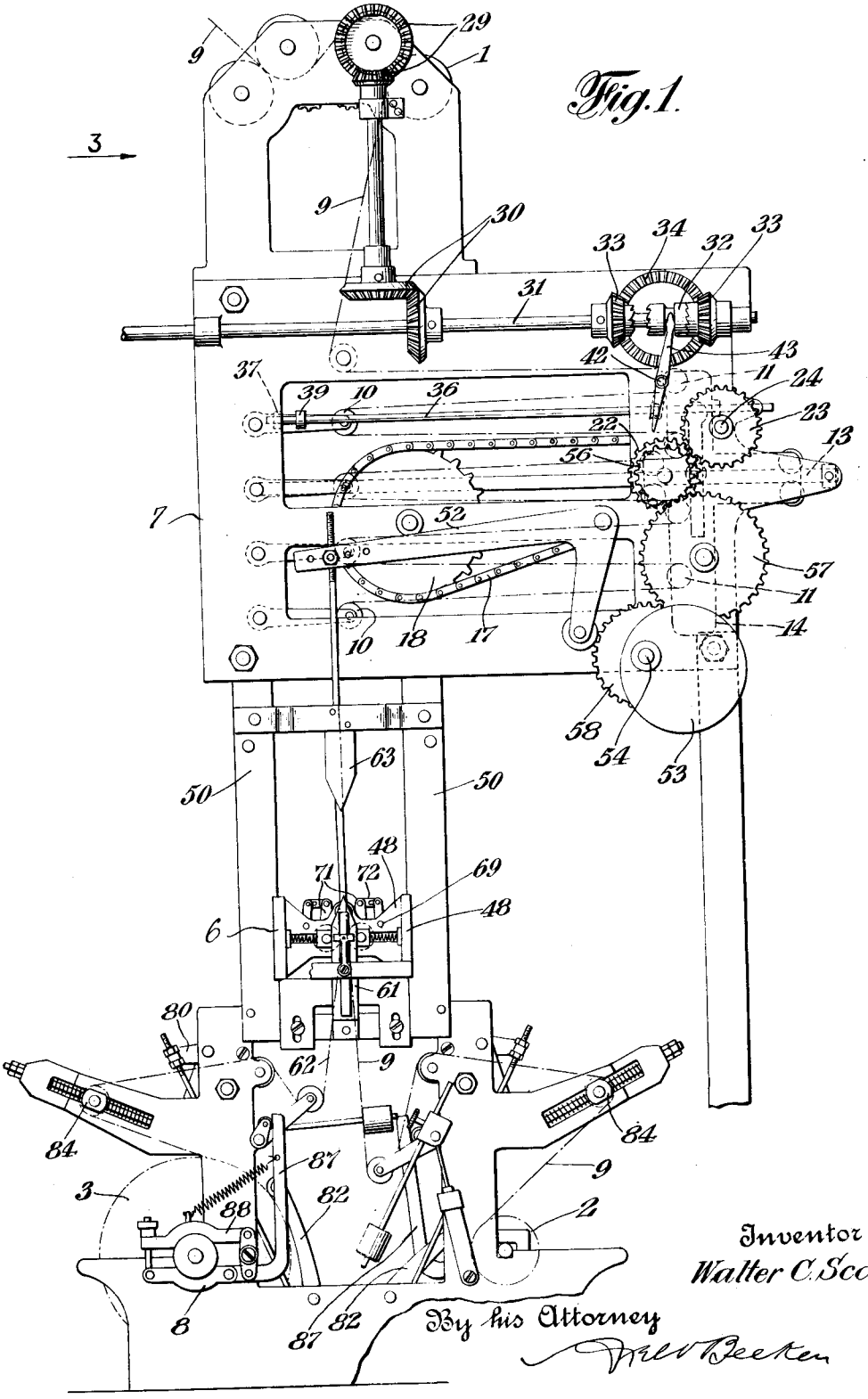
May 13, 1930. W. C. SCOTT 1,758,176

WEB REPLENISHING MECHANISM

Filed Aug. 24, 1925 11 Sheets-Sheet 1

Fig. 1.



Inventor
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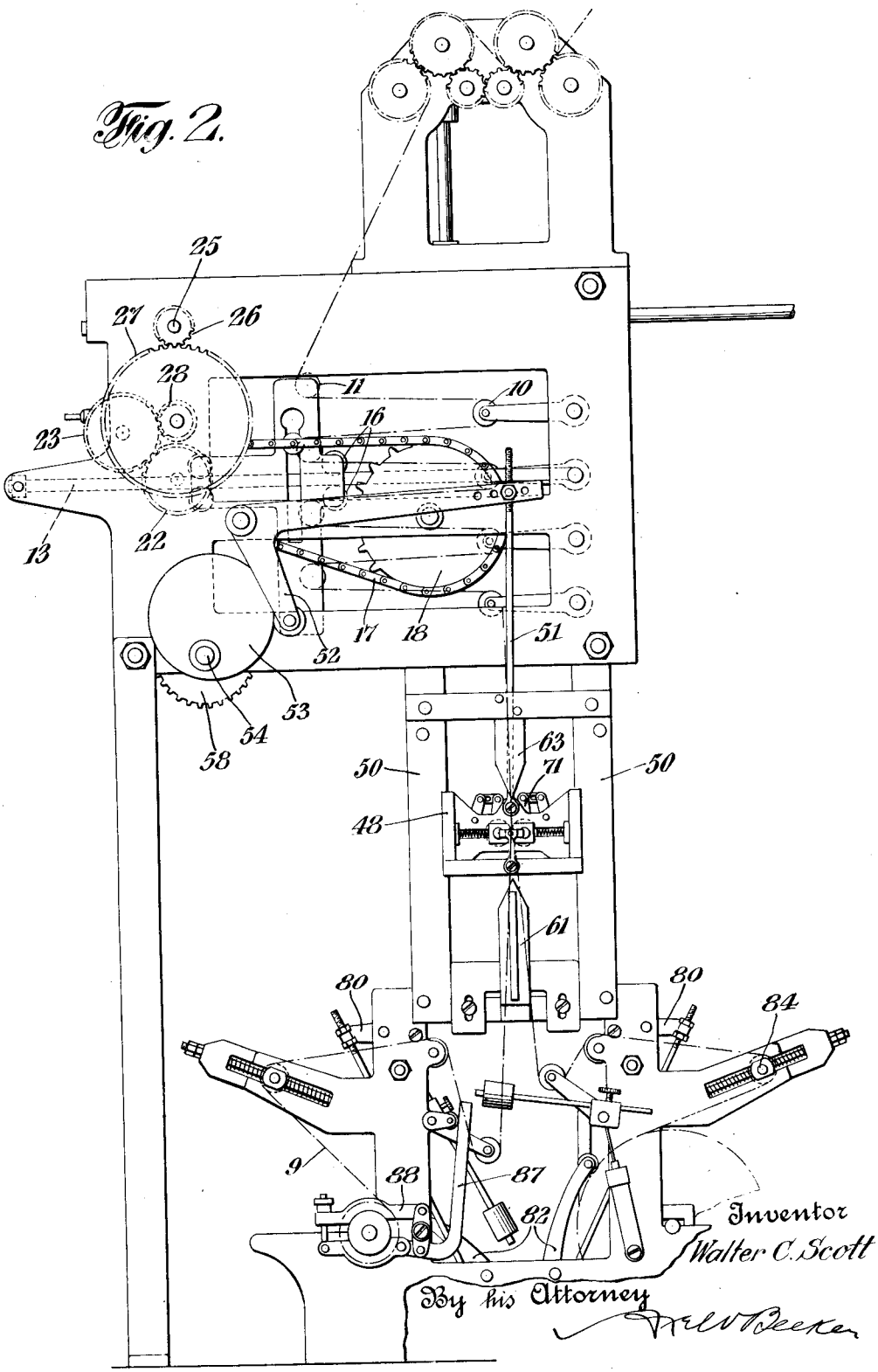
By his Attorney
Fred Beecken

May 13, 1930. W. C. SCOTT 1,758,176

WEB REPLENISHING MECHANISM

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Fig. 2.



