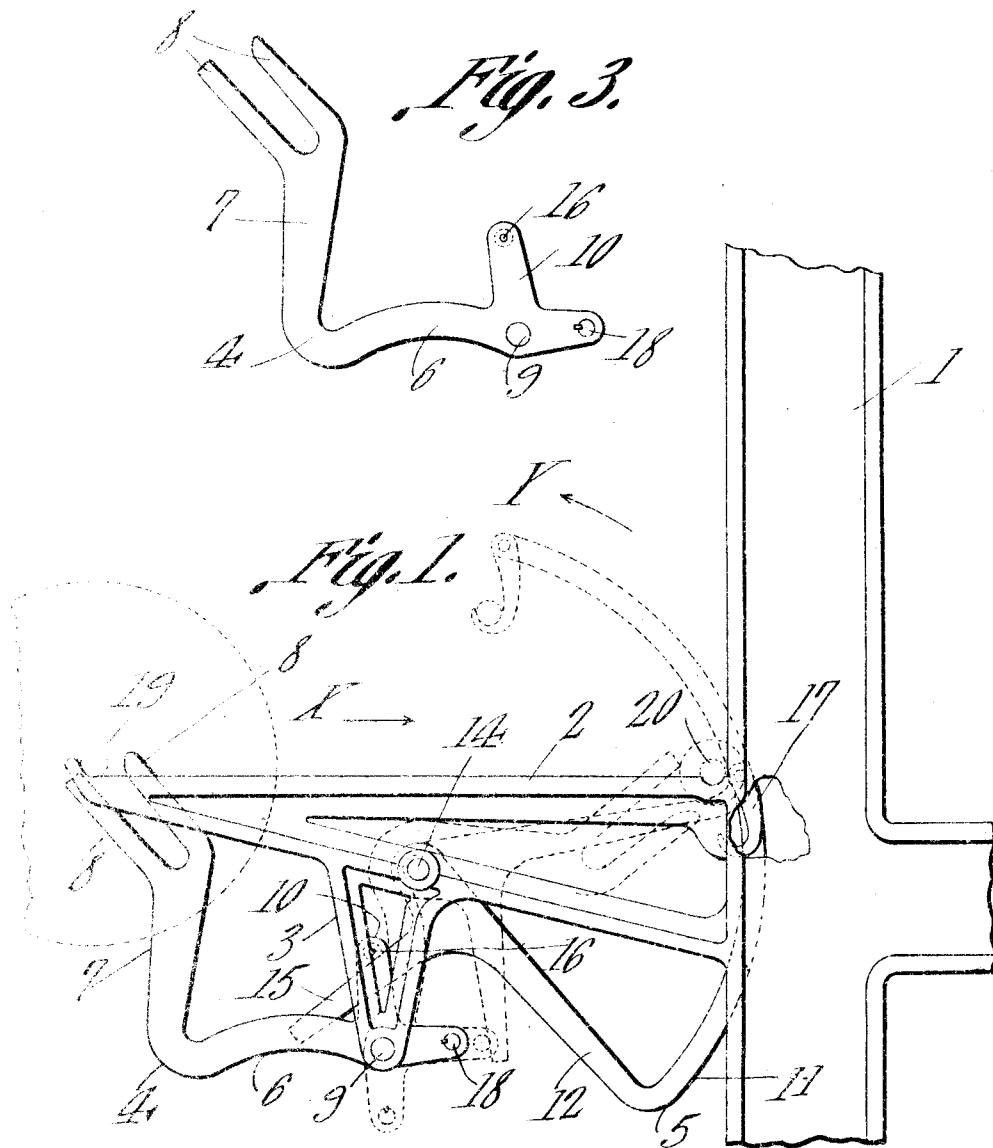


E. G. ROBESON.
 DEVICE FOR CHANGING ROLLS OF PAPER.
 APPLICATION FILED MAY 1, 1911.

1,026,869.

Patented May 14, 1912.
 2 SHEETS-SHEET 1.



