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2 SHEETS--SHEET 1.

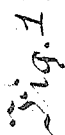


Fig. 4.

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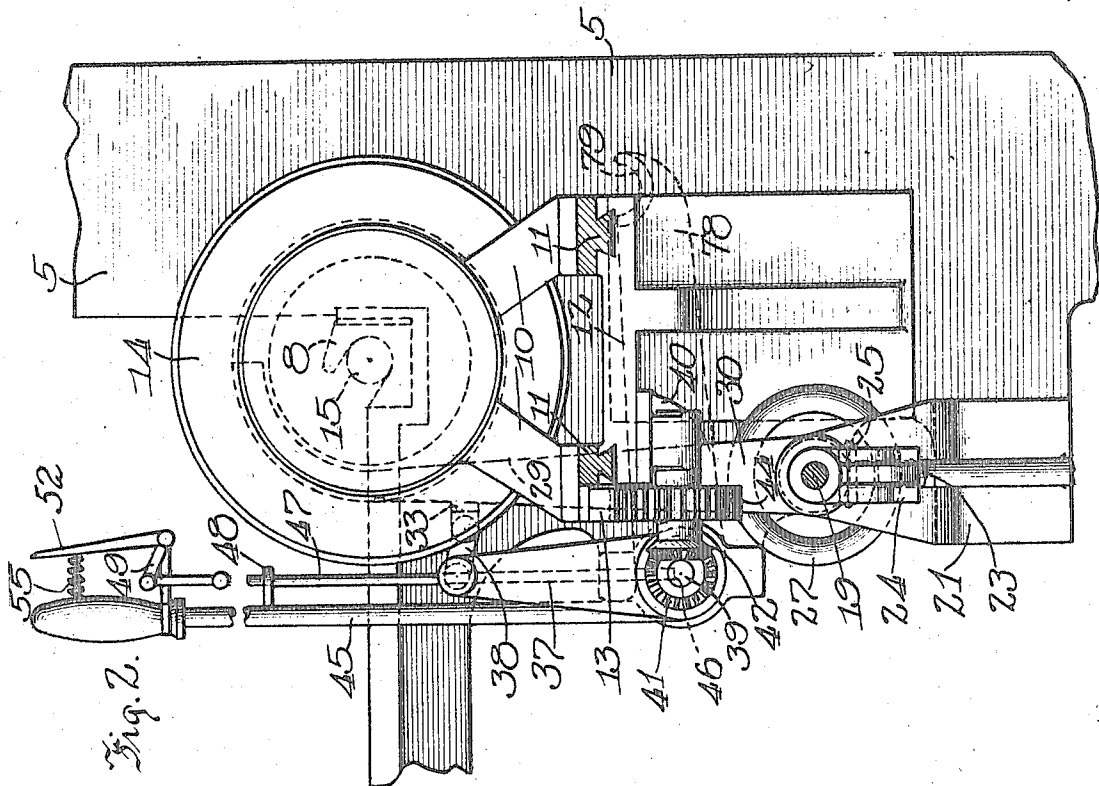
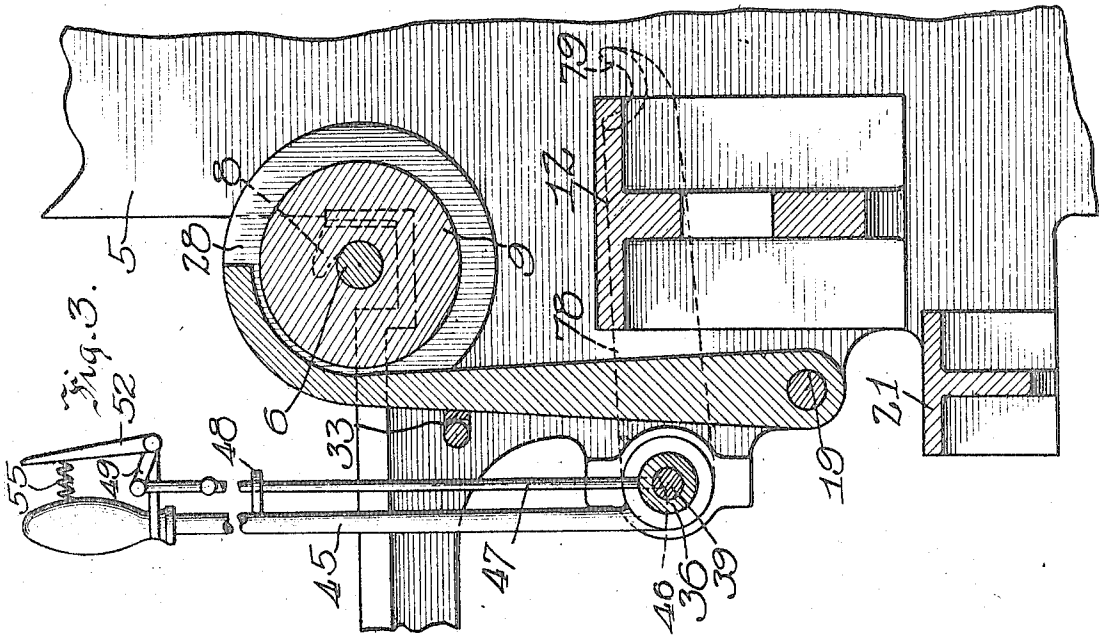
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PAPER ROLL MECHANISM FOR PRINTING PRESSES.
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1,208,418.

