CLAIMS

1. An offset printing method that, by bringing a blanket roll that moves up and down by lift actuators into contact from above with a plate that is held on a plate table that travels on guide rails provided on a trestle, ~~and~~ next by bringing the blanket roll into contact from above with a print target that is held on a print target table that travels on the guide rails, performs a transfer from the plate to the blanket roll, and a retransfer from the blanket roll to the print target, and by detecting a contact pressure of the blanket roll that moves up and down by the lift actuators with respect to the plate and the print target by a pressure sensor,

wherein the offset printing method controls a vertical motion of the blanket roll by the lift actuators so that the contact pressure detected by the pressure sensor while the blanket roll makes contact with the plate that is held on the plate table, and the contact pressure detected by the pressure sensor while the blanket roll makes contact with the print target that is held on the print target table are respectively kept constant at a predetermined value, and

the rotation speed of the blanket roll and the travel speed of the plate table are set so that the circumferential speed based on the roll diameter of the deformed portion of the blanket roll when a deformation arises in the contact portion of the blanket roll with the plate by contacting the blanket roll to the plate so as to press against the plate with a predetermined pressure that is set in advance by performing control that makes constant the contact pressure.

2. An offset printing method that, by bringing a blanket roll that moves up and down by lift actuators into contact from above with a plate that is held on a plate table that travels on guide rails provided on a trestle, and next by bringing the blanket roll into contact from above with a print target that is held on a print target table that travels on the guide rails, performs a transfer from the plate to the blanket roll, and a retransfer from the blanket roll to the print target, and by detecting a contact pressure of the blanket roll that moves up and down by the lift actuators with respect to the plate and the print target by a pressure sensor,

wherein the offset printing method, after controlling a vertical motion of the blanket roll by the lift actuators so that the contact pressure detected by the pressure sensor when the blanket roll starts to make contact with the plate that is held on the plate table becomes a predetermined value, keeps the height of the blanket roll constant while the blanket roll is in contact with the plate that is held on the plate table, and moreover, after controlling the vertical motion of the blanket roll by the lift actuators so that the contact pressure detected by the pressure sensor when the blanket roll starts to make contact with the print target that is held on the print target table becomes a predetermined value, keeps the height of the blanket roll constant while the blanket roll is in contact with the print target that is held on the print target table, and

the rotation speed of the blanket roll and the travel speed of the plate table are set so that the circumferential speed based on the roll diameter of the deformed portion of the blanket roll when a deformation arises in the contact portion of the blanket roll with the plate by contacting the blanket roll to the plate so as to press against the plate with a predetermined pressure that is set in advance by performing control that makes constant the contact pressure.

3. An offset printing apparatus that is provided with a plate table and a print target table that travel on guide rails provided on a trestle and that, by successively bringing a blanket roll that moves up and down by lift actuators into contact from above with a plate that is held on the plate table and a print target that is held on the print target table, performs transfer from the plate to the blanket roll, and retransfer from the blanket roll to the print target,

wherein the offset printing apparatus is provided with a pressure sensor that detects the contact pressure of the blanket roll that is moves up and down by the lift actuators with respect to the plate and the print target, and moreover provided with a controller that has a function that issues commands to the lift actuators so that while performing transfer between the blanket roll and the plate, and while performing retransfer between the blanket roll and the print target, the contact pressure that is respectively input from the pressure sensor is kept constant at a predetermined value, and

the rotation speed of the blanket roll and the travel speed of the plate table are set so that the circumferential speed based on the roll diameter of the deformed portion of the blanket roll when a deformation arises in the contact portion of the blanket roll with the plate by contacting the blanket roll to the plate so as to press against the plate with a predetermined pressure that is set in advance by performing control that makes constant the contact pressure.