Witnesses

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Edna G. Robeson,
 Inventor

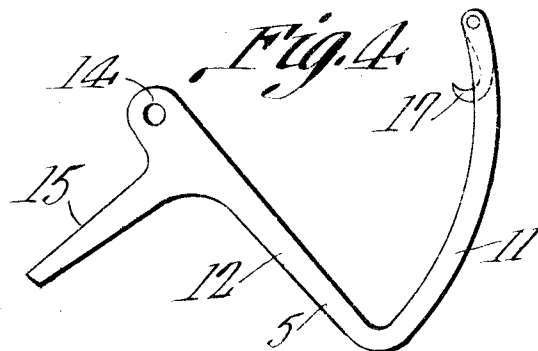
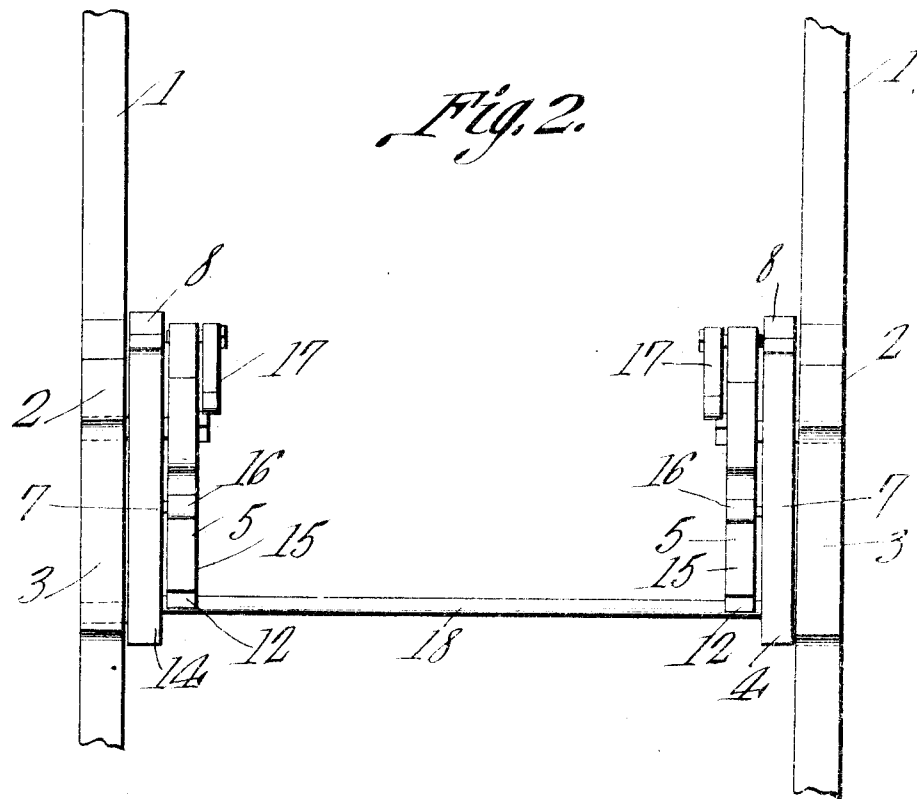
by *C. A. Snow & Co.*
 Attorneys

E. G. ROBESON.
 DEVICE FOR CHANGING ROLLS OF PAPER.
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2 SHEETS-SHEET 2.



Witnesses

J. P. Tomlin
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UNITED STATES PATENT OFFICE.

EDNA G. ROBESON, OF ATLANTA, GEORGIA.

DEVICE FOR CHANGING ROLLS OF PAPER.

1,026,369.

Specification of Letters Patent.

Patented May 14, 1912.

Application filed May 1, 1911. Serial No. 624,347.

To all whom it may concern:

Be it known that I, EDNA G. ROBESON, a citizen of the United States, residing at Atlanta, in the county of Fulton and State of Georgia, have invented a new and useful Device for Changing Rolls of Paper, of which the following is a specification.

The device forming the subject matter of this patent, is adapted to be employed for replacing an empty roll by a full roll, upon printing presses, and upon machinery employed in the cotton mills and woolen mills, and elsewhere, where a long, rolled up strip of paper, cloth or the like, is employed in a mechanical process.