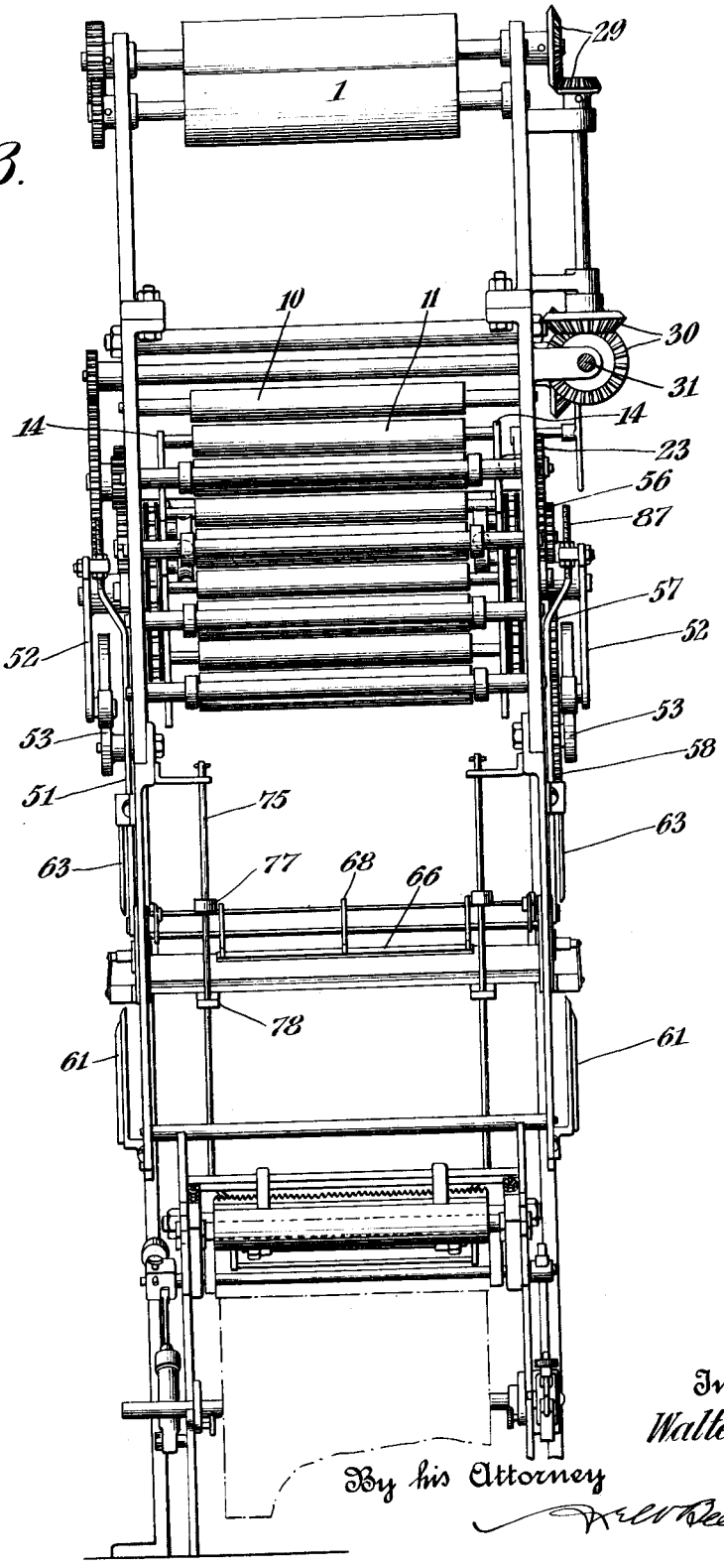
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WEB REPLENISHING MECHANISM

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Fig. 3.



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WEB REPLENISHING MECHANISM

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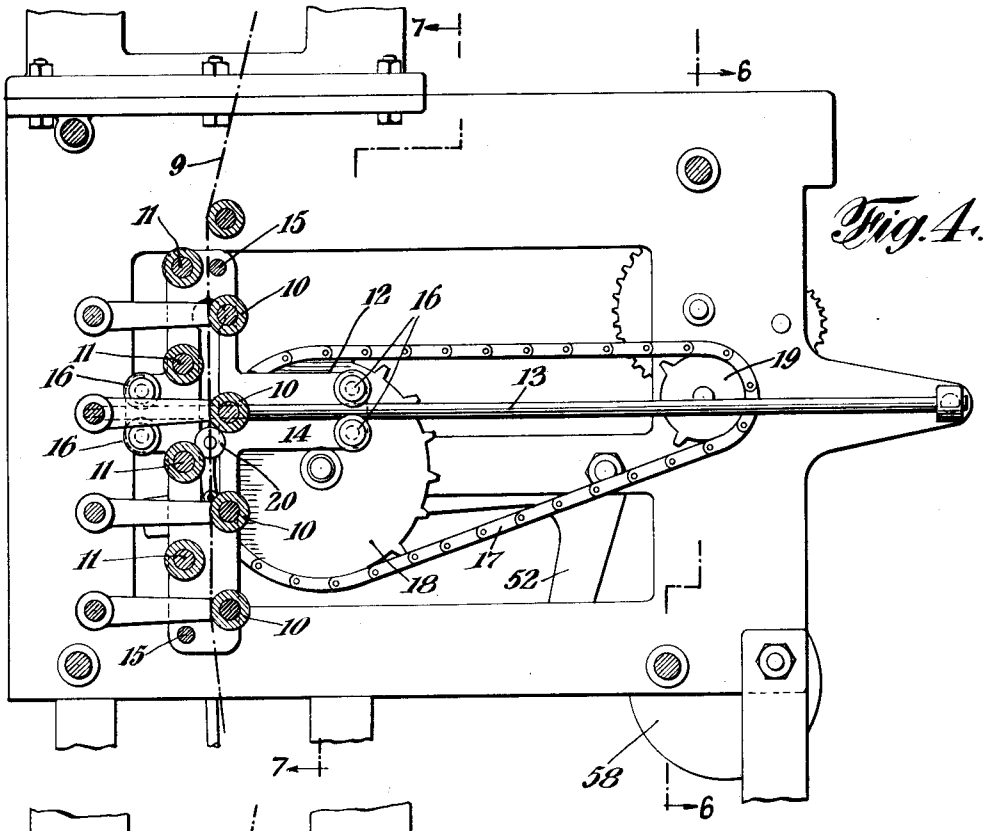


Fig. 4.

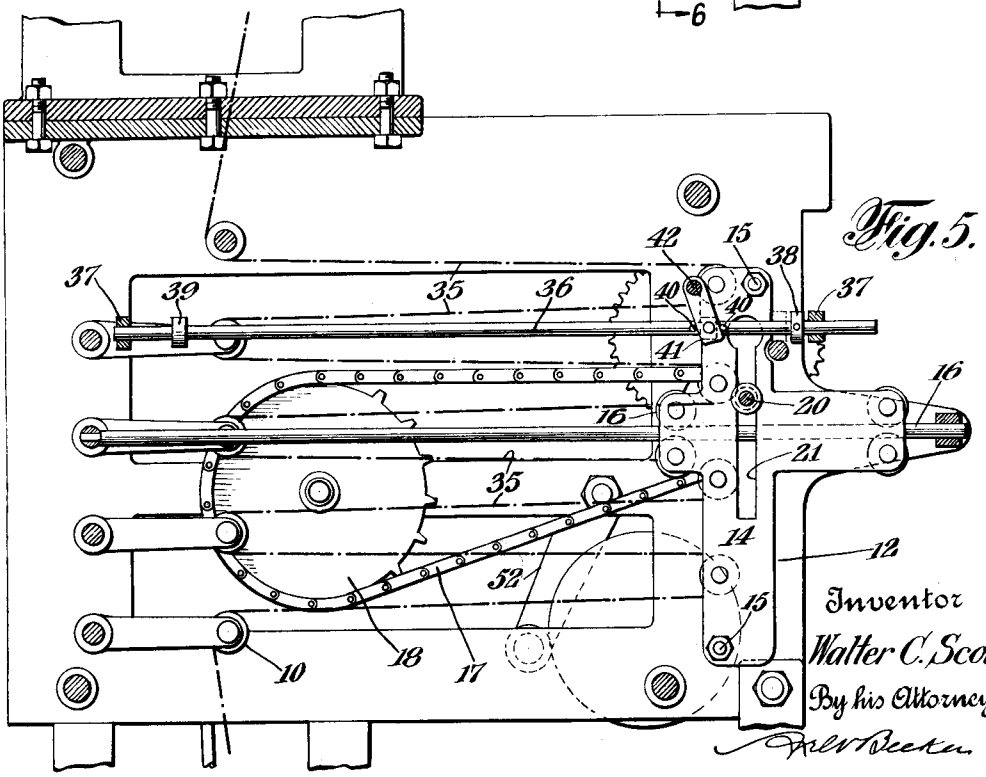


Fig. 5.

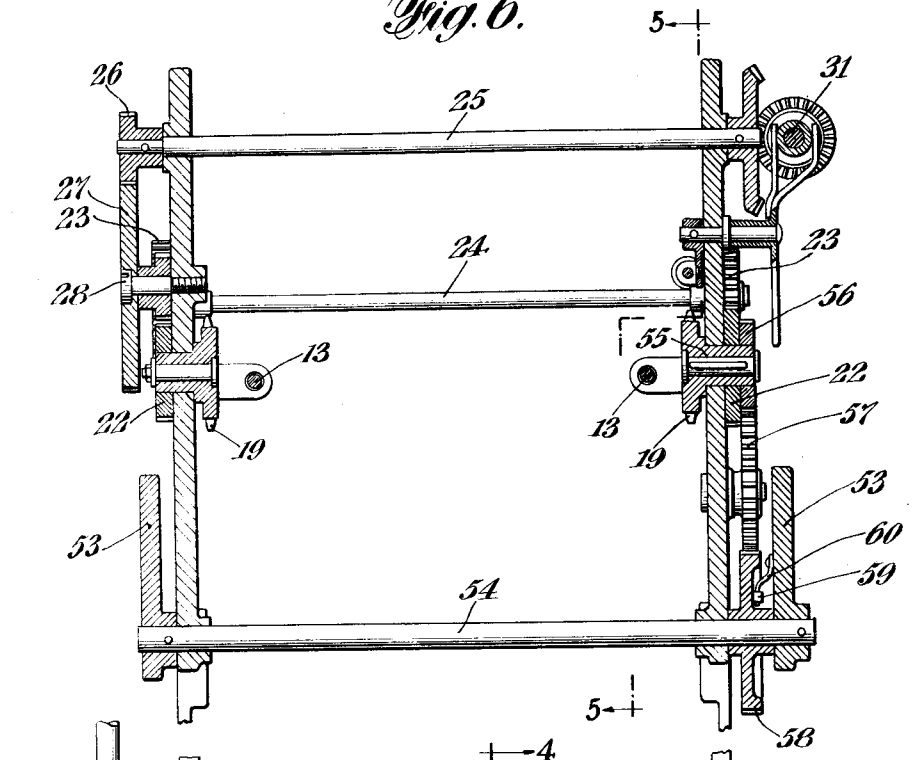
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May 13, 1930. W. C. SCOTT 1,758,176

WEB REPLENISHING MECHANISM

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Fig. 6.