4. An offset printing apparatus that is provided with a plate table and a print target table that travel on guide rails provided on a trestle and that, by successively

bringing a blanket roll that moves up and down by lift actuators into contact from above with a plate that is held on the plate table and a print target that is held on the print target table, performs transfer from the plate to the blanket roll, and retransfer from the blanket roll to the print target,

wherein the offset printing apparatus is provided with a height sensor that detects the height of the blanket roll that moves up and down by the lift actuators, and a pressure sensor that detects the contact pressure of the blanket roll with respect to the plate and the print target, and moreover, provided with a controller that has a function that issues commands to the lift actuators so that, when starting transfer between the blanket roll and the plate, the contact pressure that is input from the pressure sensor becomes a predetermined value, and issues commands to the lift actuators based on the input from the height sensor so that the height of the blanket roll when the contact pressure that has been input from the pressure sensor has become a predetermined value is maintained while performing transfer between the blanket roll and the plate, and a function that issues commands to the lift actuators so that, when starting retransfer between the blanket roll and the print target, the contact pressure that is input from the pressure sensor becomes a predetermined value, and issues commands to the lift actuators based on the input from the height sensor so that the height of the blanket roll when the contact pressure that has been input from the pressure sensor has become a predetermined value is maintained while performing retransfer between the blanket roll and the print target, and

the rotation speed of the blanket roll and the travel speed of the plate table are set so that the circumferential speed based on the roll diameter of the deformed portion of the blanket roll when a deformation arises in the contact portion of the blanket roll

with the plate by contacting the blanket roll to the plate so as to press against the plate with a predetermined pressure that is set in advance by performing control that makes constant the contact pressure.

5. The offset printing apparatus according to claim 4, wherein the controller has a function that, in the case of eccentricity having arisen in the blanket roll when issuing commands to the lift actuators based on the input from the height sensor so that the height of the blanket roll when the contact pressure that has been input from the pressure sensor has become the respective predetermined value is maintained while performing transfer between the blanket roll and the plate, and while performing transfer between the blanket roll and the print target, adds a correction to the height that the blanket roll should be maintained at based on the eccentricity amount of the blanket roll.

6. An offset printing method that, by bringing a blanket roll that moves up and down by lift actuators, in the state of being rotated by a rotation drive motor, into contact from above with a plate that is held on a moving table that travels on guide rails on a trestle, and next by bringing the blanket roll into contact from above with a print target that is held on a moving table that travels on the guide rails, performs a transfer from the plate to the blanket roll, and a retransfer from the blanket roll to the print target,

wherein the offset printing method, prior to the plate on the plate table or the print target on the print target table advancing to directly below the blanket roll, measures in advance the height of the surface of the plate on the plate table or the print target on the print target table with the upper surface of the trestle serving as a reference

along the travel direction of the table during transfer, and next, when bringing the blanket roll into contact with the plate or the print target, controls the height on the trestle of the rotational center of the blanket roll to a height that is calculated by subtracting a predetermined target roll pressing amount from the sum of the height of the surface of the plate or print target that is measured in advance and the radius of the blanket roll, and

the rotation speed of the blanket roll and the travel speed of the plate table are set so that the circumferential speed based on the roll diameter of the deformed portion of the blanket roll when a deformation arises in the contact portion of the blanket roll with the plate by contacting the blanket roll to the plate so as to press against the plate with a predetermined pressure that is set in advance by performing control that makes constant the contact pressure.

7. An offset printing apparatus that, by successively bringing a blanket roll that moves up and down by lift actuators, in the state of being rotated by a rotation drive motor, into contact from above with a plate and a print target that are held on an individual or shared moving table that travels on guide rails on a trestle, performs a transfer from the plate to the blanket roll, and a retransfer from the blanket roll to the print target,

wherein a distance measurement sensor for measuring the distance with the surface of the plate on the plate table or the print target on the print target table is provided more to the upstream side in the table travel direction during transfer than the blanket roll, and moreover the offset printing apparatus is provided with a controller that has a function that computes and temporarily stores the surface height of the portion of

the plate on the plate table or the print target on the print target table that is positioned directly below the distance measurement sensor with the upper surface of the trestle serving as a reference, based on a signal that is input from the distance measurement sensor, and a function that, at the point in time of the portion being positioned directly below the rotational center of the blanket roll and making contact with the blanket roll, issues commands to the lift actuators to make the height of the rotational center of the blanket roll on the trestle agree with a height that is calculated by subtracting a predetermined target roll pressing amount from the sum of the height of the portion on the surface of the plate on the plate table or the print target on the print target table that is measured in advance and the radius of the blanket roll, and

the rotation speed of the blanket roll and the travel speed of the plate table are set so that the circumferential speed based on the roll diameter of the deformed portion of the blanket roll when a deformation arises in the contact portion of the blanket roll with the plate by contacting the blanket roll to the plate so as to press against the plate with a predetermined pressure that is set in advance by performing control that makes constant the contact pressure.