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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

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PAPER-ROLL MECHANISM FOR PRINTING-PRESSES.

1,208,418.

Specification of Letters Patent.

Patented Dec. 12, 1916.

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To all whom it may concern:

Be it known that we, JOSEPH J. WALSER and CHARLES A. DRESSER, citizens of the United States, and residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Paper-Roll Mechanism for Printing-Presses, of which the following is a specification, reference being had to the accompanying drawings.

Our invention relates to mechanism for driving, controlling and braking a paper roll, particularly in printing presses in which the paper is pulled from the roll in the usual manner by the action of printing couples in an ordinary printing press.

It has for one of its objects the provision of new and improved means for disconnecting from the paper roll shaft the motor by which the rotation of said shaft is controlled.

It has for another object the provision of means operated by a lever for lifting the paper roll shaft out of its bearings for the insertion of a fresh roll of paper.

More specifically, it has for one of its objects the provision of a new and improved arrangement of parts such as just described whereby the motor is disconnected by a stroke of a lever and the paper roll shaft is lifted out of its bearings by a later part of the same stroke of said lever.

It has for another object the provision of means, preferably operated by the same lever, for centering the fresh roll of paper while on its supporting shaft in proper position relative to the press.

It has for another object the provision of means for shifting the roll of paper and the motor operatively connected thereto laterally relative to the press without disturbing the connection of the motor with the paper roll shaft, for the purpose of compensating for any irregularity in the winding of the roll of paper, an adjustment being made from time to time during the rotation of the press as may be necessary to keep the side margins of the printed page approximately of even width.

It is another object of this invention to

improve devices of this general type in sundry details hereinafter pointed out.

The means by which we have accomplished these objects are illustrated in the drawings and are hereinafter specifically described.

That which we believe to be new is set forth in the claims.

In the drawings, Figure 1 is an end view, seen from the rear; Fig. 2 is a side elevation enlarged; Fig. 3 is an enlarged detail, being a section on line 3—3 of Fig. 1; and Fig. 4 is a detail, being a section on line 4—4 of Fig. 1.

Referring to the drawings, 5 indicates a part of the roller frame of a printing press, which may be of any well-known form and description. In the drawings, only a portion of the frame is indicated, in order to show one roll and its operating mechanism. It will, of course, be understood that the actual mechanism may contain as many rolls as may be desired and as may be convenient. 6 indicates a shaft for the paper roll 7, which is journaled in suitable bearings, as 8, in the framework 5 so as to be movable longitudinally of itself therein. Upon one end, the shaft 6 carries a friction clutch-member 9 which is adapted to engage another clutch-member driven by the motor as hereinafter described. 10 indicates a motor frame, which, by means of dove-tailed bars, as 11, is slidingly mounted in a bracket 12 of the roller frame. 13 indicates a rack-bar rigidly secured to or formed integral with the motor frame 10. 14 indicates an electric motor of any suitable character, which, by any well-known means, is adapted to be driven in either direction. So far as our present invention is concerned, these may be of any well-known character and are not shown.