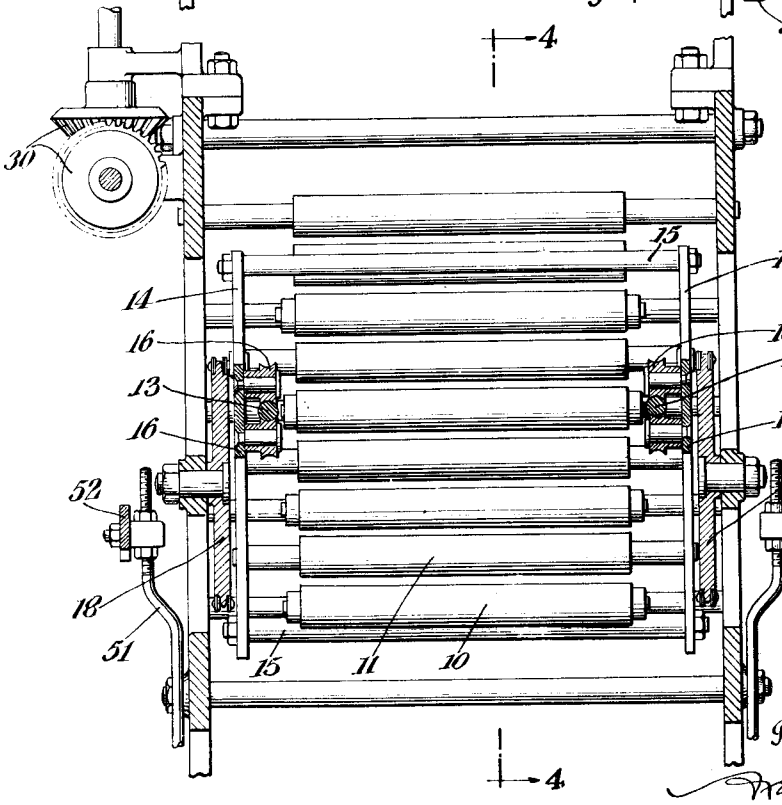


Fig. 7.

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May 13, 1930. W. C. SCOTT 1,758,176

WEB REPLENISHING MECHANISM

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Fig. 8.

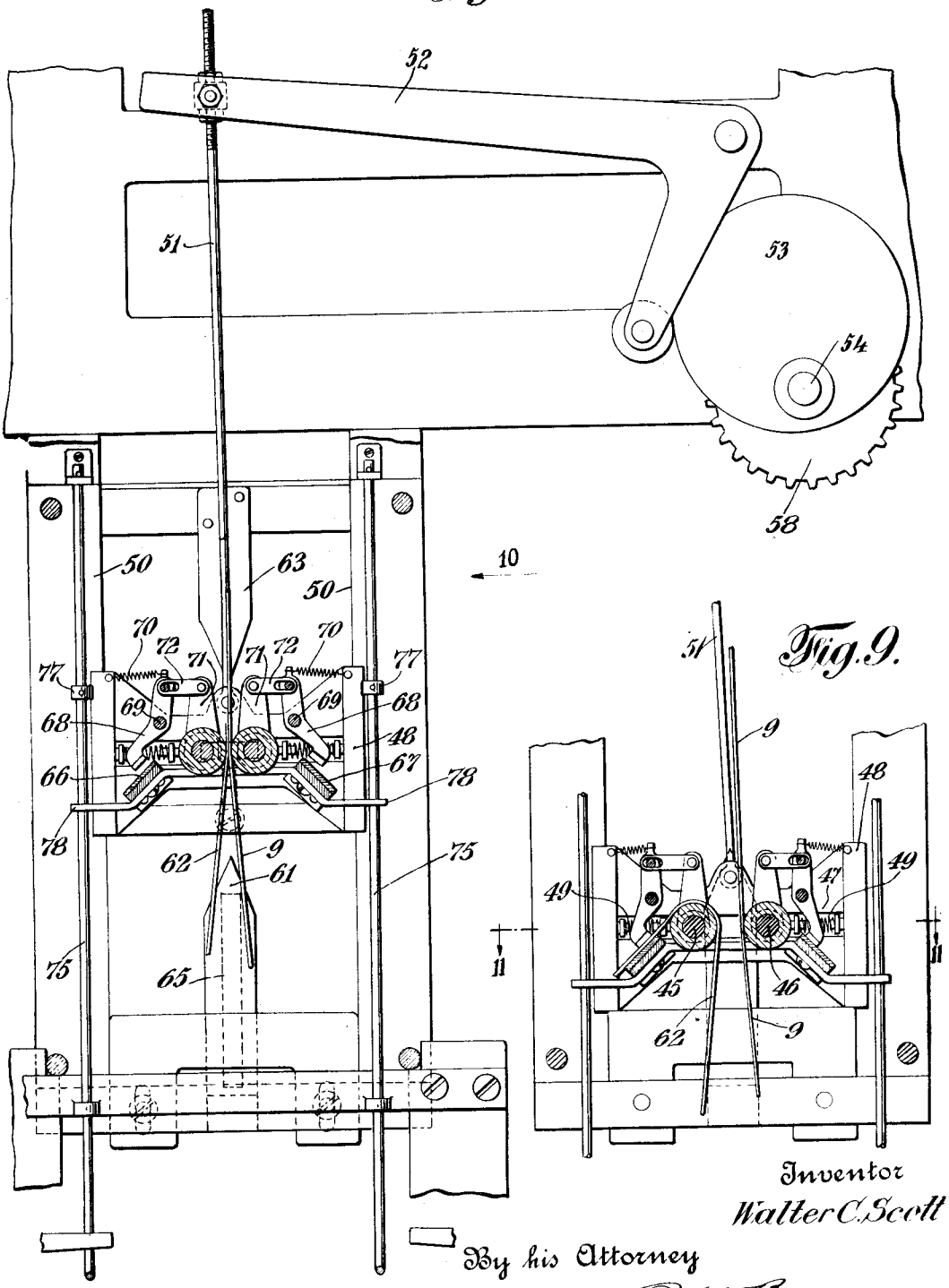


Fig. 9.

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Fig. 10.

