

H. A. W. WOOD.
WEB RENEWING DEVICE FOR PRINTING PRESSES.
APPLICATION FILED SEPT. 19, 1914.

1,305,429.

Patented June 3, 1919.
5 SHEETS—SHEET 1.

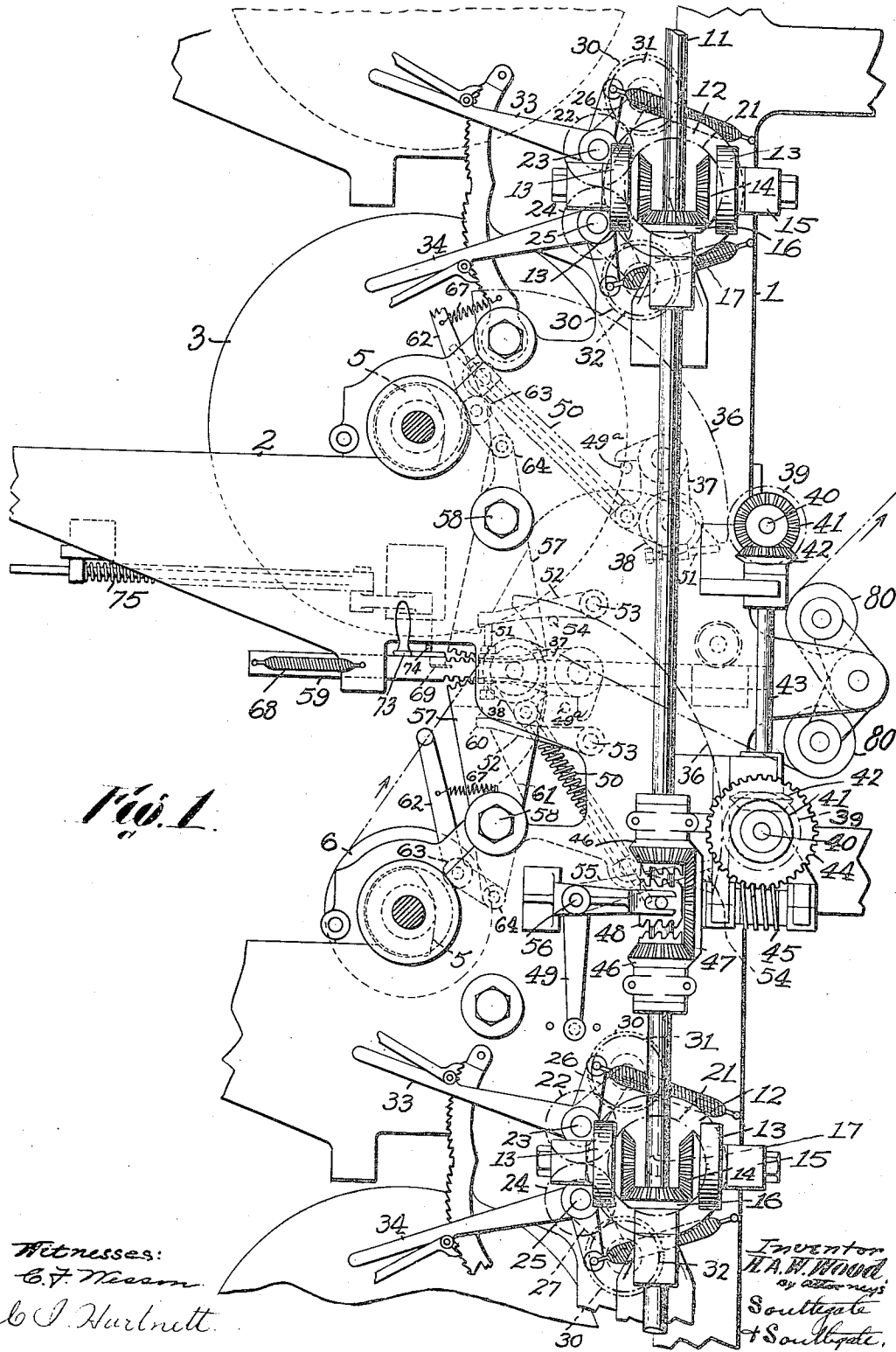


Fig. 1.

