fabric that is conveyed by the conveyer 10 is not limited to a continuous piece of fabric. The fabric may be pieces of fabric cut and sewn in advance, and such pieces of fabric are conveyed at predetermined intervals. In this case, the conveyance belt 12 may have conveyance surfaces spaced apart at intervals corresponding to the conveyance intervals of fabric.

[0072] In the case of conveying a recording medium that does not require reduction of nap and the like, the conveyer 10 may be used with the first roller 16 removed. Alternatively, a plurality of first rollers 16 of different weights may be provided, and one of the first rollers 16 may be selected in accordance with the type of the recording medium M.

[0073] Further, the specific details such as configuration, structure, and material described in the above embodiments may be modified within the scope of the present invention.

Claims

1. A fabric conveyance device (10) comprising:

a conveyance member (12) that moves a fabric placed thereon in a predetermined direction; and
a first roller (16) that presses the fabric placed on the conveyance member against the conveyance member;
wherein the first roller is frictionally charged with a same polarity as the fabric that is conveyed by the conveyance member.

2. The fabric conveyance device according to claim 1, further comprising:

a second roller (17) disposed upstream of the first roller in the predetermined direction;
wherein a pressing force with which the first roller presses the fabric against the conveyance member is less than a pressing force with which the second roller presses the fabric against the conveyance member.

3. The fabric conveyance device according to claim 2, wherein a surface of the second roller is made of a material containing fluorine resin or silicone.

4. The fabric conveyance device according to any one of claims 1 to 3, wherein an adhesive (12a) for adhesion of the fabric is applied to a conveyance surface of the conveyance member on which the fabric is placed.

5. The fabric conveyance device according to any one

of claims 1 to 4, wherein a surface of the first roller is made of a nylon-based resin material.

6. The fabric conveyance device according to any one of claims 1 to 5, wherein the first roller is held in such a manner as to press the fabric with a self-weight thereof.

7. The fabric conveyance device according to any one of claims 1 to 5, further comprising: a pressing adjuster (194) that adjusts the pressing force with which the first roller presses the fabric.

8. The fabric conveyance device according to any one of claims 1 to 7, further comprising: a restrictor (194) that restricts movement of the first roller in a direction opposite to a pressing direction of the first roller.

9. The fabric conveyance device according to any one of claims 1 to 8, further comprising: a retractor (193) that retracts the first roller in a direction away from the conveyance surface of the conveyance member on which the fabric is placed.

10. The fabric conveyance device according to claim 2 or 3, further comprising:

a retractor that retracts the first roller in a direction away from the conveyance surface of the conveyance member on which the fabric is placed;
wherein the retractor retracts the first roller together with the second roller.

11. An inkjet recording apparatus (1) comprising:

the fabric conveyance device of any one of claims 1 to 10; and
a recorder (30) that ejects ink onto the fabric that is conveyed.