15 indicates the motor shaft.

16 indicates a disk, which is rigidly secured to the motor shaft 15 and is provided with a circumferential groove 17.

18 indicates a friction clutch-member which is mounted upon the shaft 15 so as to rotate therewith but slide thereon, and is adapted to be brought into frictional en-

gagement with the other friction clutch-member 9 on the motor shaft 6.

19 indicates a screw, which is journaled in suitable bearings, as 20, on the frame 5 and bracket 21 attached to frame 5.

22 indicates a beveled gear, which is secured to the shaft of the screw 19.

23 indicates a shaft, which is journaled in a suitable bracket, as 24, secured to the frame in any suitable manner and which is provided at its upper end with a beveled gear 25 rigidly secured thereto and adapted to mesh with the beveled gear 22.

26 indicates a hand-wheel on the shaft 23. 27 indicates another hand-wheel, which is secured to the screw 19. It is obvious that the screw 19 may be turned by turning either the hand-wheel 26 or the hand-wheel 27. The friction clutch-member 9, which is secured to the roller shaft, is also provided with a circumferential groove 28.

29—30 indicate bars, which engage at their upper ends with the circumferential grooves 17 and 28 and are provided at their lower ends with hubs 31—32 which are screw-threaded so as to travel upon the screw 19. The bars 29—30 are connected by a cross-bar, as 33. It is obvious that by the turning of the screw 19 the bars 29—30 will be moved simultaneously to the right or the left and by their engagement with the groove 17 on friction clutch-member 16 and groove 28 on friction clutch-member 9 the carriage of the motor and the roll shaft 6 will be correspondingly moved to the right or the left so as to adjust the roll with reference to the press (not shown).

34 indicates a hub, which is journaled in a suitable bearing, as 35, in the framework 5.

36 indicates a sleeve, which is journaled in the hub 34 so as to rotate therein.

37 indicates an arm which, by means of a hub 37^a, is feathered on sleeve 36, and which at its upper end is connected by a link 38 with the cross-bar 33, whereby, when the sleeve 36 is rotated, the bar 33 and with it the bars 29—30 may be swung into and out of engagement with the grooves 17 and 28 on friction clutch members 16 and 9.

39 indicates a shaft, which is journaled at one end in a suitable bearing, as 40, on the frame 5 and also in the sleeve 36.

41 indicates a beveled gear, which is secured to one end of the shaft 39 and which meshes with a beveled gear 42 on a shaft 43 journaled in the frame.

44 indicates a gear secured upon the shaft 43 and engaging with the rack 13, whereby, when the shaft 39 is rotated, by means of beveled gears 41—42 and gear 44 the motor frame will be moved to one side or the other on the bracket 12.

45 indicates a hand-lever, which is rigidly connected at its lower end with the hub 34,

being preferably made integral with said hub.

46—47 indicate rods, which are slidingly mounted in suitable brackets, as 48, on one side of the lever 45, and which are connected at their upper ends to the arms 49 of bell-crank levers 51—52 whose upwardly extending arms are in the form of handles for operating the bell-crank levers.

55 indicates springs interposed between the handles of the bell-crank levers and the upper end of the lever 45. The lower ends of the rods 46—47 engage suitable notches formed respectively in the shaft 39 and sleeve 36. It will be obvious that by pressing the handles of the bell-crank levers 51—52 the rods 46—47 may be forced downward, either both together or singly, into the notches on the sleeve 36 and shaft 39, whereby, by rocking the lever 45, either the sleeve 36 or the shaft 39, or both, may be given a partial rotation, for the purposes hereinafter set forth.

56 indicates a shaft, which is secured at one end to the hub 34 so as to rotate therewith and is journaled at the other end in a suitable bearing, as 57, in the framework 5.

58 indicates a beveled gear secured to the shaft 56 adjacent to the hub 34 and meshing with a beveled gear 59 on a shaft 60. The shaft 60 is journaled in suitable bearings 61—65, on the framework 5 and carries at its upper end rigidly secured thereto a gear 62.

63 (see particularly Fig. 4) indicates a rack-bar slidingly mounted in suitable bearings, as 64, in the frame 5 and engaging the gear 62.

66 indicates a gage which is secured to the outer end of the slide-bar 63.