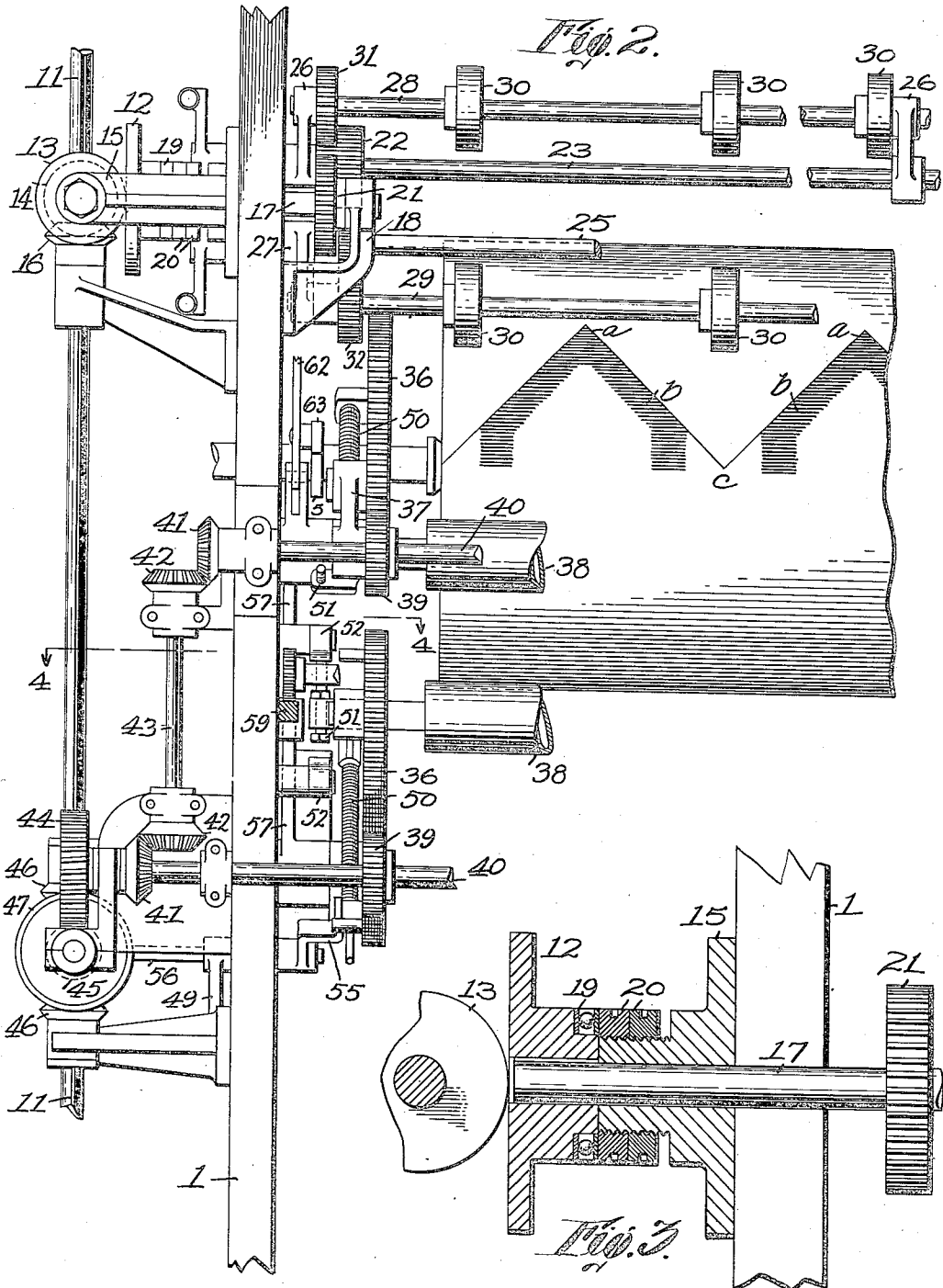
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C. L. Hartnett