FIG.1

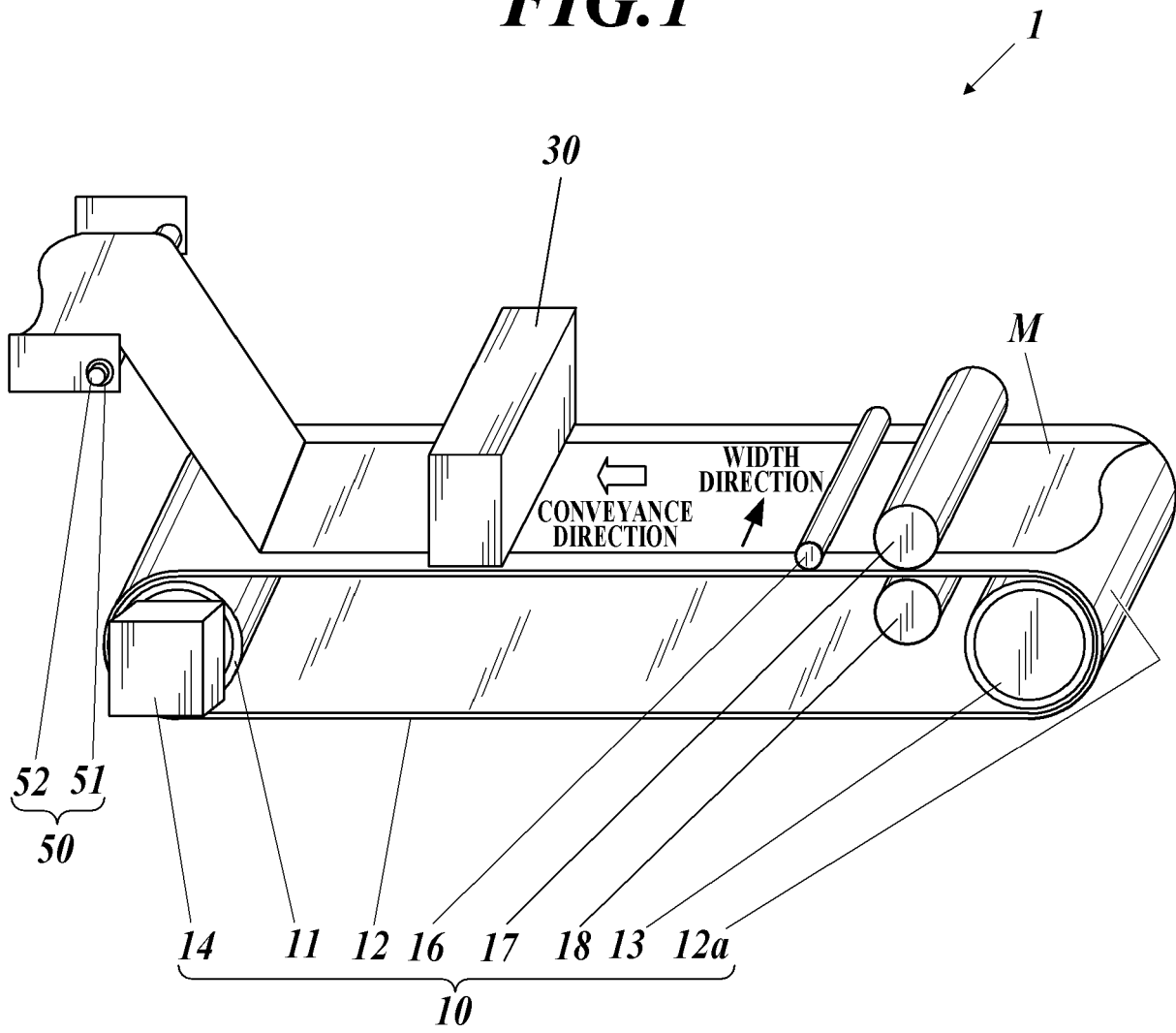


FIG.2A

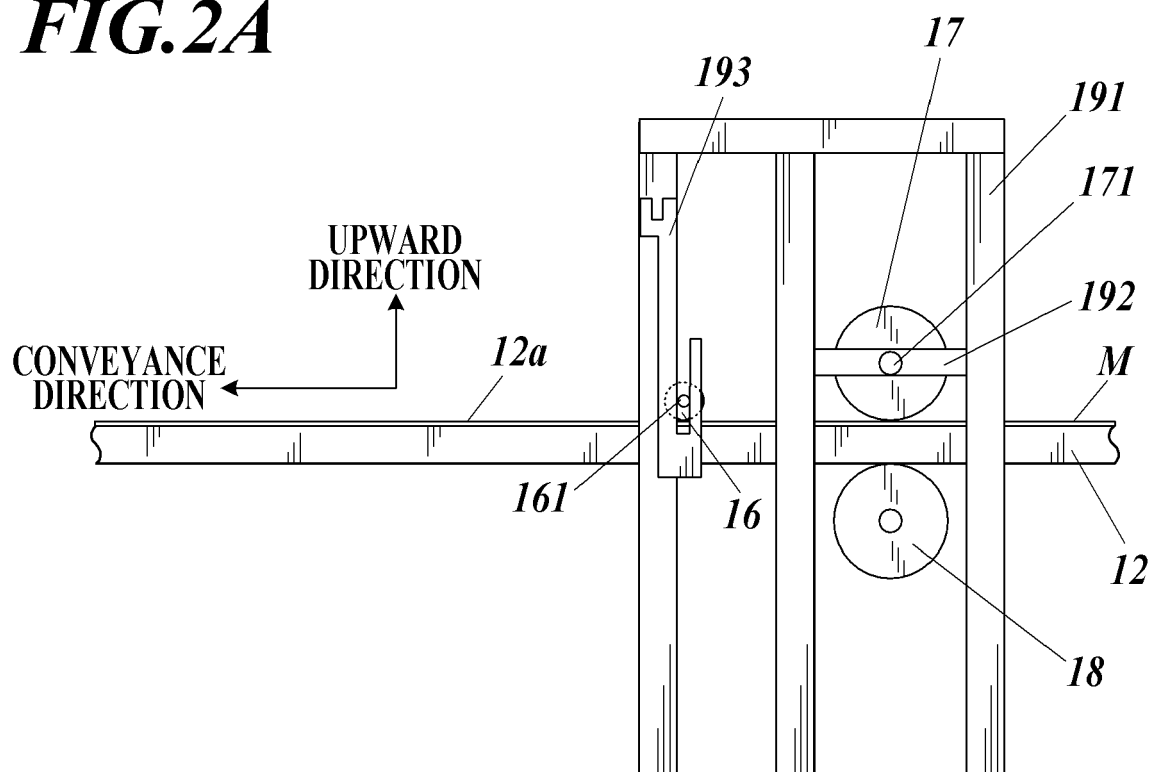


FIG.2B

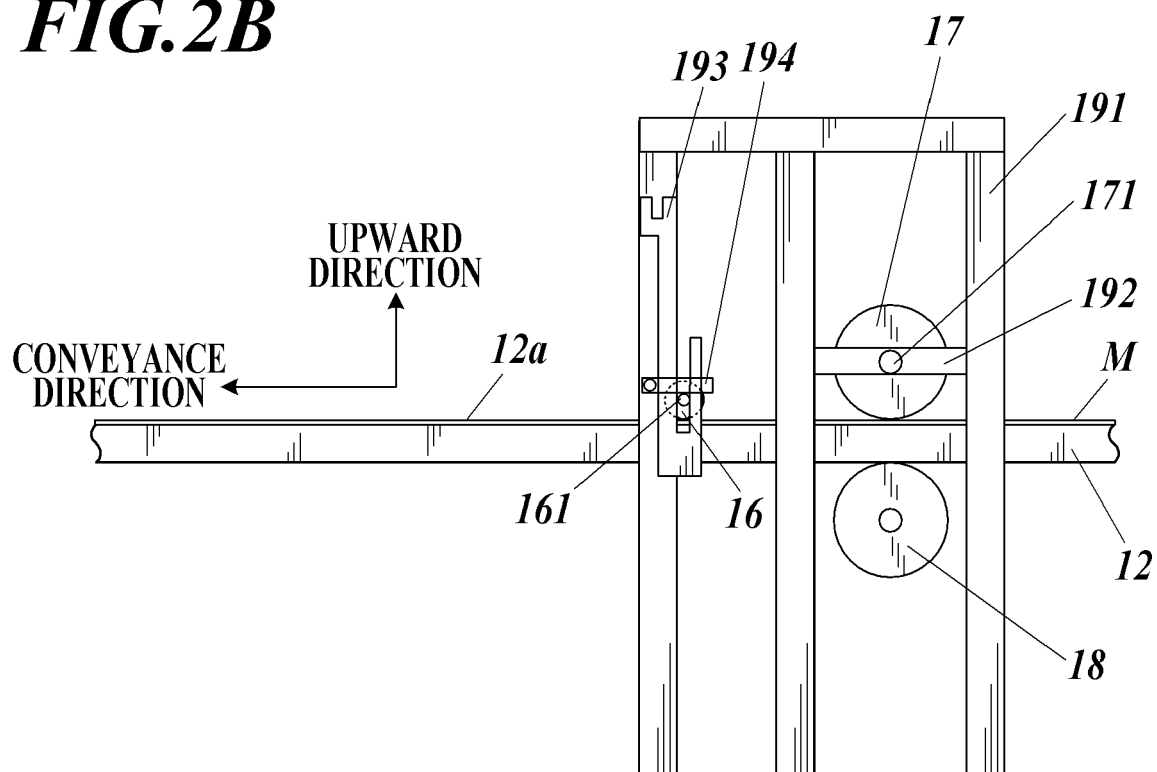


FIG.3A

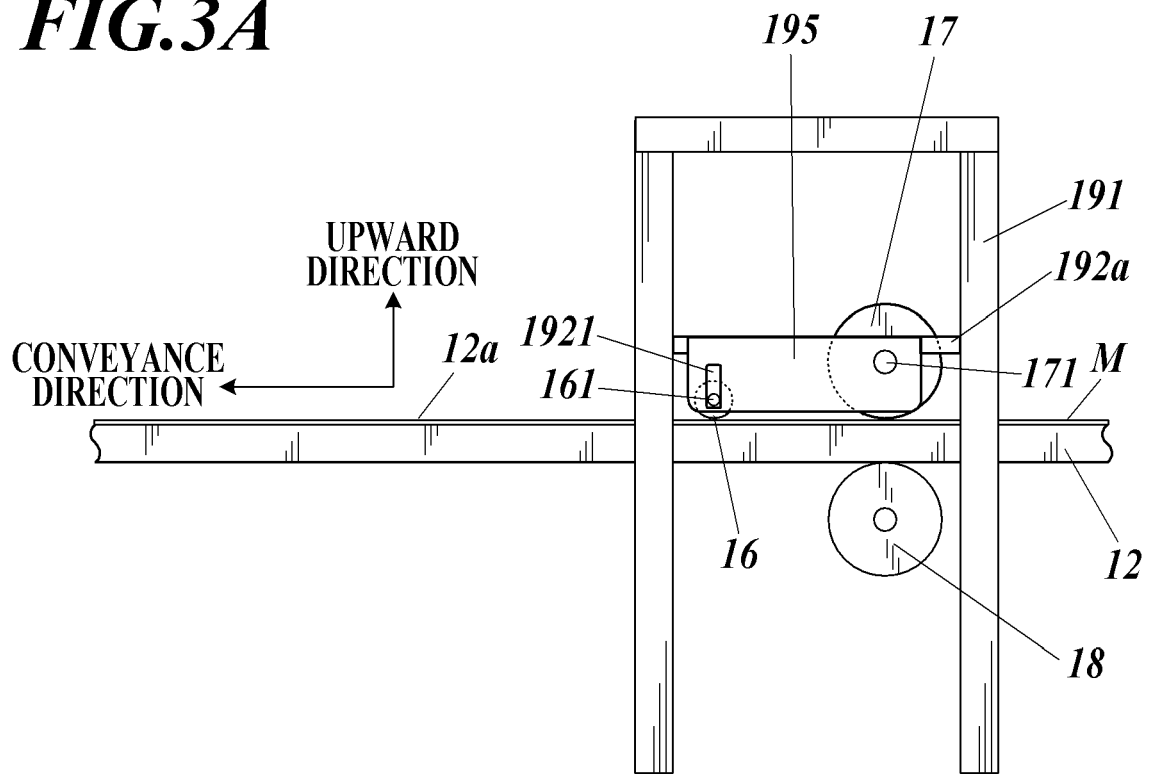
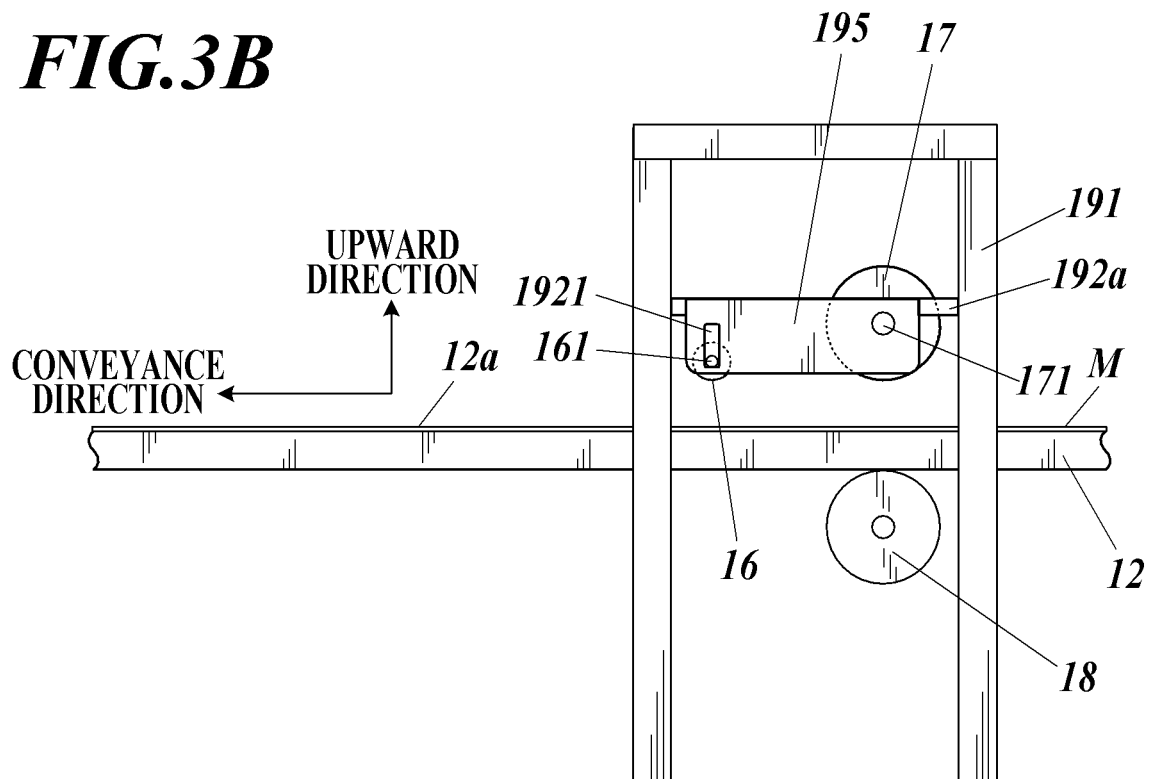


FIG.3B





EUROPEAN SEARCH REPORT

Application Number
EP 19 18 3815

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 2015/070432 A1 (IMOTO SHINJI [JP]) 12 March 2015 (2015-03-12)	1,8-11	INV. B65H20/02
A	* abstract; figure 7 * * paragraph [0068] * * paragraph [0077] * * paragraph [0158] - paragraph [0159] * * the whole document *	2-7	B41J3/407 B41J13/08 B41J15/04 B65H20/06 B65H23/025 B65H23/04 B65H23/16 D06P5/30 B41J11/00
X	US 2012/154472 A1 (SAKAMOTO ATSUSHI [JP] ET AL) 21 June 2012 (2012-06-21)	1,8-11	
A	* abstract; figures 1,3, 10 * * paragraph [0031] * * paragraph [0063] * * paragraph [0095] * * paragraph [0098] * * the whole document *	2-7	
			TECHNICAL FIELDS SEARCHED (IPC)
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