67 indicates a beveled gear, which is secured to the outer end of the shaft 56 and which meshes with a beveled gear 68 on shaft 69 which is journaled in suitable bearings, as 70, on the frame 5, and carries at its upper end, rigidly secured thereto, a gear 71. The gear 71 meshes with a rack-bar 72 slidably mounted in a suitable support, as 74, on the frame 5.

75 indicates a bearing gage, which is mounted on the slidable rack-bar 72. It is obvious that by rotating the shaft 56 the shafts 60 and 69 will be rotated and by the engagement of gears 62 and 71 with the rack-bars 63 and 72 the gages 66 and 75 may be moved toward or away from each other so as to bear against the ends of the roll, when they are brought together, to operate as means for the proper centering of the roll. Between the friction members 16 and 18 on the motor shaft 15 are inserted suitable springs, as 76.

78 indicates arms, one of which is rigidly connected with the hub 34 or the lower end of the lever 45 and the other of which is fixedly mounted on the shaft 56 by means of

a collar 78^a. Said arms 78 are provided at their free ends with arc-shaped notches 79. The length of the arms 78 is the same as the distance from the center of the shaft 39 to the roll shaft 6. When the lever 45 is rocked downward, the arms 78 are carried up and the notches 79 ultimately engage the shaft 6 of the paper roll 7 so as to lift the same backward out of its bearings, with what is left of the roll.

The operation of the above-described devices is as follows: When the parts are in the position shown in Fig. 1, the friction members 18 and 9 are in engagement. When the roll is started, if it is desired to rotate the roll shaft in such a way as to assist thereby the operation of leading the paper from the roll into the press, the motor by any suitable arrangement is caused to run in the same direction as that in which it is desired to have the roll run, and by the engagement of the friction members 9 and 18 the roll is caused to rotate with the motor. After the paper has been started through the press with the assistance of the motor, it is designed that the direction of rotation of the motor be reversed in any suitable manner so that the motor acts as a brake upon the roll of paper. If it is desired to shift the paper roll longitudinally for the purpose of regulating the side margins, the roll, roll shaft and the motor are shifted together so as not to change the tension of the springs 76 by which the friction clutch members are held in engagement. To do this, one of the hand-wheels 26—27 is rotated, rotating the screw 19. This causes the movement in one direction or the other of arms 29—30, which, by their engagement with grooves 28—17, carry the friction clutch-members 9 and 18 in the same direction together, thus moving both the roll, and roll-shaft and the motor carriage, with the motor on it, together to the right or left without in any way changing the tension of the springs 76. This, of course, will, through the gears 44, 42 and 41, rotate the shaft 39, but as long as rods 46 and 47 are not in engagement with the notches, no other parts will be affected. The arm 37 and hub 37^a being feathered upon sleeve 36, will also move laterally on said sleeve. If it is desired at any time to free the roll from the press, either because the paper on it is exhausted or for any other reason, the lever 45 is forced backward and downward, the handle of the bell-crank lever 52 being gripped in so as to throw the rod 47 downward into engagement with the sleeve 36. As the lever 45 is swung back, the rotation of the sleeve 36 serves to free the arms 29—30 from engagement with the grooves on the friction clutch-member 9 and the disk 16. The handle of the bell-crank lever 51 is then to be pressed inward, throwing the rod 46 into

engagement with the shaft 39, rotating the gear 44 through the medium of gears 41—42 so as to move the rack 13 and with it the motor 14 to the right in Fig. 1, freeing the friction clutch members 18 and 9 from engagement. When these are free, the rods 46 and 47 may be released and the further swinging of the lever 45 brings the socket 79 on the arms 78 into engagement with the roll shaft 6, lifting the same out of its bearings. When a new roll of paper is secured in position upon the shaft 6 and said shaft is brought into engagement with the lever mechanism 78, the weight of the roll of paper serves to rock the lever 45 upward, serving to rotate the shaft 56 and the gears 58—67, rotating in turn the shafts 60—69 and the pinions 62—71, causing the gages 66—75 to move toward each other. At the proper moment, the lever 45 is grasped for completing the stroke, bringing the gages 66—75 into contact with the ends of the paper roll and centering said roll laterally relatively to the press. At the proper moment, the rod 46 is brought into engagement with the notch on the shaft 39, moving the motor 14 again into operative engagement with the shaft 6. At the proper time later in the stroke of the lever 45 as just described, the rod 47 is brought into engagement with its notch on the sleeve 36, serving to swing the arms 29—30 again into engagement with the grooves 28—17. The parts are so proportioned that the gages 66—75 complete the centering of the roll of paper just as the arms 29—30 are brought into operative engagement with the grooves 28—17. The levers 51—52 are then released, permitting the rods 46—47 to pass out of engagement with the shaft 39 and the sleeve 36, respectively, and the lever 45 is then moved slightly to the left in Figs. 2 and 3, to free the gages 66—75 from the ends of the roll of paper.