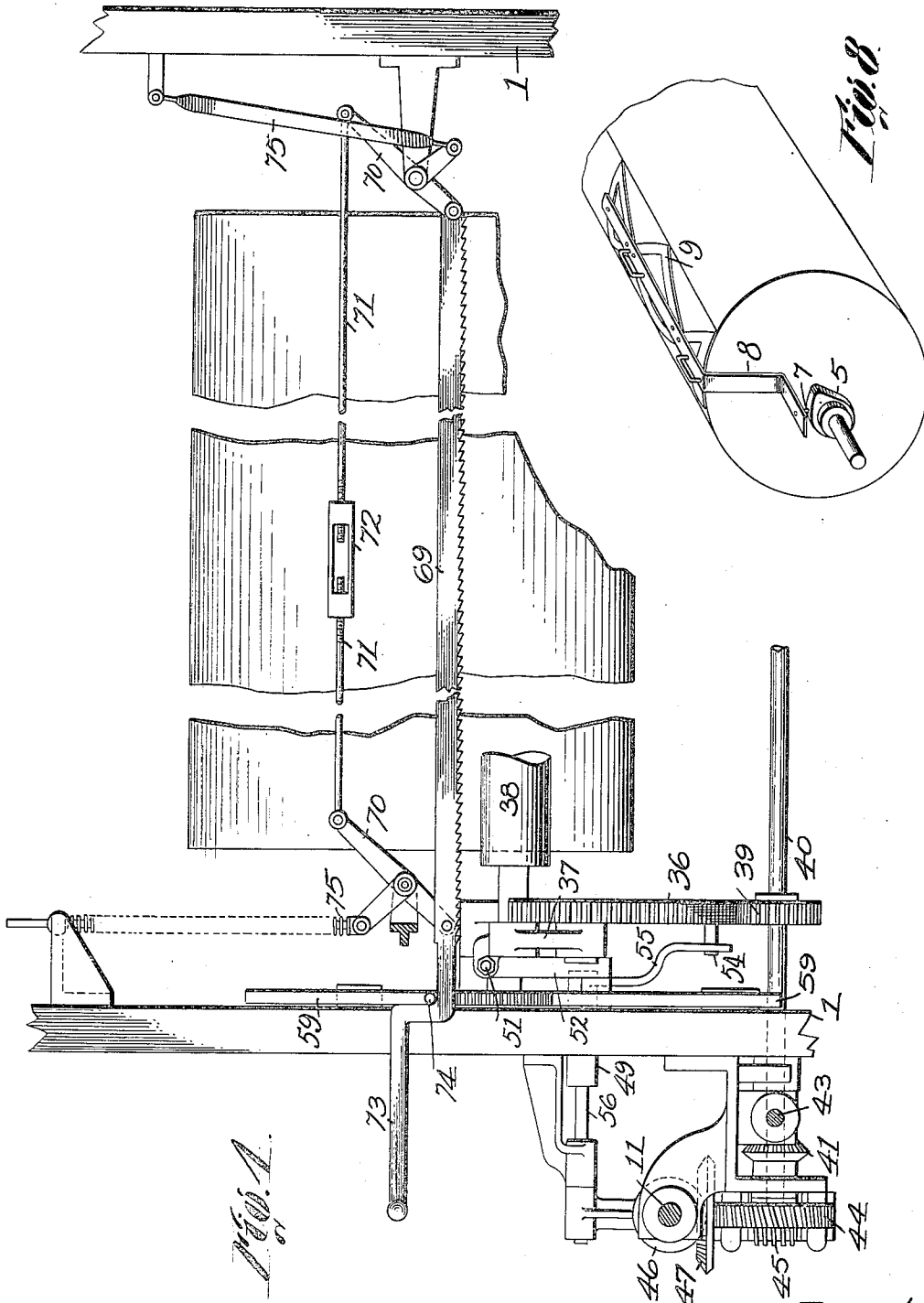
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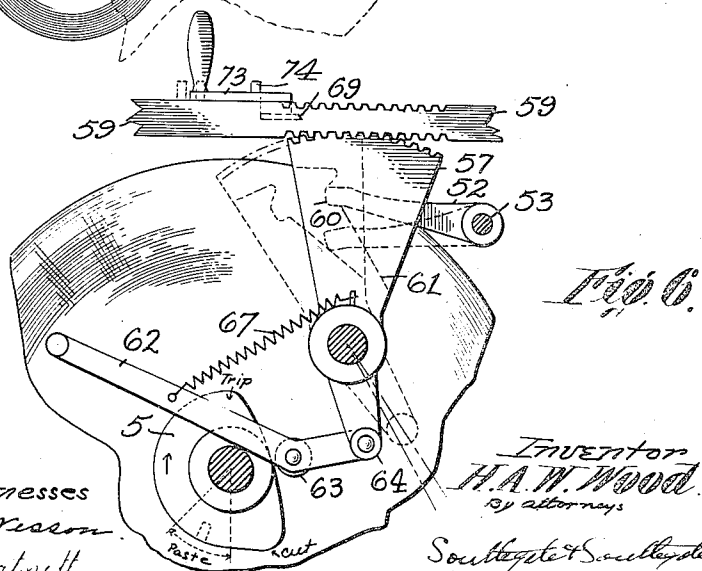
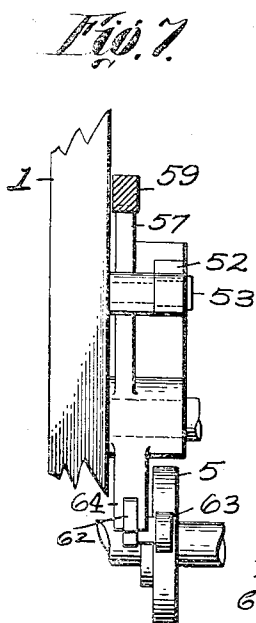
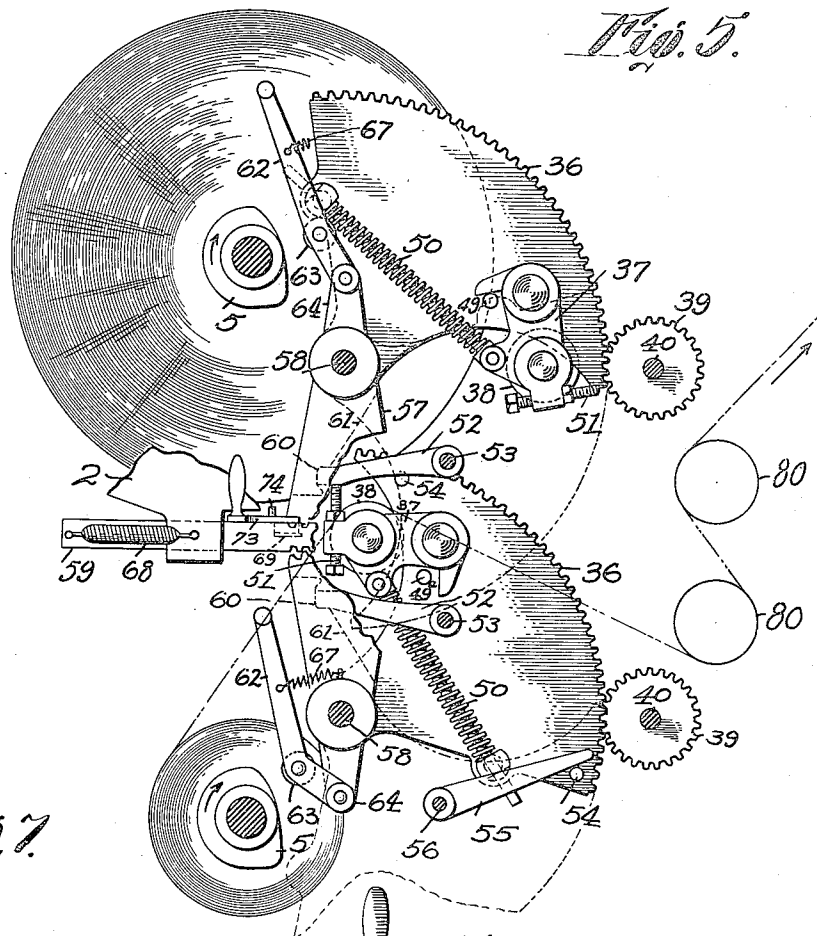
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5 SHEETS—SHEET 4.