It is the object of this invention to provide a mechanism whereby the advancement of the full roll, to replace the empty roll, will serve to elevate the empty roll, so that the full roll will be advanced there beneath, to replace the empty roll.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings: Figure 1 is a side elevation; Fig. 2 is an end elevation; Fig. 3 is a side elevation of the primary lever; and Fig. 4 is a side elevation of the secondary lever.

Presupposing, without prejudice, that the device is to be employed upon a printing press, the numeral 1 may be taken to indicate a portion of the frame of a Goss printing press, the numeral 2 indicating brackets outstanding from the frame 1, the brackets 2 being provided, intermediate their ends, with depending extensions 3.

The invention further includes a primary lever 4 and a secondary lever 5, the primary lever 4 being shown in detail in Fig. 3, and the secondary lever 5 being shown in detail in Fig. 4. The primary lever 4 consists of angularly disposed segments 6 and 7, the segment 7 terminating in spaced fingers 8, these fingers constituting, as will be seen hereinafter, a roll actuator. The primary lever 4 is fulcrumed as shown at 9, to the lower extremity of the extension 3, between

the ends of the segment 6 of the lever. Upstanding from the segment 6 of the primary lever, is an angularly disposed finger 10. The secondary lever 5 consists of angularly disposed segments 11 and 12, the secondary lever being fulcrumed, as shown at 14, to the lower portion of the bracket 2, above, and slightly to one side of the fulcrum point 9 of the primary lever 4, the secondary lever 5 being fulcrumed adjacent the end of the segment 12. From the intermediate portion of the segment 12 of the secondary lever, a finger 15 outstands, this finger being extended across the finger 10 of the primary lever 4. Upon the finger 10 of the primary lever 4 there is journaled for rotation an anti-friction device 16, preferably a roller, this anti-friction device being adapted to bear upon, and to ride along, the upper edge of the finger 15 of the secondary lever. To the extremity of the segment 11 of the secondary lever 5, a hook 17 is pivoted, this hook 17 constituting, as will be understood, a rail actuator.

It will be understood, from an examination of Fig. 2, that the construction above outlined is duplicated, there being a pair of oppositely disposed brackets 2, and a primary lever 4 and a secondary lever 5 upon each bracket. The extremities of the segments 6 of the primary levers 4 are connected by a bar 18, so that the two duplicated mechanisms may work together. Bar 18 should be keyed or rigidly mounted on primary lever 4 and mounted with axis concentric with fulcrum 9.

Referring to Fig. 1, it will be seen that the fingers 8 of the primary lever 4 normally upstand slightly above the upper edge of the bracket 2, adjacent the free end of the bracket, the roll-actuators 17 being disposed to conform to location of roll shaft bearings.

The roll from which the material has been removed, is denoted by the numeral 20, this roll being suitably journaled upon the brackets 2, adjacent the frame 1. The full roll 19 rests upon the brackets 2, adjacent the free ends of the brackets, and between the fingers 8.

Let it be supposed that in practical operation, it is desired to remove the roll 20 from its position adjacent the frame 1, to replace this empty roll by the full roll 19. The full roll 19 is trundled manually in the direction

of the arrow X, along the upper edges of the brackets 2, these brackets therefore acting as a track. When the roll 2 is thus moved in the direction of the arrow X, the fingers 8 will be engaged by the shaft of the roll, tilting the primary lever 4. When the primary lever 4 is thus tilted, the roller 16 which is carried by the primary lever, will ride along the edge of the finger 15 of the secondary lever, tilting the secondary lever, and elevating the segment 11 thereof. When the segment 11 of the secondary lever is thus elevated, the hooks 17 will engage the ends of the roll 20, elevating the roll 20 to such a height that the full roll 19 may pass under the empty roll, and assume the position previously occupied by the empty roll. The empty roll is removed from the hooks 17 by the mechanism commonly employed for that purpose upon a Goss press, pre-supposing that the structure is employed upon such a machine. When the segment 11 of the secondary lever is elevated, as hereinbefore described, the centers of gravity of the parts will be so disposed that the segment 11 and the empty roll 20 will remain in elevated position until the parts are restored, manually, to the positions shown in Fig. 1. When the parts are thus restored, the roll-holding hooks 17 will drop automatically into such positions that when the segments 11 of the secondary levers are again elevated, the hooks will engage the empty roll 20, and repeat the operation.