8. The offset printing apparatus according to claim 1, wherein

the difference in the deformation amounts of the blanket roll that occurs due to the difference in the contact press with respect to the plate and the print target is measured in advance, and in consideration of the change in the circumferential speed due to the difference in that deformation amount, the rotation speed of the blanket roll and the travel velocity of the plate table are corrected and set so that the circumferential speed based on the roll diameter of the deformation portion that occurs at the contact

portion between the blanket roll and the print target when the blanket roll is brought into contact with the print target at a predetermined contact pressure that is set in advance by performing contact pressure constant control, and the travel speed of the plate table agree.

9. The offset printing apparatus according to claim 1, wherein

in accordance with the object of contact with the blanket roll being the plate or the print target, the target value of a certain contact pressure that is desired is individually set in advance, this pressure target value, the present value of the contact pressure of the blanket roll with respect to the plate or the print target that is input by the pressure sensor, and the pressure deviation of the contact pressure current value with respect to the pressure target value are found, a drive command that is found by performing a feedback process in order to make this pressure deviation zero is given to the lift actuator of the blanket roll, and by operating the lift actuator based on the drive command, the blanket roll is brought into contact with the plate or the print target with a fixed contact pressure in accordance with a pressure target value that is respectively desired.

10. The offset printing apparatus according to claim 2, wherein

the difference in the deformation amounts of the blanket roll that occurs due to the difference in the contact press with respect to the plate and the print target is measured in advance, and in consideration of the change in the circumferential speed due to the difference in that deformation amount, the rotation speed of the blanket roll and the travel velocity of the plate table are corrected and set so that the circumferential

speed based on the roll diameter of the deformation portion that occurs at the contact portion between the blanket roll and the print target when the blanket roll is brought into contact with the print target at a predetermined contact pressure that is set in advance by performing contact pressure constant control, and the travel speed of the plate table agree.

11. The offset printing apparatus according to claim 2, wherein

in accordance with the object of contact with the blanket roll being the plate or the print target, the target value of a certain contact pressure that is desired is individually set in advance, this pressure target value, the present value of the contact pressure of the blanket roll with respect to the plate or the print target that is input by the pressure sensor, and the pressure deviation of the contact pressure current value with respect to the pressure target value are found, a drive command that is found by performing a feedback process in order to make this pressure deviation zero is given to the lift actuator of the blanket roll, and by operating the lift actuator based on the drive command, the blanket roll is brought into contact with the plate or the print target with a fixed contact pressure in accordance with a pressure target value that is respectively desired.

12. The offset printing apparatus according to claim 3, wherein

the difference in the deformation amounts of the blanket roll that occurs due to the difference in the contact press with respect to the plate and the print target is measured in advance, and in consideration of the change in the circumferential speed due to the difference in that deformation amount, the rotation speed of the blanket roll

and the travel velocity of the plate table are corrected and set so that the circumferential speed based on the roll diameter of the deformation portion that occurs at the contact portion between the blanket roll and the print target when the blanket roll is brought into contact with the print target at a predetermined contact pressure that is set in advance by performing contact pressure constant control, and the travel speed of the plate table agree.

13. The offset printing apparatus according to claim 3, wherein

in accordance with the object of contact with the blanket roll being the plate or the print target, the target value of a certain contact pressure that is desired is individually set in advance, this pressure target value, the present value of the contact pressure of the blanket roll with respect to the plate or the print target that is input by the pressure sensor, and the pressure deviation of the contact pressure current value with respect to the pressure target value are found, a drive command that is found by performing a feedback process in order to make this pressure deviation zero is given to the lift actuator of the blanket roll, and by operating the lift actuator based on the drive command, the blanket roll is brought into contact with the plate or the print target with a fixed contact pressure in accordance with a pressure target value that is respectively desired.