Witnesses
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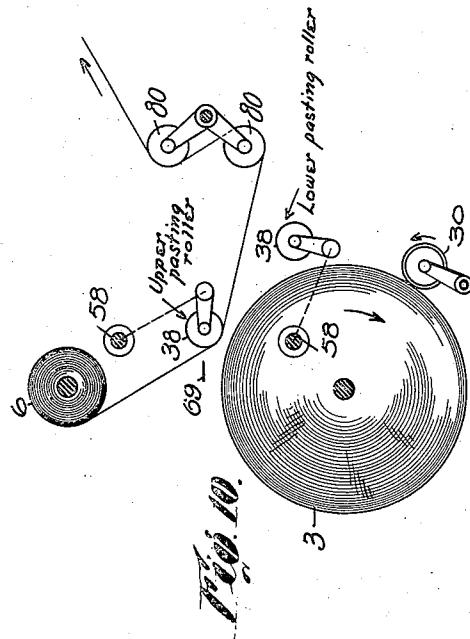
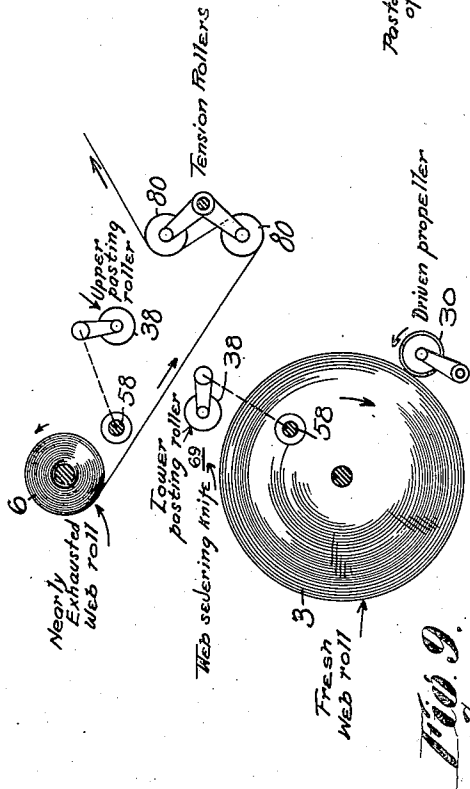
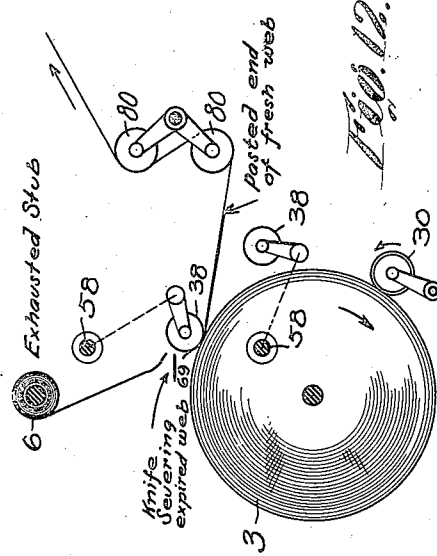
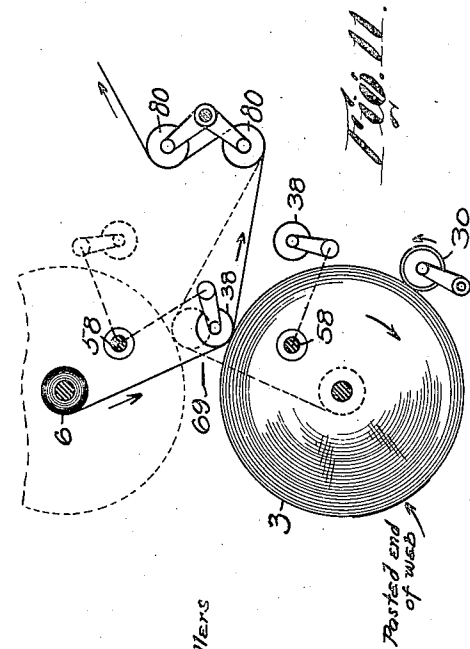
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5 SHEETS—SHEET 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

HENRY A. WISE WOOD, OF NEW YORK, N. Y., ASSIGNOR TO WOOD NEWSPAPER MACHINERY CORPORATION, OF NEW YORK, N. Y., A CORPORATION OF VIRGINIA.

WEB-RENEWING DEVICE FOR PRINTING-PRESSES.

1,305,429.

Specification of Letters Patent.

Patented June 3, 1919.

Application filed September 19, 1914. Serial No. 862,469.

To all whom it may concern:

Be it known that I, HENRY A. WISE WOOD, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented a new and useful Web-Renewing Device for Printing-Presses, of which the following is a specification.

This invention relates to mechanism for connecting a fresh web to an expiring web in a printing press without stopping the press or slackening its speed.

The principal objects of the invention are to provide an improved means for bringing the fresh web roll up to web speed automatically; to provide improved means for automatically connecting the end of the fresh web with the end of the expiring one and severing the latter from the stub while the press is operating at full speed; to obviate the necessity of moving the fresh web roll bodily after it is put in position on the press, and the necessity of threading the fresh web into place by hand; to provide an arrangement whereby the old stub can be removed and the fresh web roll put in position at any convenient time, independently of each other; and to provide other improvements in details of construction and combinations of parts as will appear hereinafter,

Reference is to be had to the accompanying drawings, in which—

Figure 1 is a side elevation of the end of a printing press showing a preferred embodiment of this invention applied thereto;

Fig 2 is an elevation of the same looking from the front of the press;

Fig. 3 is an enlarged sectional view of part of the means for transmitting power to the propellers for the web roll;

Fig. 4 is a plan of the mechanism shown in Fig. 2;

Fig. 5 is a side view showing the position of the parts illustrated in Fig. 1 with parts omitted;

Fig. 6 is a similar view showing another position of the parts;

Fig. 7 is an edge view of the parts shown in Fig. 6.

Fig. 8 is a perspective view of a fresh web roll showing the means for scalloping the edge of the web;

Fig. 9 is a diagrammatic view showing the parts in the position occupied when the fresh web roll is being speeded up to web speed;

Fig. 10 is a similar view showing the next position of the parts and illustrating how the upper pasting roller moves toward the lower fresh roll;

Fig. 11 is a similar view showing the upper pasting roller in contact with the fresh web roll and also showing in dotted lines the position of the pasting rollers when the upper web roll is being renewed;

Fig. 12 is a similar view showing the last step in the operation.