That which we claim as our invention, and desire to secure by Letters Patent, is—

1. In combination, a frame, a roll-spindle journaled in said frame and movable longitudinally of itself therein, a motor mounted in said frame and movable thereon in the same directions as the roll-spindle, a friction clutch-member on said roll-spindle, a coöperative friction clutch-member on the shaft of said motor, and means for simultaneously moving said motor and said roll-spindle in either direction on said frame.

2. In combination, a frame, a roll-spindle journaled in said frame and movable longitudinally of itself therein, a motor slidably mounted on said frame, coöperative clutch-members on said roll-spindle and the shaft of said motor, means for simultaneously moving said motor and said roll-spindle on said frame, a hand-lever, and means operated by the movement of said hand-lever to

move said motor independently of said roll-spindle.

3. In combination, a frame, a roll-spindle journaled in said frame and movable longitudinally of itself therein, a motor slid-
5 ingly mounted on said frame, coöperative clutch-members on said roll-spindle and the shaft of said motor, arms adapted to engage said clutch-members, means for moving said
10 arms simultaneously in either direction to simultaneously move said roll-spindle and said motor in the same direction when said arms are in engagement with said clutch-members, a hand-lever, mechanism operated
15 by said hand-lever to disengage said arms from said clutch-members, and mechanism operated by said hand-lever to move said motor independently relatively to said roll-spindle.

4. In combination, a frame, a roll-spindle journaled in said frame and movable longitudinally of itself therein, a clutch-member upon one end of said roll-spindle, a motor
20 mounted in said frame and movable thereon in the same directions as said roll-spindle, a disk rigidly secured to the shaft of said motor, a clutch-member adapted to co-operate with the clutch-member on said roll-spindle and slidably mounted on the shaft
25 of said motor, springs interposed between said disk and said second clutch-member, arms adapted to engage said disk and the clutch-member on said roll-spindle, means for simultaneously moving said arms in one
30 direction or the other to move said motor and roll-spindle longitudinally of said roll-spindle on said frame, a hand-lever, mechanism operated by said hand-lever to disengage said arms from said disk and said first-named clutch-member, and mechanism operated
35 by said hand-lever for moving said motor on said frame independently of said roll-spindle.

5. In combination, a frame, a roll-spindle journaled in said frame and movable longitudinally of itself therein, a motor mounted
45 in said frame and movable thereon in the same direction as said roll-spindle, coöperative clutch-members mounted on said roll-spindle and said motor, respectively, means for moving said roll-spindle and said motor simultaneously in the same direction, a roll
50 mounted on said roll-spindle, bearing-plates mounted on said frame, a hand-lever, and means operated by said hand-lever to move said bearing-plates toward and away from
55 said roll.

6. In combination, a frame, a roll-spindle journaled in said frame, a motor mounted in
60 said frame and movable thereon toward and from said roll-spindle, a lever mounted on said frame, mechanism connected with said lever and adapted by the swinging of said lever to move said motor independently toward
65 and away from said roll-spindle, and

an arm connected with said lever and movable therewith and adapted by the swinging of said lever in one direction to engage said roll-spindle and lift the same from its bearings.