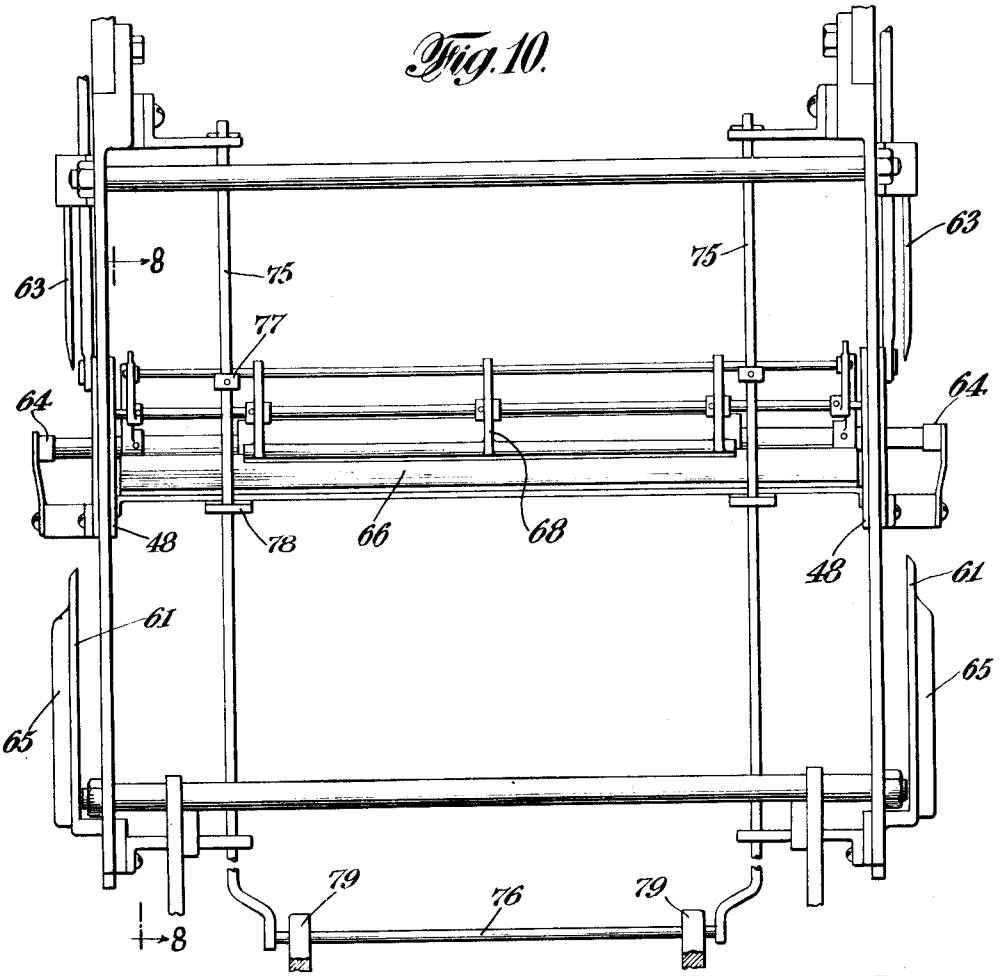
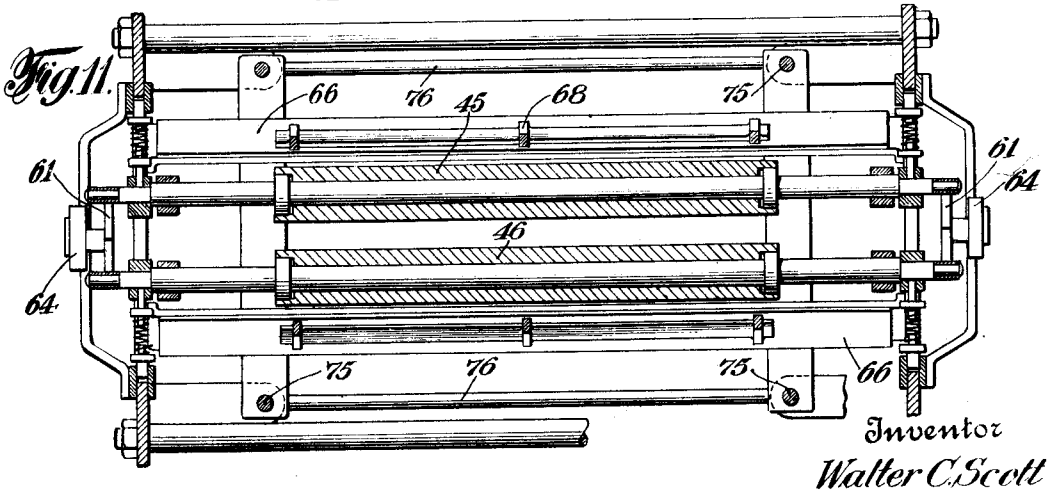


Fig. 11.



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WEB REPLENISHING MECHANISM

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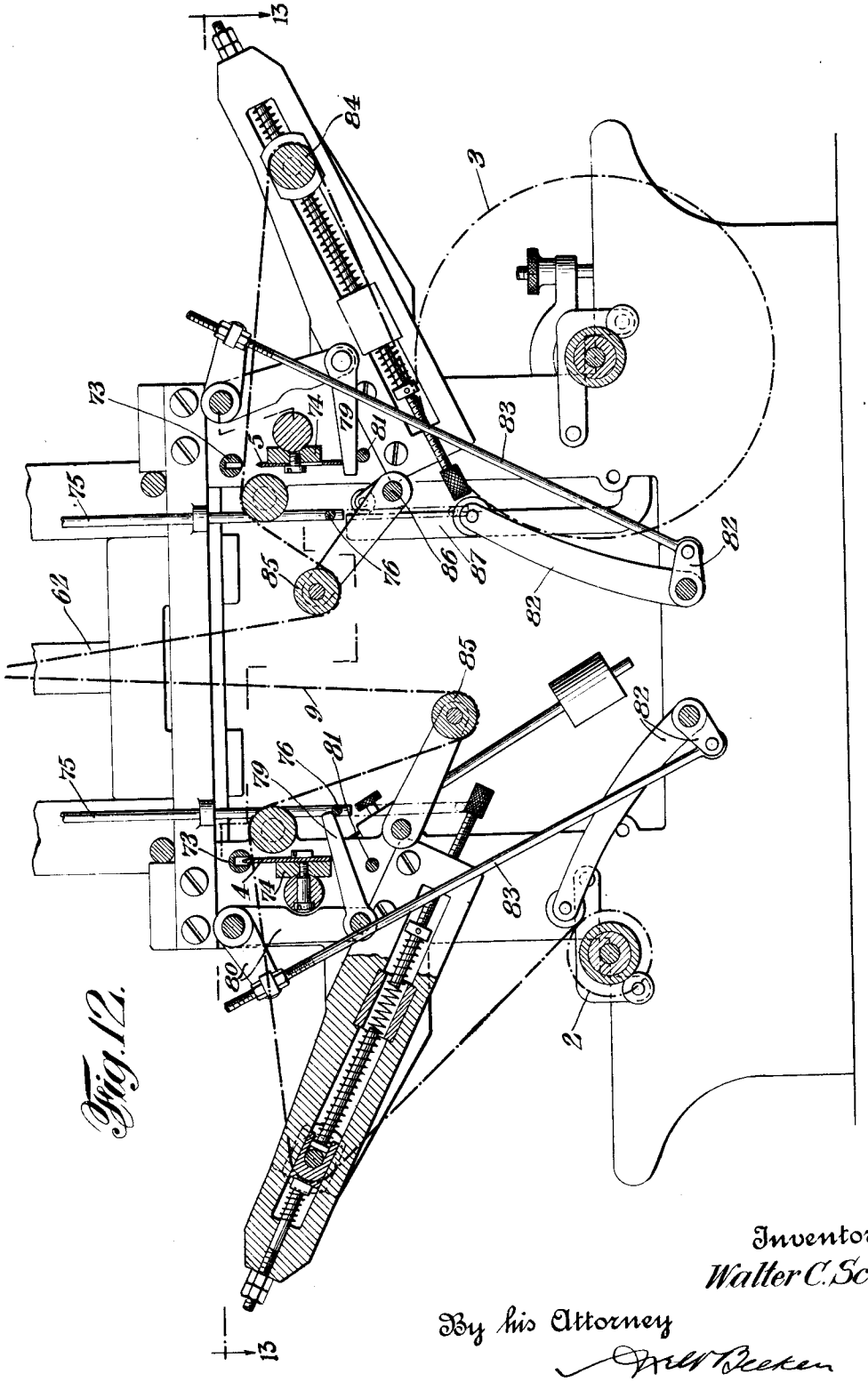


Fig. 12.

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WEB REPLENISHING MECHANISM

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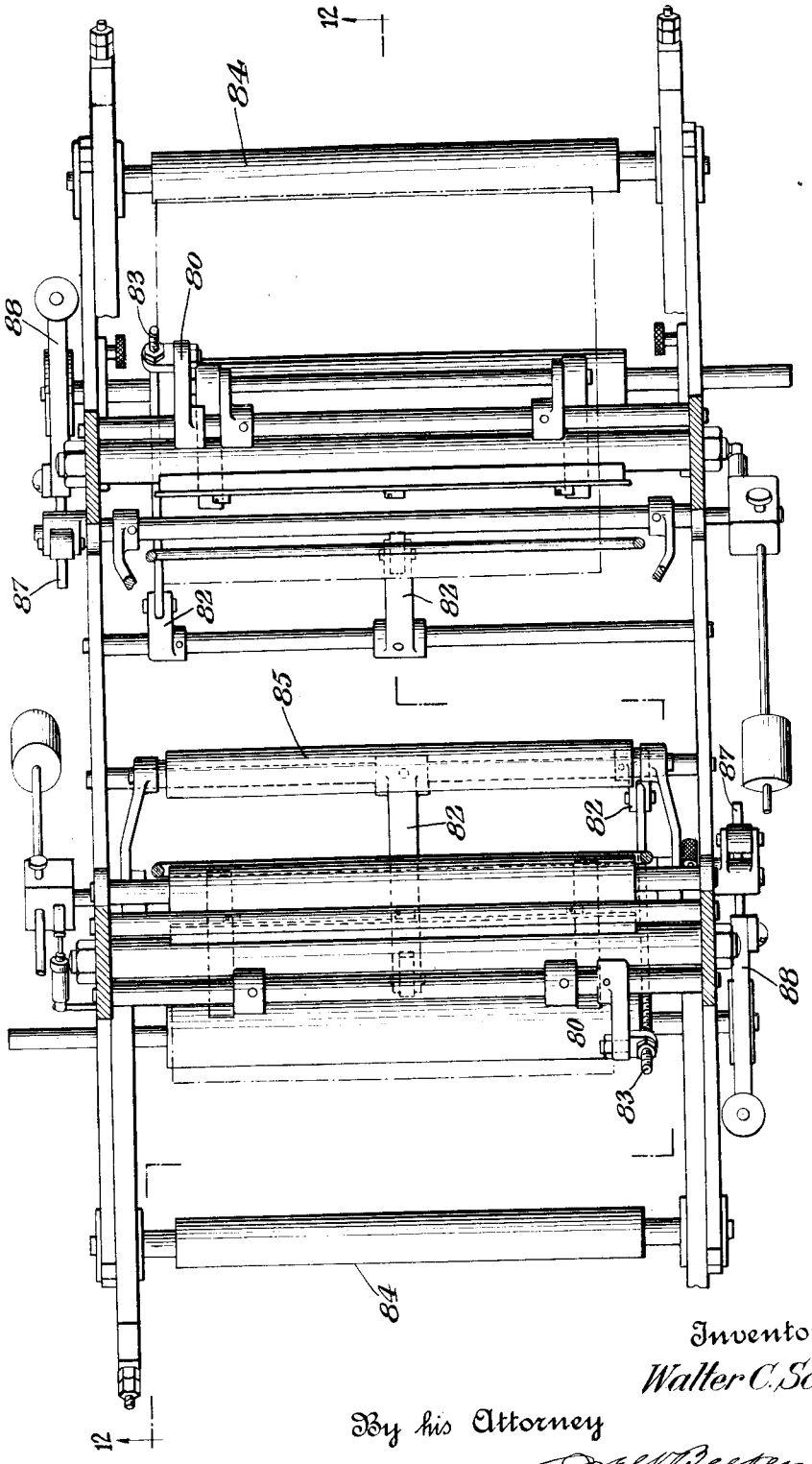