In the ordinary forms of web printing presses now employed for printing newspapers or similar products, the web roll is usually mounted in bearings on the side frames of the press and is provided with suitable tension devices for preserving the proper tension of the web while the same is being drawn into the press. When the web roll is nearly exhausted it is the ordinary practice to stop the press in order to permit the expiring web to be severed, to remove the stub of the old roll, from its bearings in the side frames, then to mount a fresh web roll in the bearings, and finally to paste the end of the fresh web to the end of the expiring web so as to permit the fresh web to be drawn through the machine. Although several devices have been invented for performing these functions automatically, they are ordinarily performed by hand in newspaper plants so far as I am aware, and considerable time is consumed in accomplishing the transfer of the web rolls. Under present conditions this time is valuable and it is important to save it.

This invention is made for the purpose of providing a practical means for accomplishing these operations automatically. Briefly stated, the operations are carried out in the following way in accordance with this invention. One web roll is mounted directly above the other one. When the web of paper from the upper roll is nearly exhausted the lower roll, having paste thereon, is revolved so as to bring its circumferential velocity up equal to the web speed. Then the old web is brought into pasting contact

with it and is pasted to it. The web from the exhausted stub is severed at the same time and the stub is removed. Then, of course, a fresh web roll is substituted for the
5 exhausted stub and when the lower web is nearly exhausted the same operation is performed.

For the purpose of speeding up the fresh web roll to web speed, a number of driven
10 propellers are provided, operated by a non-positive connection, so that it can slip when the propellers are first applied to the surface of the web roll and gradually bring it up to web speed. The expiring webs are
15 brought into pasting contact with the surface of the fresh web rolls by two rollers. These rollers are connected so as to rotate simultaneously in either direction and when one web is about exhausted these rollers are
20 moved so that one of them comes into contact with the outside of that web and forces it into contact with the fresh web roll. The motion of the two rollers in one direction is for the purpose of using one of them and
25 the motion in the other direction for using the other. This roll in either case is brought close to the web and held there until the web roll rotates into a position in which the pasted portion registers with the line along
30 which the fresh web is to be pressed against it. Then means controlled by the web roll shaft operates connections for releasing the roller from this position and causing it to press the expiring web against the fresh
35 web roll. This, of course, in view of the timing just specified, brings the region on the old web just in advance of the line on which it is to be severed into contact with the surfaces of the new web that have been
40 pasted or glued and it is secured to it by the pressure of the roll thereon. The severing of the old web is then performed automatically.

Referring now to the drawings it is to be
45 observed that the mechanism is mounted on the frame 1 of the printing press only the end of which is shown. In bearings on the brackets 2 with which this frame is provided a fresh web roll 3 is located for each
50 deck of the press. This web roll is provided with a spindle having a cam 5 on each end. The expiring web roll is indicated at 6 and as shown in Figs. 1 to 7 it is the fresh upper roll that is being connected
55 up with the expiring web from the lower roll.

Referring to Fig. 8 it will be seen that the cam 5 is provided with a hole into which a pin 7 can drop. This pin projects from a
60 templet 8 which is provided with a frame 9 having a scalloped edge. Before the web is applied this templet is placed on the roll with the pin 7 in the hole of the cam and consequently with the scallops at a certain
65 definite position on the circumference of

the roll. The free end of the web is torn off along the scalloped edges to provide a correspondingly shaped edge on the web itself. This operation is performed twice, once
70 from each end. The points *a* of these scallops (Fig. 2) are loosely pasted or fastened to the surface of the web roll in order to prevent them from getting loose and unwinding the web during its rotation. The
75 outer edges *b* are covered with suitable paste or glue ready to be attached to the expiring web. Spaces *c* are left unpasted in order to provide paths for the web roll propellers. It will be noted that the highest portion of the cam 5 is located just in advance of the
80 hole into which the pin 7 passes so that it will perform certain operations to be described hereinafter in time to leave the scalloped edge in proper pasting position.

The web renewing mechanism is operated
85 from a shaft 11 mounted in suitable bearings on the frame and driven from the press by means not herein shown. For the purpose of propelling the fresh web roll the following mechanism is shown. A friction
90 disk 12 is driven by friction rollers 13 on hubs of miter gears 14. These miter gears are supported on studs in a bracket 15 and driven through gears 16 on the shaft 11. There are two sets of these parts for each
95 deck of the press, one above and one below the two web rolls. The friction disk 12 is slidably fastened to a shaft 17 by a loose key and keyway and this shaft is journaled in the bracket 15 and also in a bracket 18.
100 The back pressure of the disk 12 is taken up by means of an anti-friction bearing 19. Nuts 20 on the hub of the bracket 15 furnish means for taking up the wear of the parts. The inner end of each shaft 17 carries a gear 21 which meshes with a wide
105 faced gear 22. The gear 22 is mounted loosely on a shaft 23 and meshes with a gear 24 loose on a parallel shaft 25. The shafts 23 and 25 are provided with arms
110 26 and 27 respectively which project therefrom and support a pair of propeller shafts 28 and 29 having propellers 30 fixed thereto. Two gears 31 and 32 secured to the ends of the shafts 28 and 29 mesh with the gears
115 22 and 24 respectively and are driven from the gear 21 with which they both mesh, although they are not in the same plane. On the outer ends of the shafts 23 and 25 are fastened operating levers 33 and 34. By
120 means of these the shafts can be turned on their own axes and their arms 26 and 27 thus moved to bring the propellers 30 into contact with the surface of the fresh web roll. This causes the fresh web roll to rotate
125 with its shaft in the bearings on the brackets 2. This rotation will be very slow at first on account of the slipping of the friction disk 12 but the speed will gradually increase until the circumference of the
130

fresh web roll rotates at the speed of the web, the connection being designed to produce this as the maximum speed. It will be understood, of course, that each of the levers 33 and 34 operates one set of propellers, and that in Fig. 1 the lever 34, shown at the top of the sheet, is the one operated for the purpose of rotating the fresh web roll 3.