From the foregoing it will be seen that two interengaged levers of the first order are provided, the same having roll-actuators at their ends moving in arcs of different radii, so that one roll-holder may be elevated above the other, the movement of one lever, together with the full roll-holder, serving to actuate the other lever, together with the empty roll-holder. Thus, in a single operation, the shifting of the rolls may be effected, with a minimum loss of time.

It is to be noted that the roll-holder embracing the fingers 8, has two separate movements. These fingers move in an arc of which the fulcrum point 9 is a center. At the same time, owing to the length of the fingers, this movement of lever 4 about fulcrum 9 is accomplished by force exerted manually in the direction of arrow X upon shaft of the roll engaged by fingers 8, the resultant movement of the roll being in a right line in the direction of arrow X. The roll-actuator 17 moves in an arc of which the fulcrum point 14 is a center, the roll-actuator 17 thus moving into a position above the roll-actuator 8. Likewise, it is to be noted that the levers 4 and 5 have spaced fulcrum points, permitting the actuators 8 and 17 to have the requisite relative movement. The ascending movement of the roll-actuator 17 with respect to the roll-actuator

8, obviously takes place, moreover, by reason of the fact that the two roll-actuators swing upon arcs of different radii.

Having thus described the invention what is claimed is:

1. In a device for replacing an empty roll by a full roll, a track; roll-actuators above the track; and interengaging means supporting the roll actuators, for moving them in opposite directions, in the direction of the length of the track, and for elevating one roll actuator above the other.
2. In a device for replacing an empty roll by a full roll, a track; roll-actuators above the track; and interengaging means supporting the roll-actuators, for moving one roll-actuator in a right line along the track in one direction, and for moving the other roll-actuator in an opposite direction, in an arc above the first named roll-actuator.
3. In a device for replacing an empty roll by a full roll, levers; means for supporting the levers; a roll-actuator upon each lever; and interengaging means upon the levers for operating them simultaneously, and for moving the roll-actuators in opposite directions, to replace an empty roll by a full roll.
4. In a device for replacing an empty roll by a full roll, levers; means for supporting the levers; a roll-actuator upon each lever; and interengaging means upon the levers for operating them simultaneously, and for elevating one roll actuator above the other roll-actuator.
5. In a device for replacing an empty roll by a full roll, levers interengaged for simultaneous operation, each lever having a roll-actuator, one roll-actuator operating in a fixed plane, and the other roll-actuator rising above and in an opposite direction to, the first mentioned roll-actuator.
6. In a device for replacing an empty roll by a full roll, levers interengaged for simultaneous operation, each lever being provided with a roll-actuator, one of the roll-actuators being pivotally mounted for automatic engagement with the roll, and being movable in an opposite direction to the other roll-actuator, into a position above said other roll-actuator.
7. In a device for replacing an empty roll by a full roll, levers interengaged for simultaneous operation and having roll-actuators, one of which is adapted to rise above the other, the roll-actuators moving in opposite directions, the roll-actuator which rises above its fellow, consisting of a pivotally mounted hook.
8. In a device for replacing an empty roll by a full roll, levers of the first class; means for fulcruming the levers at different respective heights; roll-actuators upon the levers; and means for connecting the levers for simultaneous operation.

9. In a device for replacing an empty roll by a full roll, levers; roll-actuators upon the levers; means for fulcruming the levers at different respective heights; and interengaging elements upon the levers for operating them simultaneously, and for elevating the actuator of the empty roll above the actuator of the full roll.

10. In a device for replacing an empty roll by a full roll, roll-actuators; means supporting the roll-actuators, for moving them

in arcs of different radii, and in opposite directions; and interengaging elements upon said means for operating the same simultaneously.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

EDNA G. ROBESON.

Witnesses:

WILLIE A. MORRIS,
J. M. REEVES.