Fig. 13.

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WEB REPLENISHING MECHANISM

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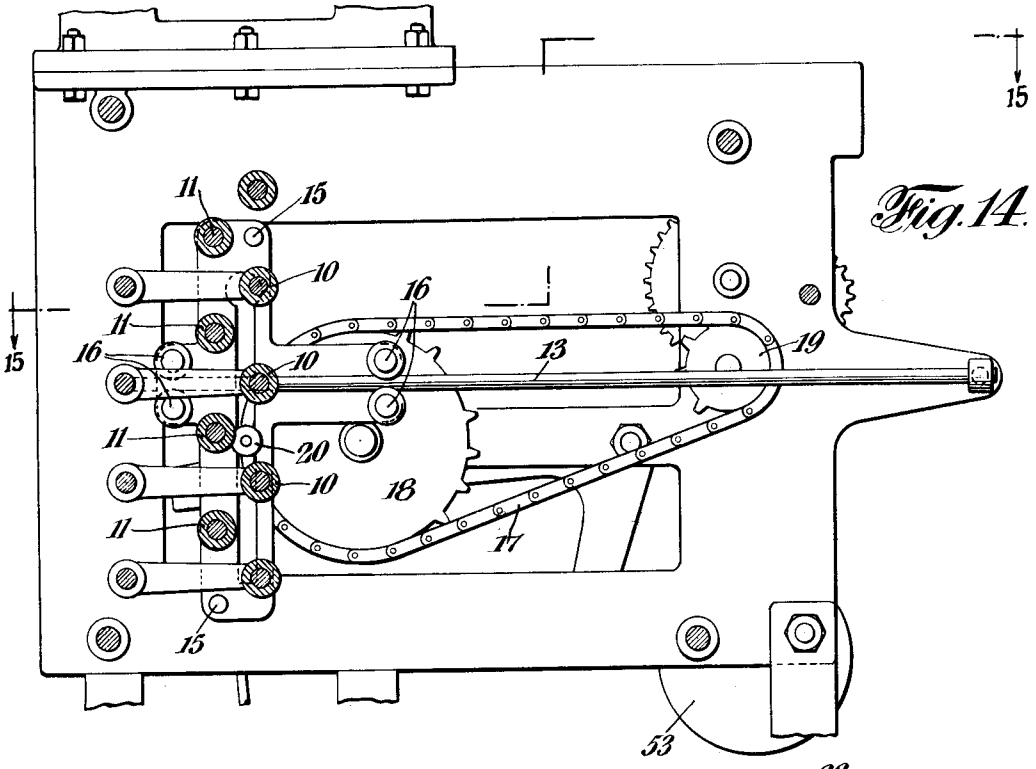
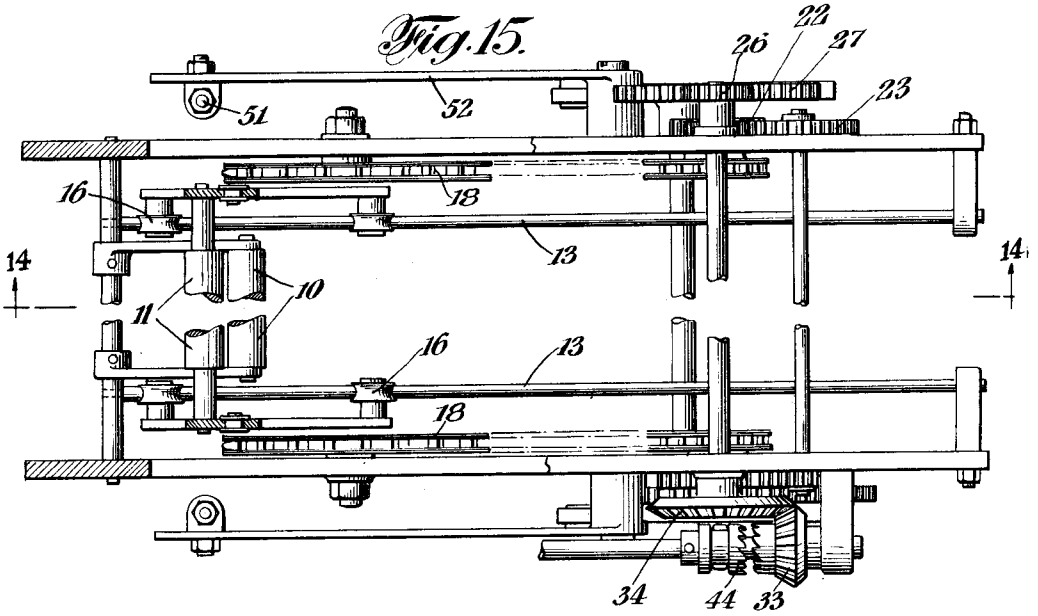


Fig. 14.

Fig. 15.



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WEB REPLENISHING MECHANISM

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Fig. 16.

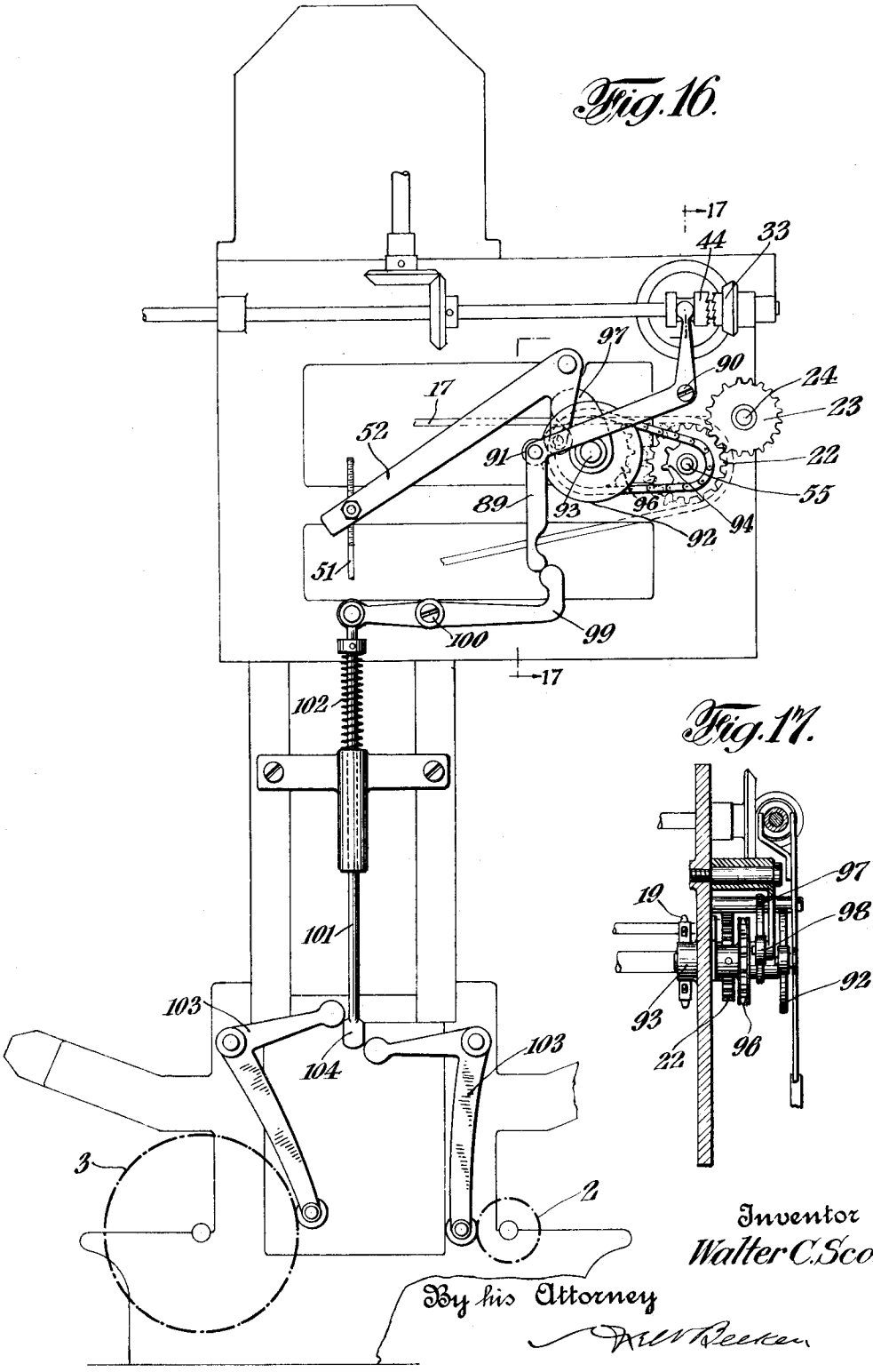


Fig. 17.