14. The offset printing apparatus according to claim 4, wherein

the difference in the deformation amounts of the blanket roll that occurs due to the difference in the contact press with respect to the plate and the print target is measured in advance, and in consideration of the change in the circumferential speed

due to the difference in that deformation amount, the rotation speed of the blanket roll and the travel velocity of the plate table are corrected and set so that the circumferential speed based on the roll diameter of the deformation portion that occurs at the contact portion between the blanket roll and the print target when the blanket roll is brought into contact with the print target at a predetermined contact pressure that is set in advance by performing contact pressure constant control, and the travel speed of the plate table agree.

15. The offset printing apparatus according to claim 4, wherein

in accordance with the object of contact with the blanket roll being the plate or the print target, the target value of a certain contact pressure that is desired is individually set in advance, this pressure target value, the present value of the contact pressure of the blanket roll with respect to the plate or the print target that is input by the pressure sensor, and the pressure deviation of the contact pressure current value with respect to the pressure target value are found, a drive command that is found by performing a feedback process in order to make this pressure deviation zero is given to the lift actuator of the blanket roll, and by operating the lift actuator based on the drive command, the blanket roll is brought into contact with the plate or the print target with a fixed contact pressure in accordance with a pressure target value that is respectively desired.

16. The offset printing apparatus according to claim 6, wherein

the difference in the deformation amounts of the blanket roll that occurs due to the difference in the contact press with respect to the plate and the print target is

measured in advance, and in consideration of the change in the circumferential speed due to the difference in that deformation amount, the rotation speed of the blanket roll and the travel velocity of the plate table are corrected and set so that the circumferential speed based on the roll diameter of the deformation portion that occurs at the contact portion between the blanket roll and the print target when the blanket roll is brought into contact with the print target at a predetermined contact pressure that is set in advance by performing contact pressure constant control, and the travel speed of the plate table agree.

17. The offset printing apparatus according to claim 6, wherein

in accordance with the object of contact with the blanket roll being the plate or the print target, the target value of a certain contact pressure that is desired is individually set in advance, this pressure target value, the present value of the contact pressure of the blanket roll with respect to the plate or the print target that is input by the pressure sensor, and the pressure deviation of the contact pressure current value with respect to the pressure target value are found, a drive command that is found by performing a feedback process in order to make this pressure deviation zero is given to the lift actuator of the blanket roll, and by operating the lift actuator based on the drive command, the blanket roll is brought into contact with the plate or the print target with a fixed contact pressure in accordance with a pressure target value that is respectively desired.

18. The offset printing apparatus according to claim 7, wherein

the difference in the deformation amounts of the blanket roll that occurs due to the difference in the contact press with respect to the plate and the print target is measured in advance, and in consideration of the change in the circumferential speed due to the difference in that deformation amount, the rotation speed of the blanket roll and the travel velocity of the plate table are corrected and set so that the circumferential speed based on the roll diameter of the deformation portion that occurs at the contact portion between the blanket roll and the print target when the blanket roll is brought into contact with the print target at a predetermined contact pressure that is set in advance by performing contact pressure constant control, and the travel speed of the plate table agree.

19. The offset printing apparatus according to claim 7, wherein

in accordance with the object of contact with the blanket roll being the plate or the print target, the target value of a certain contact pressure that is desired is individually set in advance, this pressure target value, the present value of the contact pressure of the blanket roll with respect to the plate or the print target that is input by the pressure sensor, and the pressure deviation of the contact pressure current value with respect to the pressure target value are found, a drive command that is found by performing a feedback process in order to make this pressure deviation zero is given to the lift actuator of the blanket roll, and by operating the lift actuator based on the drive command, the blanket roll is brought into contact with the plate or the print target with a fixed contact pressure in accordance with a pressure target value that is respectively desired.