7. In combination, a frame, a roll-spindle journaled in said frame and movable longitudinally of itself therein, a motor mounted
70 in said frame and movable thereon in the same direction as said roll-spindle, coöperating clutch-members carried, respectively, on said roll-spindle and on the shaft of said motor, engaging devices adapted to be brought into engagement with said clutch-members, means for moving said engaging
75 devices to move said roll-spindle and motor simultaneously on said frame, a hand-lever, means connected with said hand-lever and adapted by the movement thereof to swing said engaging devices into and out of en-
80 gagement with said clutch-members, mechanism connected with said lever and adapted by the swinging of said lever to move said motor independently of said roll-spindle toward and away from the same, and an arm
85 connected with said lever and movable therewith and adapted when said lever is moved to throw said engaging devices out of engagement with said clutch-members and to move said motor away from said roll-
90 spindle to engage said roll-spindle and lift the same out of its bearings.

8. In a machine of the class described, the combination of a frame, a roll-shaft mounted thereupon and movable endwise in its
100 bearings, means adapted to be actuated to move said roll-shaft endwise, a roll mounted on said shaft, and gaging devices acting on the roll for positioning the same.

9. In a machine of the class described, the
105 combination of a frame, a roll-shaft mounted thereon and adapted to move endwise in its bearings, a motor, means for operatively connecting said motor to said roll-shaft, and means for moving said roll-shaft and
110 motor endwise, meanwhile maintaining their operative connection with each other.

10. In a machine of the class described, the combination of a frame, a roll-shaft
115 mounted thereon and adapted to move endwise in its bearings, a motor, means for operatively connecting said motor to said roll-shaft, and means for moving said motor and roll-shaft endwise, meanwhile maintaining their position with relation to each
120 other.

11. In a machine of the class described, the combination of a frame, a roll-shaft
125 mounted thereon and adapted to move endwise in its bearings, a motor, friction clutch mechanism for operatively connecting said motor to said roll-shaft, and means for moving said roll-shaft endwise, meanwhile maintaining its operative connection with
130 said motor.

12. In a machine of the class described, the combination of a frame, a roll-shaft mounted thereon and adapted to move endwise in its bearings, a motor, friction clutch mechanism for operatively connecting said motor to said roll-shaft, and means for moving said motor and roll-shaft endwise, meanwhile maintaining their position with relation to each other.

13. In a machine of the class described, the combination of a frame, a paper roll shaft journaled therein, a motor mounted on said frame, means for operatively connecting said motor with said shaft for rotating said shaft, said shaft and said motor being movable independently of each other laterally relative to said frame whereby said operative connections between said members may be broken, and means for moving both of said members simultaneously relative to said frame without disturbing said operative connections.

14. In a machine of the class described, the combination of a frame, a paper roll shaft journaled therein, a motor mounted on said frame, means for operatively connecting said motor with said shaft for rotating said shaft, said shaft and said motor being movable independently of each other laterally relative to said frame, means for moving said motor laterally relative to said shaft for breaking the operative connections between said members, and other means for moving both of said members simultaneously relative to said frame without disturbing said operative connections.

15. In a machine of the class described, the combination of a frame, a paper roll shaft journaled therein and adapted to have a roll of paper mounted on said shaft, a lever pivotally mounted on said frame, means actuated by a stroke of said lever in one direction for lifting said paper roll shaft out of engagement with said frame, a motor mounted on said frame, means for operatively connecting said motor with said shaft for rotating the shaft, and means adapted to be thrown into operation whereby the same stroke of said lever that lifts said paper roll shaft first serves to disconnect said motor from said shaft.

16. In a machine of the class described, the combination of a frame, a paper roll shaft journaled therein and adapted to have a roll of paper mounted on said shaft, a lever pivotally mounted on said frame, means adapted by a stroke of said lever in one direction for centering a roll of paper in said machine, a motor mounted on said frame, and means adapted to be actuated whereby said stroke of said lever serves to operatively connect said motor with said shaft for rotating the shaft.

17. In a machine of the class described, the combination of a frame, a paper roll

shaft journaled therein and adapted to have a roll of paper mounted on said shaft, a lever pivotally mounted on said frame, means actuated by a stroke of said lever in one direction for lifting said paper roll shaft out of engagement with said frame, means actuated by a stroke of said lever in the opposite direction for centering a roll of paper in the machine, a motor mounted on said frame, and means adapted to be actuated whereby the same stroke of said lever that centers said roll of paper serves to connect said motor to said shaft for rotating the shaft and whereby the stroke of said lever that lifts said paper roll shaft first serves to disconnect said motor from said shaft.