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Patented May 13, 1930 1,758,176

UNITED STATES PATENT OFFICE

WALTER C. SCOTT, OF PLAINFIELD, NEW JERSEY, ASSIGNOR TO ISABELLA SCOTT AND DAVID J. SCOTT, EXECUTORS OF THE ESTATE OF WALTER SCOTT, DECEASED, DOING BUSINESS AS WALTER SCOTT & COMPANY, OF PLAINFIELD, NEW JERSEY

WEB-REPLENISHING MECHANISM

Application filed August 24, 1925. Serial No. 51,983.

This invention relates to means to be used in printing, folding or other web-pulling machines for uninterruptedly feeding a web of flexible material while changing from one employed web roll to a replenishing roll; and has more particularly reference to improvements on the invention shown in application Serial No. 44,506, filed July 18, 1925, to which this application is subsidiary.

The main object and feature of the invention is to produce a more highly organized and more completely automatic device than the one shown in the application above referred to, while the main object and feature of the invention is to create an organized machine of the character indicated, it will be understood that many of the subsidiary features of the device are capable of use independently of an organized machine or can be used in machines having a radically different organization.

In the accompanying drawings the invention is disclosed in several concrete and preferred forms in which:

Fig. 1 is a side elevation of a machine showing a preferred form of the invention with the surplus web accumulated and the web-attaching or pasting device in its lower position;

Fig. 2 is a side elevation of the opposite side of the machine from that shown in Fig. 1 with the web surplus in the act of being dissipated and the web-attaching or pasting device in a partially elevated position;

Fig. 3 is an end elevation of the machine shown in Figs. 1 and 2 looking in the direction of arrow 3 of Fig. 1;

Fig. 4 is a vertical longitudinal section, in the plane of line 4—4 of Fig. 7, of the surplus accumulating device with the parts in the position they occupy before the surplus is accumulated;

Fig. 5 is a view similar to Fig. 4, the section being taken substantially in the plane of irregular line 5—5 of Fig. 6 and showing the surplus accumulated;

Fig. 6 is a vertical transverse sectional view in the plane of line 6—6 of Fig. 4;

Fig. 7 is a vertical transverse sectional view in the plane of line 7—7 of Fig. 4;

Fig. 8 is a vertical sectional view of the web-attaching or pasting device in the plane of line 8—8 of Fig. 10 showing the web-attaching or pasting device in its middle position;

Fig. 9 is a view similar to Fig. 8 but with the web-attaching or pasting device in its lower position;

Fig. 10 is an end view of the parts shown in Fig. 8 looking in the direction of arrow 10 of Fig. 8;

Fig. 11 is a horizontal sectional view in the plane of line 11—11 of Fig. 9;

Fig. 12 is a vertical longitudinal view in the plane of line 12—12 of Fig. 13 showing the automatic web tension device and the web-severing means;

Fig. 13 is a horizontal section in the plane of line 13—13 of Fig. 12;

Fig. 14 is a vertical section in the plane of line 14—14 of Fig. 15 of a modified form of the invention showing the surplus accumulating device before the surplus is formed;

Fig. 15 is a horizontal sectional view in the plane of line 15—15 of Fig. 14;

Fig. 16 is a diagrammatic view of an automatic stopping and starting device for the web-changing means; and

Fig. 17 is a sectional detail view in the plane of line 17—17 of Fig. 16.

1 indicates a web-pulling machine, of any suitable construction, such as a rotary printing machine composed, here, of two printing couples arranged to print and perfect a web. 2 is a source of supply of web in the form of an employed roll; and 3 is a second source of supply of web in the form of a replenishing roll. Intermediate the sources of supply and the web-pulling machine are various in-

strumentalities, such as web-severing mechanism, indicated by members 4 and 5 (Fig. 12); web-attaching or pasting device 6; web-accumulating or dissipating device 7; and an automatic brake-applying device 8 governed by the tension of the webs.

The action of the device, in general, is that a web 9 from employed roll 2 is threaded through the various instrumentalities and finally passes to the web-pulling machine and that, as the employed roll approaches a state of exhaustion, means are set in motion, either manually or automatically, or, in part manually and in part automatically, whereby the web-surplus accumulating and dissipating device is rendered active to slow down or to stop a part of the employed web, another web is attached thereto, the old web is severed, and the new web is brought up to the speed of the web-pulling machine.

In the present instance, device 7 first accumulates and then dissipates a surplus in the web during a cycle of its operation and is, in the present instance, constructed as follows: 10 indicates a plurality of stationary rollers on fixed points of contact for the employed web, here represented as web 9, and all arranged at one side of said web; and 11 denotes a plurality of movable rollers or points of contact all arranged at the other side of the web. Rollers 11 are mounted on a reciprocatory carriage 12 of any suitable construction and here having a back-and-forth movement in a horizontal plane. Suitable guiding means are provided for this carriage taking here the form of two horizontal bars or guideways 13 supported on the framework in spaced relation. The carriage, as here shown, consists of two side members 14, spaced apart and connected by suitable rods 15 extending transversely from side to side and is preferably provided with a number of sets of opposed rollers 16 that ride on bars 13. The preferred means, as here shown, for reciprocating the carriage consists of an endless member or chain 17, passing over two sets of sprockets 18 and 19, having pins or studs 20 that engage in vertical slots 21 of the carriage. Only one of these sets of sprockets, in this case 19, need be driven, and the following means are used, here, for this purpose: 22 are pinions mounted fast to sprockets 19 and meshing with gears 23 on transverse shaft 24. 25 indicates another transverse shaft having at one end a pinion 26 that meshes with gear 27 and this latter gear carries a pinion 28 meshing with one of the gears 23. Rotation of shaft 25 will therefore drive sprockets 19 in unison. Shaft 25 is properly timed to the gearing of the web-pulling machine or bears a direct relation to the speed of said machine, this being, in the present instance, accomplished by means of bevel gears 29 and 30 that drive shaft 31 from which power is transmitted to shaft 25 by appropriate means here shown as a clutch 32, bevel pinions 33 and bevel gear 34. Normally, the parts occupy the position indicated in Fig. 4, the employed web 9 being threaded between rollers 10 and 11 and flowing without substantial deflection to the web-pulling machine and, so long as clutch 32 (Fig. 1) remains in a neutral position, no movement of carriage 12 takes place. When it is desired to make a roll change, clutch 32 is thrown into the right-hand position shown in Fig. 1 and this imparts motion through the described means to carriage 12 moving it to the right into the position indicated in Fig. 5 thereby creating a series of loops 35 in the web. At the beginning of this movement, the parts are in the position shown in Fig. 4; and, as pin 20 on chain 17 begins to move it will slide in slot 21 and the movement of the carriage will, at first, be very slow, owing to the curve of sprocket 18, and will be gradually accelerated until pin 20 reaches the straight-line position when the carriage will attain its highest speed and this will continue until pin 20 reaches sprocket 19 when the movement is gradually retarded. During this period, the loops or surplus is accumulated, and it will be evident that inasmuch as the web-pulling machine continues to draw the web, either the speed of the web roll supplying web 9 will be increased, or the speed of the web-pulling machine must be decreased. Either or both of these conditions may prevail. The return of carriage 12 may be effected either by continuing the motion of chain 17 in the same direction or by reversing its direction of movement. In the form of the invention shown in Figs. 4 and 5, the direction of movement of chain 17 is reversed and preferably by the following means: 36 (Fig. 5) indicates a bar slidably mounted in the framing, as by means of bearings 37, said bar having collars 38 and 39. As carriage 12 comes to the end of its stroke in a right-hand direction as in Fig. 5, it comes against collar 38 and moves it from the dotted line position to the full line position thereby effecting a sliding movement of bar 36. This bar carries two pins 40 that engage a crank 41 attached to rockshaft 42; and on this rockshaft (Fig. 1) is mounted clutch lever 43 whereby clutch 32 is brought out of mesh and moved into a central position. The operator may now throw the clutch to the left in Fig. 1 thereby starting up chain 17 in the reverse direction and moving carriage 12 back; and when said carriage comes near the end of its return stroke it will engage collar 39, and shift bar 36 to thereby throw out clutch 32. The return stroke of the carriage will begin slowly, owing to the curved path of pin 20 over sprocket 19, and will then gradually be accelerated until full speed is attained when pin 20 reaches its straight-line movement, and will then gradually slow