Between each two decks of the press the shaft 11 is provided with a double toothed clutch 48 operated by a hand lever crank 49 fixed to a shaft 56. The oppositely facing teeth of this clutch cooperate with teeth on a pair of bevel gears 46, both meshing with a bevel gear 47. These gears are supported in suitable bearings by shafts which are provided with worms 45, which worms mesh with worm wheels 44 on a pair of shafts 40. On these shafts are bevel gears 41 which mesh with corresponding bevel gears 42 on a vertical shaft 43 suitably supported in brackets on the frame. This arrangement is provided for the purpose of turning two pairs of oscillating supporting members, in the form of segments 36, one for each of the two web rolls. Each of these segments is pivoted on a stud 58 on the frame 1 and carries an arm 37 in which the spindles of pasting rollers 38 are journaled. Each segment meshes with a gear 39 on one of the shafts 40. Thus it will be seen that the two parallel shafts 40 at each side of the press are caused to rotate simultaneously in either direction and the pasting rollers 38 moved up or down by manipulation of the hand lever crank 49.

The pasting roller arms 37 are normally held against stops 49^a on the segments 36 by means of springs 50 except while in pasting positions. When either pair of segments approaches the pasting position, adjustable pin stops 51 on the arm 37 come into contact with cam levers 52 pivoted to the frame of the machine at 53. Each cam lever 52 is held, by means to be described, in such position as to hold the arm 37 back and compress the spring 50. The latter is ready to propel the roller 38 against the fresh web roll when the cam lever 52 is released from the position shown in Fig. 1 and thus apply the roller with spring pressure.

Both pairs of segments 36 are stopped in the correct pasting position by means of two pins 54 on one of the segments coming into contact, at the end of the motion of that segment, with a throw-out lever 55 attached to the shaft 56 of the hand lever crank 49. This throws out the clutch and stops further motion in that direction. On the same stud 58 on which each segment 36 is pivoted, a toothed segment 57 is pivoted independently of the segments 36. The two segments 57 mesh with the teeth on opposite sides of a reciprocating rack bar 59. Each segment 57 is provided with a recess 60 in one edge for receiving the end of the cam lever 52 and

holding it in the position shown in Fig. 1. It also has a cam incline 61 down which the end of the lever 52 is adapted to slide when the segment 57 is drawn back to release the cam lever.

To the opposite end 64 of each segment 57 is pivoted a trip lever 62 having a cam roller 63 thereon. This cam roller is adapted to operate on the cam 5 on the end of the web roll spindle. A spring 67 holds the lever 62 in such position that the roller 63 is normally out of contact with this cam. A spring 68 holds the rack bar 59 to the right in Figs. 1, 5 and 6, thus drawing the two segments 57 in the same direction and keeping the ends of the two cam levers 52 in the recesses 60, unless the segments 57 are forced to the left positively. In this event the parts will speedily assume the position indicated in dotted lines in Fig. 6.

It will be understood, of course, that when this lever 62 is released from the cam and allowed to move back to the position shown in Fig. 5, the spring 68 will force the segments 57 back to the right and force the cam levers 52 up the incline 61 until they are locked in the position shown in Fig. 5.

These parts above described that are shown inside the frame are duplicated on the two sides of the frame. It will be understood that the oscillating segments 36 are shown in Figs. 1 and 5 at one end of their oscillation. When they move back to the opposite limit of their motion they assume the position shown in dotted lines in Fig. 5.

For the purpose of severing the web, a thin knife 69 is securely stretched between two crank levers 70 by means of tie rods 71 and a turn buckle 72. One end of the knife 69 is elongated into a hook handle 73 adapted to bear against a pin 74 on the top of the rack bar 59. A pair of springs 75 connected with the crank levers 70 tend to turn these levers in such direction as to sweep the knife 69 across the expiring web to sever it. This operation occurs as soon as the pin 74 moves back from the hook handle 73 and releases the same. After it is severed the hook handle can be operated by hand to draw it back to the position shown in Fig. 4, of course after the rack bar 59 has returned to normal position.

The operation of the device is shown diagrammatically in the last four figures. The fresh paper roll 3, prepared as described, is placed in position in the printing press with its shaft in its bearings, and the propellers 30 are brought into contact with its surface to cause it to revolve at web speed as has been explained. This position of the parts is shown in Fig. 9, it being understood that here the lower web roll is the fresh one instead of the upper one as shown in Fig. 1. The expiring web from the roll 6 is then brought into pasting position with respect

to the fresh web roll by throwing the clutch 48 into connection with the proper clutch teeth. This causes the four segments 36 with their two pasting rollers 38 to revolve in the desired direction. They are automatically stopped in their proper position by one pin 54 and throw-out lever 55 as previously described. During most of this motion the springs 50 tend to force this pasting roller toward the fresh web roll, but just before the oscillating members are stopped, the stops 51 on the ones coming into action engage the cam levers 52 which hold the pasting roller away from the web roll.

The roller 63 on the trip lever 62 is now brought by hand into contact with the cam 5 on the paper roll spindle as shown more fully in Fig. 6. In this position the cam will exert a direct thrust on the end 64 of the segment 57. This positively forces the segment to the left and the rack bar with it, but its function at this time is to release the cam lever 52. This then moves out of the way of the stop pin 51 and allows the springs 50 to force the pasting roller yieldingly against the expiring web and fresh web roll. It is to be observed that no matter which web roll is to be supplied all the segments and cam levers are operated on account of their connection through the rack bar. Although in theory either one of the levers 62 may be operated for the purpose of controlling the movements of the segments 57 and the cam levers 52, yet it is necessarily the roll which is adapted to contact with the cam 5 on the fresh web roll spindle that is operated in order that these parts may be timed correctly. The other lever 62 at this time is operated by the movement of the other segment 57 but without accomplishing any function.