18. A machine of the class described, comprising a roll-shaft, a roll carried thereby, a motor, mechanism for connecting said motor with or disconnecting it from said shaft, and means for moving said motor toward or from said shaft.

19. A machine of the class described, comprising a frame, a roll-shaft mounted on said frame and movable longitudinally in its bearings, a motor movably mounted on said frame, mechanism for connecting said motor with or disconnecting it from said shaft, and means for moving said motor toward or from said shaft.

20. A machine of the class described, comprising a frame, a roll-shaft mounted on said frame and movable longitudinally in its bearings, a motor movably mounted on said frame, mechanism for connecting said motor with or disconnecting it from said shaft, means for moving said motor toward or from said shaft, and means for moving said motor and shaft longitudinally in unison while they are operatively connected together.

21. A machine of the class described, comprising a frame, a roll-shaft mounted on said frame and movable longitudinally in its bearings, a motor movably mounted on said frame, mechanism for connecting said motor with or disconnecting it from said shaft, means for moving said motor toward or from said shaft, means for holding said motor and shaft in operative engagement with each other, and means for moving said motor and shaft longitudinally in unison.

22. A machine of the class described, comprising a frame, a roll-shaft mounted on said frame and movable longitudinally in its bearings, a motor movably mounted on said frame, clutch mechanism for connecting said motor with said shaft, and a lever for moving said motor toward or from said shaft.

23. A machine of the class described, comprising a frame, a roll-shaft mounted on said frame and movable longitudinally in its bearings, a motor movably mounted on

said frame, clutch mechanism for connecting said motor with said shaft, a lever for moving said motor toward or from said shaft, and means for moving said motor and shaft longitudinally in unison.

24. A machine of the class described, comprising a frame, a roll-shaft mounted on said frame and movable longitudinally in its bearings, a motor movably mounted on said frame and movable longitudinally with said shaft, mechanism for connecting said motor with or disconnecting it from said shaft, means for locking said motor and shaft in operative engagement with each other, a lever, and means operated by said lever for moving said locking means out of operative position, and for moving said motor toward and away from said shaft.

25. A machine of the class described, comprising a frame, a roll-shaft mounted on said frame and movable longitudinally in its bearings, a motor movably mounted on said frame, mechanism for connecting said motor with or disconnecting it from said shaft, means for locking said motor and shaft in operative engagement with each other, a lever, means operated by said lever for moving said locking means out of operative position and for moving said motor toward and away from said shaft, and means for moving said motor and shaft longitudinally in unison.

26. A machine of the class described, comprising a frame, a roll-shaft mounted on said frame and movable longitudinally in its bearings, a roll carried by said shaft, a motor adapted to be moved toward and from said shaft into or out of operative engagement therewith, and gaging means for determining the position of said roll.

27. A machine of the class described, comprising a frame, a roll-shaft mounted on said frame and movable longitudinally in its bearings, a roll carried by said shaft, a motor adapted to be moved toward and from said shaft into or out of operative engagement therewith, gaging means for determining the position of said roll, and means for moving said motor toward and from said shaft.

28. A machine of the class described, comprising a frame, a roll-shaft mounted on said frame and movable longitudinally in its bearings, a roll carried by said shaft, a motor adapted to be moved toward and from said shaft into or out of operative engagement therewith, gaging means for determining the position of said roll, and means for moving said gaging means to position said roll.

29. A machine of the class described, comprising a frame, a roll-shaft mounted on said frame and movable longitudinally in its bearings, a roll carried by said shaft, a motor, gaging means for determining the

position of said roll, a lever operatively connected with said gaging means for moving the same to position said roll, and means operated by said lever for connecting said motor with, or disconnecting it from said shaft.

30. A machine of the class described, comprising a frame, a roll-shaft mounted on said frame and movable longitudinally in its bearings, a roll carried by said shaft, a motor adapted to be moved toward and from said shaft into or out of operative engagement therewith, gages for determining the position of said roll, a lever adapted to be operated independently of said motor to move said gages to position the roll, and means for connecting said lever with the motor and adapted to be operated thereby to move the motor toward and from said shaft.