down as the pin passes over sprocket 18 back to the position shown in Fig. 4. During this return movement of the carriage, the surplus previously accumulated will be fed out gradually, at first very slowly, then at a gradually accelerated speed until full speed is attained, and then at a gradually reduced speed. The result is that when the carriage begins its return movement, the web-pulling machine will begin to draw its supply of web more and more from the surplus and the speed of that portion of web 9 that is in rear of the surplus will be gradually reduced and can, if desired, be brought to a complete standstill at which time another web can be attached to the standing-still portion of web 9 whereby the web supply is replenished without stopping the web-pulling machine. When pin 20 now reaches sprocket 18, its speed will be gradually retarded and the web-pulling machine will then begin to draw web from the replenishing roll, at first very slowly and then at a gradually increasing rate until full speed is attained: or, if desired, the web section in rear of the surplus may not stop. Let us assume that the circumference of the cylinders of the web-pulling machine is forty-three inches, and that the surplus accumulating and dissipating device releases only forty-two inches while the web-pulling machine draws forty-three inches, then the web will not stop but its speed will be so slow as to readily admit of another web being jointed thereto, in which case the replenishing roll may be started up by hand or power.

In Figs. 14 and 15 is shown a modified form of the invention in which pin 20 makes a complete circuit from the position shown in Fig. 14 and back again without reversing chain 17. In this case, clutch 44 is thrown in and the pin moves from the position shown in Fig. 14 over sprocket 18, then over sprocket 19 and then back to sprocket 18 by reason of the uni-directional movement of chain 17 after which clutch 44 is thrown out by hand or automatically.

Any suitable means may be employed to attach one web to another but, in the present instance, the following device is employed: 45 and 46 indicate two opposed members movable toward and away one from the other and preferably also having a movement lengthwise of the web. As here shown these rollers are slidably mounted in slots 47 of carriage 48 and are normally urged toward each other by means of springs 49. Carriage 48 is mounted to slide in vertical guides 50 and suitable means are employed to reciprocate carriage 48 in the guides, such means here being represented by rods 51 connected to bell-crank levers 52 actuated by cams or eccentrics 53 mounted on shaft 54 (Fig. 6). These parts, if automatic, must be timed with respect to the surplus-accumulating and dissipating device, and, in the present instance, the shaft 55 of one of the sprockets 19 carries a pinion 56 that meshes with an intermediate gear 57 that in turn meshes with gear 58 on shaft 54 (Figs. 1 and 6). Said gear 58 carries a pin 59 and one of the cams 53 carries a spring 60 so positioned that, at the proper moment, said pin engages the spring and turns the cam to thereby actuate bell-crank 52 to lift rod 51 and carriage 48; and, when this rotation has proceeded a certain distance, the cams 53 are overbalanced and carriage 48 drops suddenly, thus returning to its lower position. Adjacent the lower end of guides 50 are cams 61 that enter between the rollers 45 and 46 and separate them against the action of springs 49 so that when the carriage is in its lowermost position these rollers are maintained apart. When the carriage rises, as in Fig. 8, above cams 61, rollers 45 and 46 are brought together and thus press two webs together, one the employed web 9 and the other the replenishing web 62 to which paste has been previously applied. As carriage 48 reaches the end of its upper movement, another set of cams 63 separate rollers 45 and 46 but to a greater extent than did cams 61; and spring-pressed latches 64, supported on the carriage, now move in between the rollers and maintain them separated while the carriage descends, when tripping members 65, on cams 61, release the latches, the cams 61 still maintaining the rollers separated but to a slighter extent than did the latches. In other words: the rollers are normally kept separated but when the carriage rises these rollers are brought together to attach the webs to each other but are again separated when the carriage rises higher and are kept separated while the carriage returns and until it rises again. The amplitude of movement of the carriage is such that rollers 45 and 46 pass over the joint between the webs, indicated by the end of replenishing web 62, while pressing the webs together; if the webs are moving slightly while being pressed together, the speed of the upward stroke of carriage 48 is greater than the speed of the webs. Associated with carriage 48 are suitable clamping or gripping means to hold the end of the replenishing web, these clamping means being preferably controlled by movement of rollers 45 and 46. As here shown, 66 and 67 indicate shelves or supports on carriage 48; and 68 are clamping members or grippers pivotally supported at 69 and normally held in clamped position against 66 and 67 by means of springs 70. Mounted on rollers 45 and 46 are arms 71 having slotted connections 72 with clamps 68; and it will be observed that when the rollers are separated, as in Fig. 9, springs 70 keep the clamps closed and that when the rollers are brought together, as in Fig. 8, slotted connections 72 open the clamps. When a web change is

about to take place, the replenishing web, in this case web 62, is threaded over roller 45 and is placed between shelf 66 and clamp 68, as shown in Fig. 9, and paste is applied to the leading end of said web 62. Now when a portion of web 9 is slowed down or brought to a standstill and carriage 48 is elevated, rollers 45 and 46 are brought together thereby opening clamp 68 and the upward movement of the rollers draws web 62 from support 66 and the webs are pasted together or otherwise attached to each other. Web 62 now becomes the employed web and on the next roll change, web 9 will be the replenishing web and will be placed on support 67. This alternation of webs may be carried on indefinitely.

If means are employed to sever the old web, they will preferably be constructed as follows: 4 and 5 indicate two web-severing members that engage with complementary members 73 to cut the webs transversely and which are slidably mounted on brackets 74. 75 is an actuating means that conveniently derives its motion from carriage 48. The actuating means comprise two slidably mounted rods having pins 76 at their lower ends and having collars 77 which latter are engaged by projections 78 on carriage 48 so that on each upstroke of the carriage said actuating means or rods 75 are given an upward movement. Suitable connecting means are interposed between the actuating means and the web-severing members consisting here of levers 79; and it will be understood that if lever 79 is adjusted to be in the plane of pin 76 (left-hand side of Fig. 12) then web-severing member 4 will be actuated on upstroke of carriage 48; and that, if lever 79 (right-hand side of Fig. 12) is adjusted to be out of the plane of pin 76, then severing member 5 will not be operated on the upstroke of carriage 48. Only the exhausted web 9 will therefore be severed and it will be evident that when the reverse adjustment is made web 62 will be severed and web 9 will not be. Obviously, such adjustment may be made by hand, but preferably the adjustment is controlled automatically by the diameter of web supply rolls 2 and 3. As shown in the drawings, each lever 79 is pivotally connected to bell-crank 80 and has its free end resting on bar 81. 82 is a bell-crank, the position of which is controlled by its contact with a web roll and 83 is a connection between the bell-cranks 80 and 82. If a web roll, as 3, of large diameter is in position, then lever 79, at that side of the machine, will, through the connections described, be moved out of the plane of pin 76; but if the web roll, as 2, has been depleted below a certain point, then lever 79, at that side of the machine, will be moved into the plane of pin 76. It will therefore be seen that the diameters of the web rolls determine which web is to be severed; and that, when one web roll change takes place, one web will be severed and, when the next web roll change takes place, the other web will be severed; and that the web severed is always the web from the depleted roll.

If desired automatic brake mechanism for web rolls 2 and 3 may be used. This feature has been fully described in application Ser. No. 44,506, filed July 18, 1925, and it is unnecessary to repeat it in detail here. Suffice it to say, that 84 is a spring roller and 85 a tension roller pivoted at 86 that actuates brake lever 87 to apply or release the brake 88 in response to variations in the tension of the web. Each web roll has a mechanism of this character.

Instead of throwing the web-change mechanism into action by hand, as by moving clutch lever 43 (Fig. 1), automatic means, controlled by the depletion of the employed web roll, may be used. One form of many such means is disclosed in Figs. 16 and 17 and, as a matter of convenience, this mechanism is shown applied to the modification of the invention disclosed in Figs. 14 and 15. Accordingly, clutch 44 is carried by a lever 89 pivoted at 90 and this lever has a roll 91 engaging in a notch in disk 92. Disk 92 is mounted on shaft 93 that makes one revolution to a complete reciprocation of carriage 12 and may conveniently be driven from shaft 55 of one of sprockets 19 by means of sprocket 94, chain 95 and sprocket 96. Mounted on shaft 93 is also a cam 97 engaging roll 98 of arm 52 to raise and lower carriage 48 of the pasting mechanism. 99 is a lever pivoted at 100 and connected to rod 101 normally pressed upward by spring 102. Normally, the weight of lever 89 keeps clutch 44 disengaged and roll 91 in the notch in disk 92; and, normally, spring 102 holds lever 99 in a position where it will not distort clutch lever 89, but, when rod 101 is pulled down, against the action of spring 102, clutch lever 89 will be swung around pivot 90 and roll 91 will become disengaged from the notch in disk 92 and clutch 44 will be thrown in. Rotation of disk 92, caused by throwing clutch 44 in, will prevent roll 91 from returning and the parts will remain clutched during a complete reciprocation of carriage 12 or one revolution of shaft 93 when the notch in disk 92 will again come around to its point of beginning and roll 91 will drop into said notch and throw clutch 44 out thereby stopping the mechanism. Adjacent each web roll 2 and 3 is a pivotally supported member 103 which, when the web roll is large, remains above projection 104 at the lower end of rod 101; but, when a web roll becomes depleted, member 103 will act against 104 and in passing down past the latter will pull rod 101 down thereby throwing in clutch 44 as above described.