The roller 38, which up to this time has been held by the segment 36 in the position shown in Fig. 9, now moves toward the fresh web roll, and the other pasting roller moves around out of the way, as shown in Fig. 10. The upper roll in this case thus engages the upper web and forces it down on the fresh web roll as shown in full lines in Fig. 11, being forced into this position by the springs 50. On account of the control of this motion from the cam 5 it necessarily engages the new roll at a point just in advance of the line of pasted scallops thereon, so that it presses the old web into contact with the paste and pastes the two together. The completion of the rotation of the cam 5 to its highest point causes the rack bar 59 and the knife stop pin 74 to move forward sufficiently to release the web severing knife 69. This sweeps across the expiring web and completely severs it as shown in Fig. 12. The dotted lines in Fig. 11 indicate the position of the webs and rollers when the fresh web roll is above instead of below. A

single knife is used for severing both webs. It is to be noted that the web from either source of supply is drawn off through a common pathway by means of the usual directing and guiding rolls 80. This is possible because the web rolls are caused to rotate in opposite directions, so that their adjacent surfaces move in the same direction and the pathway extends from a point between them.

In this way it will be seen that the parts are operated automatically and timed absolutely correctly from the shaft 11 which is operated by the press, and by means of mechanism which is not complicated or likely to get out of order in practice. Furthermore, no mechanism is required for transferring the fresh web roll from one position to another, no threading of the new web into position is necessary, and the fresh roll can be placed in position at any time after the exhausted stub is removed, which need not be done immediately after the connection of the two webs.

Although I have illustrated and described only a single embodiment of the invention, I am aware of the fact that many modifications can be made therein by any person skilled in the art without departing from the scope of the invention as expressed in the claims. Therefore, I do not wish to be limited to all the details of construction herein shown and described, but what I do claim is:—

1. In a web renewing device, the combination of two freely rotatable sources of web supply, stationary supports for both of them, means located in fixed position for guiding either web from a point between them, and means movable back and forth between said sources of supply for directing either web to the guiding means.

2. In a web renewing device, the combination with stationary means for rotatably supporting two sources of web supply, means movable to two positions between said sources of supply for drawing a web from either source of supply and thus rotating that source of supply, means for rotating the other source of supply in the direction in which said web is moving, and means for applying and securing said web to the surface of said other source of supply.

3. In a web renewing device, the combination with the press frame, of fixed means thereon for supporting the expiring and fresh web rolls, one over the other, two sets of propellers, and means for moving either set of propellers into contact with a web roll.

4. In a web renewing device, the combination with the frame of a printing press, of means thereon for supporting the expiring and fresh web rolls, two sets of propellers whenever either set is rotated, means for rotating both sets of propellers, and means

for moving either set into contact with a web roll.

5. In a web renewing device, the combination with the frame of a printing press, of means for supporting web rolls thereon in vertical alinement, two sets of propellers, and means for moving each set of propellers into and also out of contact with its web roll.

6. In a web renewing device for printing presses, the combination with means for supporting a web roll, of a power driven shaft, a roller connected with said shaft to be rotated therefrom, a disk mounted in position to be engaged by said roller and rotated thereby, a shaft on which said disk is mounted, a set of web roll propellers, and means for positively connecting the last named shaft with the propellers for rotating the same.

7. In a web renewing device for printing presses, the combination of means for supporting a web roll, a driven shaft, propellers adapted to engage said roll for rotating it, means connected with said driven shaft for transmitting power to the propellers frictionally, whereby the speed of the web roll can be gradually increased, a pasting roller, and means for moving said pasting roller against the surface of said web roll for applying another web thereto while said web roll is rotating.

8. In a web renewing device, the combination with a web roll and a cam rotatable therewith, of a templet adapted to be positioned by said cam, along the edge of which the end of the web can be torn off at a certain definite point in the circumference of the web roll, and means controlled by said cam for bringing another web to the surface thereof at the point at which the torn end of the web is located.

9. In a web renewing device for printing presses, the combination with a web roll and a cam rotatable therewith, of a templet adapted to be positioned by said cam, along the edge of which the end of the web can be torn off at a certain definite point in the circumference of the web roll, bearings in which the web roll spindle is supported, means for rotating said web roll and spindle, a pasting device, and means controlled by said cam for bringing said pasting device against the web roll for the purpose of applying another web to the surface thereof at the point at which the torn end of the web is located.

10. In a web renewing device for printing presses, the combination with a web roll and its spindle, of a cam, a templet having a scalloped edge along which the end of the web can be torn off, said cam having means for locating said templet in a definite position circumferentially with respect to the cam, and means controlled by said cam for

pressing an expiring web against said web roll at the point at which the web was torn off.

11. In a web renewing device for printing presses, the combination with a web roll and its spindle, of a cam, a templet having a scalloped edge along which the end of the web can be torn off, said cam having means for locating said templet in a definite position circumferentially.

12. In a web renewing device for printing presses, the combination with a web roll and its spindle, of a cam, a templet having a scalloped edge along which the end of the web can be torn off, said cam having means for locating said templet in a definite position circumferentially, and propelling rollers adapted to engage the circumference of said web roll and rotate it, the end of the web being provided with paste along said scallops and having spaces between the scallops without paste registering with the propellers.

13. In a web renewing device for printing presses, the combination with means for supporting two web rolls, and a pair of pasting rollers, of means for causing one of the pasting rollers to move against the web coming from one web roll and force it against the surface of the other web roll when the latter is rotated to a certain position, and means controlled by one of said web rolls for preventing the first named means to act except at a certain time.

14. In a web renewing device for printing presses, the combination with means for supporting a pair of web rolls and the web roll spindles therefor, of a cam, means controlled by said cam for locating the place of tearing off the edge of the web on said web roll in a certain definite position, a pasting roller and means for moving said pasting roller toward said web roll and engaging the web from the other web roll to force it against the first named web roll at the edge of the web thereof.