31. A machine of the class described, comprising a frame, a roll-shaft mounted on said frame and movable longitudinally in its bearings, a roll carried by said shaft, a motor adapted to be moved toward and from said shaft into or out of operative engagement therewith, gages for determining the position of said roll, a lever operatively connected with said gages for moving the same to position said roll, means operated by said lever for moving said motor toward and from said shaft, and separate means for moving said motor and shaft longitudinally in unison.

32. A machine of the class described, comprising a frame, a roll-shaft mounted on said frame and movable longitudinally in its bearings, a roll carried by said shaft, a motor adapted to be moved toward and from said shaft into or out of operative engagement therewith, gages for determining the position of said roll, a lever adapted to be operated independently of said motor to move said gages to position the roll, means for connecting said lever with the motor and adapted to be operated thereby to move the motor toward and from said shaft, and separate means for moving said motor and shaft longitudinally in unison.

33. A machine of the class described, comprising a frame, a roll-shaft mounted thereon, a motor, a lever having means for lifting said shaft out of its bearings, and means operated by said lever for operatively connecting said motor with said roll-shaft.

34. A machine of the class described, comprising a frame, a roll-shaft mounted thereon, a motor movable toward and from said shaft into or out of operative engagement therewith, a lever having means for lifting said shaft out of its bearings, and means adapted to be operated by said lever for moving said motor toward and from said shaft.

35. A machine of the class described, com-

prising a frame, a roll-shaft mounted thereon, a motor, a lever having means for lifting said shaft out of its bearings, means operated by said lever for operatively connecting said motor with said shaft, gages for positioning the roll carried by said shaft, and means connecting said lever with said gages for adjusting the position thereof.

36. A machine of the class described, comprising a frame, a roll-shaft mounted thereon, a motor movable toward and from said shaft into or out of operative engagement therewith, a lever having means for lifting said shaft out of its bearings, gages for positioning the roll carried by said shaft, and means connecting said lever with said gages for adjusting the position thereof.

37. A machine of the class described, comprising a frame, a roll-shaft mounted thereon, a motor, a lever having means for lifting said shaft out of its bearings, means operated by said lever for operatively connecting said motor and roll-shaft, and gages for positioning the roll carried by said shaft, said gages being connected with said lever and automatically operated by the weight of the roll-shaft and roll.

38. A machine of the class described, comprising a frame, a roll-shaft mounted thereon, a motor movable toward and from said shaft into or out of operative engagement therewith, a lever having means for lifting said shaft out of its bearings, gages for positioning the roll carried by said shaft, said gages being connected with said lever, and means operated by said lever for moving said motor to operatively connect it with the roll-shaft.

39. A machine of the class described, comprising a frame, a roll-shaft mounted thereon and movable longitudinally in its bearings, a motor movable toward and from said shaft into or out of operative engagement therewith, a lever having means for lifting said shaft out of its bearings, gages for positioning the roll carried by said shaft, said gages being connected with said lever, means operated by said lever for moving

said motor to operatively connect it with the roll-shaft, and separate mechanism for moving said roll-shaft and motor longitudinally in unison.

40. A machine of the class described, comprising a frame, a roll-shaft mounted thereon and movable longitudinally in its bearings, a roll carried thereby, a motor movable longitudinally of said shaft into and out of operative engagement therewith, gages for determining the position of said roll, and means for moving said roll-shaft and motor longitudinally independently of said gages.

41. In a machine of the class described, the combination of a frame, a roll-shaft mounted thereon and movable endwise in its bearings, means coöperating with a roll on the roll shaft for gaging the proper operative position of said roll-shaft, a motor, clutch mechanism for operatively connecting said motor and said roll-shaft, and means for moving said roll-shaft endwise, meanwhile maintaining its operative connection with said motor.

42. In a machine of the class described, the combination of a frame, a roll-shaft mounted thereon and movable endwise in its bearings, means for gaging the proper operative position of said roll-shaft, a motor, clutch mechanism for operatively connecting said motor and said roll-shaft, and means for moving said motor and roll-shaft endwise without altering their relative position to each other.

43. In a machine of the class described, the combination of a frame, a roll-shaft mounted thereon and movable longitudinally in its bearings, a roll mounted on said shaft and fixedly connected thereto, means connected with said shaft for regulating the rotation thereof, and gaging devices acting on the roll for positioning said roll.

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Witnesses:

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