I claim:

1. Web severing means including: two severing members, actuating means, and two sets of connecting means one between each severing member and the actuating means to connect alternate severing members to the actuating means during successive actions of the latter.

2. Web replenishing means including: two sources of web supply, one having an employed web roll and the other having a replenishing web roll, two severing members one for the web of each roll, and means controlled by the diameter of the rolls to cause said severing members to act alternately during successive replenishing actions to sever the webs of alternately employed rolls.

3. Web replenishing means including: two sources of web supply, one having an employed web roll and the other having a replenishing web roll, means for attaching the webs of the two rolls together to replenish the flow of web, two web severing members one for the web of each roll, and means controlled by the diameter of the rolls to cause said severing members to act alternately during successive actions of the attaching means to sever the webs of alternately employed rolls.

4. Web replenishing means including: two sources of web supply each having a roll, two severing members one for the web of each roll, actuating means, and two sets of connecting means one between each severing member and the actuating means to transmit motion from the actuating means to alternate severing members during successive replenishing actions.

5. Web replenishing means including: two sources of web supply, one having an employed web roll and the other having a replenishing web roll, two severing members one for the web of each roll, actuating means, and two sets of connecting means controlled by the diameter of the rolls one between each severing member and the actuating means to transmit motion from the actuating means to alternate severing members during successive replenishing actions to sever the webs of alternately employed rolls.

6. Web replenishing means including: two sources of web supply, one having an employed web roll and the other having a replenishing web roll, two severing members one for the web of each roll, reciprocating means for attaching the webs of the two rolls together to replenish the flow of web, and two sets of connecting means one between each severing member and the reciprocating means to transmit motion from the reciprocating means to alternate severing means during successive actions of the reciprocating means to sever the webs of alternately employed rolls.

7. Web replenishing means including: two sources of web supply each having a roll, two severing members one for the web of each roll, reciprocating means for attaching the webs of the two rolls together to replenish the flow of web, and two sets of connecting means controlled by the diameter of the rolls one between each severing member and the reciprocating means to transmit motion from the reciprocating means to alternate severing members during successive actions of the reciprocating means.

8. Means for attaching two webs together including: two opposed members on the outer sides of two webs arranged face to face, means for moving said members lengthwise of the webs in opposite directions, and means for first bringing said members together and then separating them while they are moving in one direction and for maintaining them in separated condition while they are moving in the opposite direction.

9. Means for actuating two webs together including: two opposed members on the outer sides of two webs arranged face to face, means for moving said members lengthwise of the webs in opposite directions, a cam for separating the members when they are at the end of a stroke in one direction, means for urging said members toward each other when freed from said cam, a cam for separating the members when they are at the end of a stroke in the other direction, a latch for retaining the members in separated position while traveling from the second to the first cam, and a tripping device to release the latch when the members reach the first cam.

10. Means for attaching two webs together including: two opposed members on the outer sides of two webs arranged face to face, a reciprocatory carriage supporting said members, a cam for separating the members when the carriage is at the end of a stroke in one direction, means on the carriage for urging said members toward each other when freed from said cam, a second cam to separate the members when the carriage is at the end of a stroke in the other direction, said second cam acting to separate the members more widely than the first cam, a latch on the carriage to pass in between said members when separated by the second cam and to retain them in separated position while the carriage is traveling from the second to the first cam, and a tripping device to release the latch when the carriage reaches the first cam.

11. Web replenishing mechanism including: two sources of web supply, a web attaching device for attaching together two webs from said sources, two severing members, one for each web, means for reciprocating the attaching device, and means for actuating one or the other of said severing members operated by the reciprocating movement of the attaching device.

12. Web replenishing mechanism includ-

ing: two sources of web supply, one having an employed web roll and the other having a replenishing web roll, a web attaching device for attaching together two webs from said rolls, two severing mechanisms, one for each web, means, controlled by the diameter of the rolls, to render one severing mechanism operative with relation to the employed web and the other severing mechanism inoperative with relation to the replenishing web, and means for actuating the severing mechanism that is in operative relation to the employed web.

13. Web replenishing mechanism including: two sources of web supply one having an employed web roll and the other having a replenishing web roll, a web attaching device for attaching together two webs from said rolls, two severing mechanisms one for each web, means, controlled by the diameter of the rolls, to render one severing mechanism operative with relation to the employed web and the other severing mechanism inoperative with relation to the replenishing web, and actuating means for said attaching device and for the severing mechanism that is in operative relation to the employed web.

14. Web replenishing mechanism including: two sources of web supply one having an employed web roll and the other having a replenishing web roll, a web attaching device for attaching together two webs from said web rolls, means for reciprocating the attaching device, two severing mechanisms one for each web, means, controlled by the diameter of the rolls, to render one severing mechanism operative with relation to one web and the other severing mechanism inoperative with relation to the other web, and means, actuated by the reciprocation of the attaching device, to operate the severing mechanism that is in operative relation to a web.

15. Web replenishing mechanism including: a reciprocatory carriage, two opposed members on said carriage at the outer sides of two webs arranged face to face, means to bring said members toward and away from each other, clamping means also on said carriage to hold the end of one of said webs, and means, acting upon movement of the carriage in one direction, to release the web from the clamp and to attach the webs together.

16. Web replenishing mechanism including: a reciprocatory carriage, two opposed members on said carriage at the outer sides of two webs arranged face to face, clamping means also on said carriage to hold the end of one of said webs, and means, acting upon movement of the carriage in one direction, to move the members one toward the other to thereby release the web from the clamp and to attach the webs together.

17. Web replenishing mechanism including: a reciprocatory carriage, two opposed members on said carriage at the outer sides of two webs arranged face to face, clamping means, also on said carriage, to hold the end of one of said webs, a spring to normally hold the clamping means closed, a connection between one of the opposed members and the clamping means to open the latter against the action of the spring when the two members are brought one toward the other, and means, acting upon movement of the carriage in one direction, to move the members one toward the other.

18. Web replenishing mechanism including: a reciprocatory carriage, two opposed members on said carriage at the outer sides of two webs arranged face to face, means to bring said members toward and away from each other, clamping means, also on said carriage, to hold the end of one of said webs, means, acting upon movement of the carriage in one direction, to release the web from the clamp and to attach the webs together, web severing means, and means to actuate the web severing means upon movement of the carriage.

19. Web replenishing mechanism including: a reciprocatory carriage, two opposed members on said carriage at the outer sides of two webs arranged face to face, clamping means also on said carriage to hold the end of one of said webs, means, acting upon movement of the carriage in one direction, to move the members one toward the other to thereby release the web from the clamp and to attach the webs together, web severing means, and means to actuate the web severing means upon movement of the carriage.

20. Web replenishing mechanism including: a reciprocatory carriage, two opposed members on said carriage at the outer sides of two webs arranged face to face, clamping means, also on said carriage, to hold the end of one of said webs, a spring to normally hold the clamping means closed, a connection between one of the opposed members and the clamping means to open the latter against the action of the spring when the two members are brought one toward the other, means, acting upon movement of the carriage in one direction, to move the members one toward the other, web severing means, and means to actuate the web severing means upon movement of the carriage.

21. Web replenishing mechanism including: two sources of web supply, a web surplus accumulating and dissipating device above the sources of web supply and having a reciprocating movement in a horizontal plane, and a web attaching device intermediate the sources of web supply and the first-named device and having a reciprocating movement in a vertical plane.

22. Web replenishing mechanism including: two sources of web supply one having

an employed roll and another having a replenishing roll, a web surplus accumulating and dissipating device to slow down a portion of the employed web intermediate the sources of supply and the device, means for attaching a replenishing web to the slowed-down portion of the employed web, and web severing mechanism for the employed web intermediate the attaching means and the sources of web supply.

Signed at Plainfield, in the county of Union and State of New Jersey, this 17th day of August, 1925.

WALTER C. SCOTT.

an employed roll and another having a replenishing roll, a web surplus accumulating and dissipating device to slow down a portion of the employed web intermediate the sources of supply and the device, means for attaching a replenishing web to the slowed-down portion of the employed web, and web severing mechanism for the employed web intermediate the attaching means and the sources of web supply.

Signed at Plainfield, in the county of Union and State of New Jersey, this 17th day of August, 1925.

WALTER C. SCOTT.

CERTIFICATE OF CORRECTION.

Patent No. 1,758,176. Granted May 13, 1930, to

WALTER C. SCOTT.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 5, line 87, claim 9, for the word "actuating" read "attaching"; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 24th day of June, A. D. 1930.

M. J. Moore,
Acting Commissioner of Patents.

(Seal)