15. In a web renewing device for printing presses, the combination with means for supporting two web rolls adjacent to each other, of two sets of oscillating members having means for supporting two pasting rollers thereon, means carried by said oscillating members for yieldingly moving said pasting rollers on the oscillating members toward their respective web rolls, whereby when one of said pairs of oscillating members moves toward operative position the pasting roller carried thereby will be positively stopped and prevented from moving into contact with the web roll, and means for moving the stopping means out of position so as to permit the yielding means to move the pasting roller into contact with the web roll.

16. In a web renewing device, the combination with a web roll and its spindle, of a cam, a templet having a scalloped edge along which the end of the web can be torn off, said cam having means for locating said templet in a definite position circumferentially with respect to the cam, and means controlled by said cam for

nation with means for supporting a fresh web roll and its spindle, of means for conducting an expiring web adjacent thereto, a pasting roller, means for moving said pasting roller toward the expiring web and fresh web roll, means for preventing the pasting roller engaging the web roll when so moved, and means for moving said preventing means out of the way.

17. In a web renewing device for printing presses, the combination with means for supporting a fresh web roll and its spindle, of means for conducting an expiring web adjacent thereto, a pasting roller, means for moving said pasting roller toward the expiring web and fresh web roll, additional yielding means for forcing the pasting roller toward the web roll, a stop in position for preventing the pasting roller engaging the web roll when so moved, and means controlled from the web roll spindle for moving said stop out of the way at a certain definite point in the revolution of the web roll.

18. In a web renewing device for printing presses, the combination with means for supporting the web roll and its spindle, of a pasting roller, pivoted members for supporting the pasting roller, yielding means for swinging the pasting roller on the pivots of said members toward the web roll, a movable stop, a cam lever adapted to be located in position to be engaged by said stop to prevent further motion of the pasting roller toward the web roll, and means controlled by the web roll for removing said cam lever so as to permit the yielding means to force the pasting roller into contact with the web roll.

19. In a web renewing device for printing presses, the combination with a web roll spindle having a cam thereon, and means for supporting it, of means for rotating the web roll and spindle, means for directing an expiring web adjacent to the surface of the web roll, a pasting roller, a pair of roller arms, said pasting roller being journaled thereon, a stop carried by said roller arms, a cam lever in position to be engaged by said stop to stop the motion of the pasting roller toward the web roll, means for holding said cam lever in its operative position, and means for moving said holding means and allowing the cam lever to move out of the way, whereby the pasting roller can move against the expiring web and force it against the web roll.

20. In a web renewing device for printing presses, the combination with means for supporting the web roll and its spindle, of a pasting roller, yielding means for swinging the pasting roller toward the web roll, a movable stop, a cam lever adapted to be located in position to be engaged by said stop to prevent further motion of the pasting

roller toward the web roll, means controlled by the web roll spindle for removing said cam lever so as to permit the yielding means to force the pasting roller into contact with the web roll, and means for automatically restoring the cam lever to its position for engaging the stop.

21. In a web renewing device for printing presses, the combination with a web roll spindle having a cam thereon, and means for supporting it, of means for rotating the web and spindle, means for directing an expiring web adjacent to the surface of the web roll, a pasting roller, a pair of roller arms, said pasting roller being journaled thereon, a stop carried by said roller arms, a cam lever in position to be engaged by said stop to stop the motion of the pasting roller toward the web roll, means for holding said cam lever in its operative position, means for moving said holding means and allowing the cam lever to move out of the way, whereby the pasting roller can move against the expiring web and force it against the web roll, a reciprocable rack connected with the last named means, a severing knife, and means carried by said rack for controlling the operation of said knife.

22. In a web renewing device for printing presses, the combination of means for supporting a fresh web roll, means for directing an expiring web adjacent thereto, a pasting roller, means for moving said pasting roller yieldingly against the expiring web, means for positively holding the pasting roller back from the web roll and means for thereafter releasing the pasting roller and allowing it to force the expiring web yieldingly against the web roll.

23. In a web renewing device for printing presses, the combination of means for supporting a fresh web roll, means for directing an expiring web adjacent thereto, a pasting roller, means for moving said pasting roller against the expiring web, means for positively holding the pasting roller back, means for thereafter releasing the pasting roller, means for causing the pasting roller to force the expiring web against the web roll, a rack, a reciprocable knife for severing the expiring web, and means controlled by said rack for starting the knife into operation.

24. In a web renewing device for printing presses, the combination of means for supporting a fresh web roll, means for directing an expiring web adjacent thereto, a pasting roller, means for moving said pasting roller toward the expiring web and web roll, a rack connected with the last named means, a reciprocable knife for severing the expiring web, means connected with said rack for holding the knife inoperative and then allowing it to start into operation, and springs for operating the knife when released by said means.

25. A method of renewing the web of a printing press, which consists in applying a templet to a fresh web roll at a definite point on the circumference thereof, tearing off the
5 end of the web along said templet, temporarily securing the end of the web to the web roll, applying paste to the edge of the web, and pressing the expiring web against the fresh web roll at the point at which the
10 paste is located.

26. A method of renewing the web of a printing press, which consists in applying a templet having scallops in its edge to a fresh
15 web roll at a definite point on the circumference thereof, tearing off the end of the web

along said templet to leave a scalloped edge, temporarily securing the points of said scallops on the end of the web to the web roll, applying paste to the edge of the web, rotating the fresh web roll, and pressing the expiring web against the fresh web roll at the point at which the paste is located. 20

In testimony whereof I have hereunto set my hand, in the presence of two subscribing witnesses.

HENRY A. WISE WOOD.

Witnesses:

L. LLOYD,
STAFFORD HENDRIX.