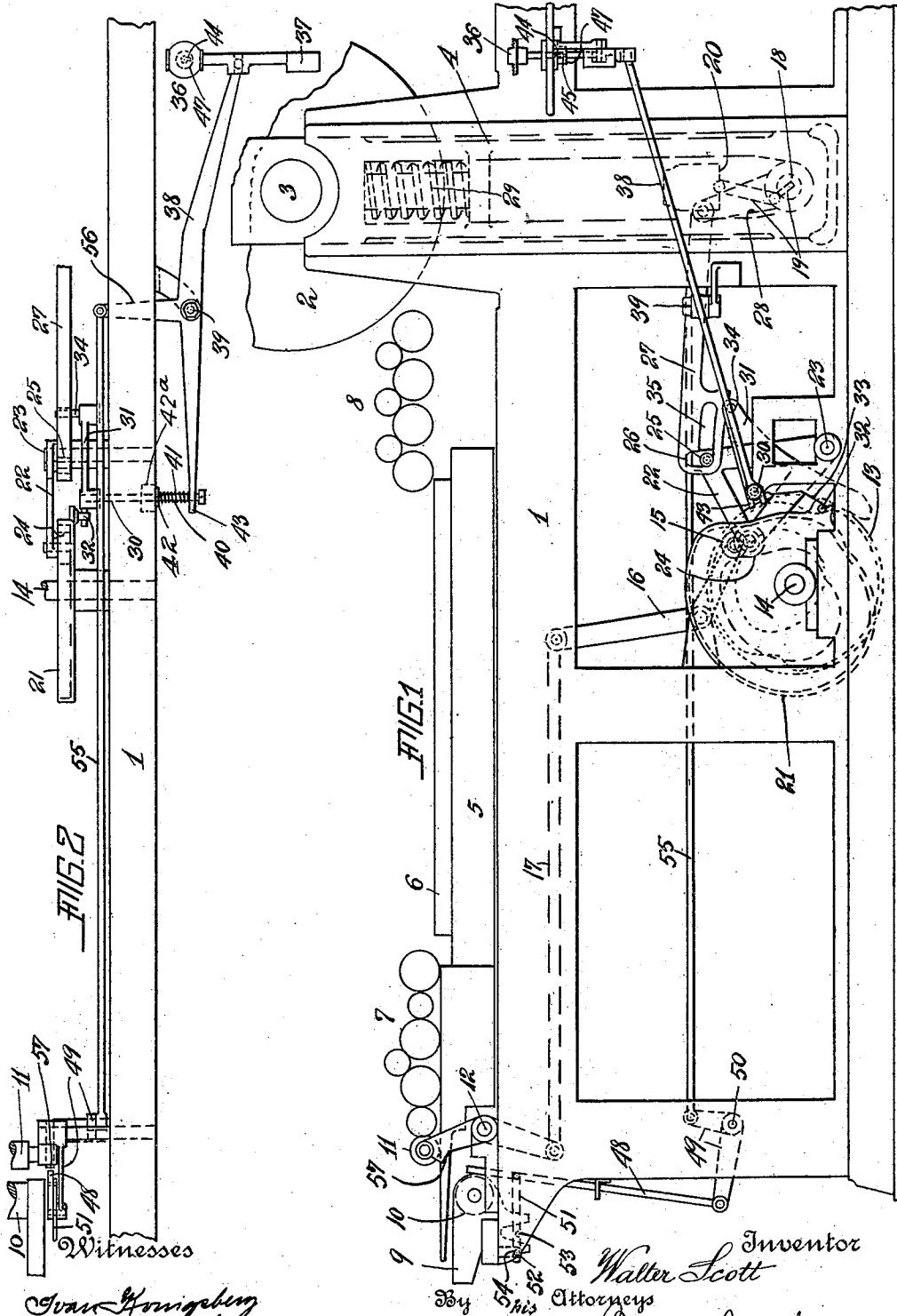


W. SCOTT, DEC'D.
I. & D. J. SCOTT, EXECUTORS.
TRIPPING MECHANISM.
APPLICATION FILED MAR. 14, 1906.

Patented Jan. 10, 1911.

2 SHEETS-SHEET 1.

981,484.



Witnesses
Frank H. Hering
Theodore H. Hering

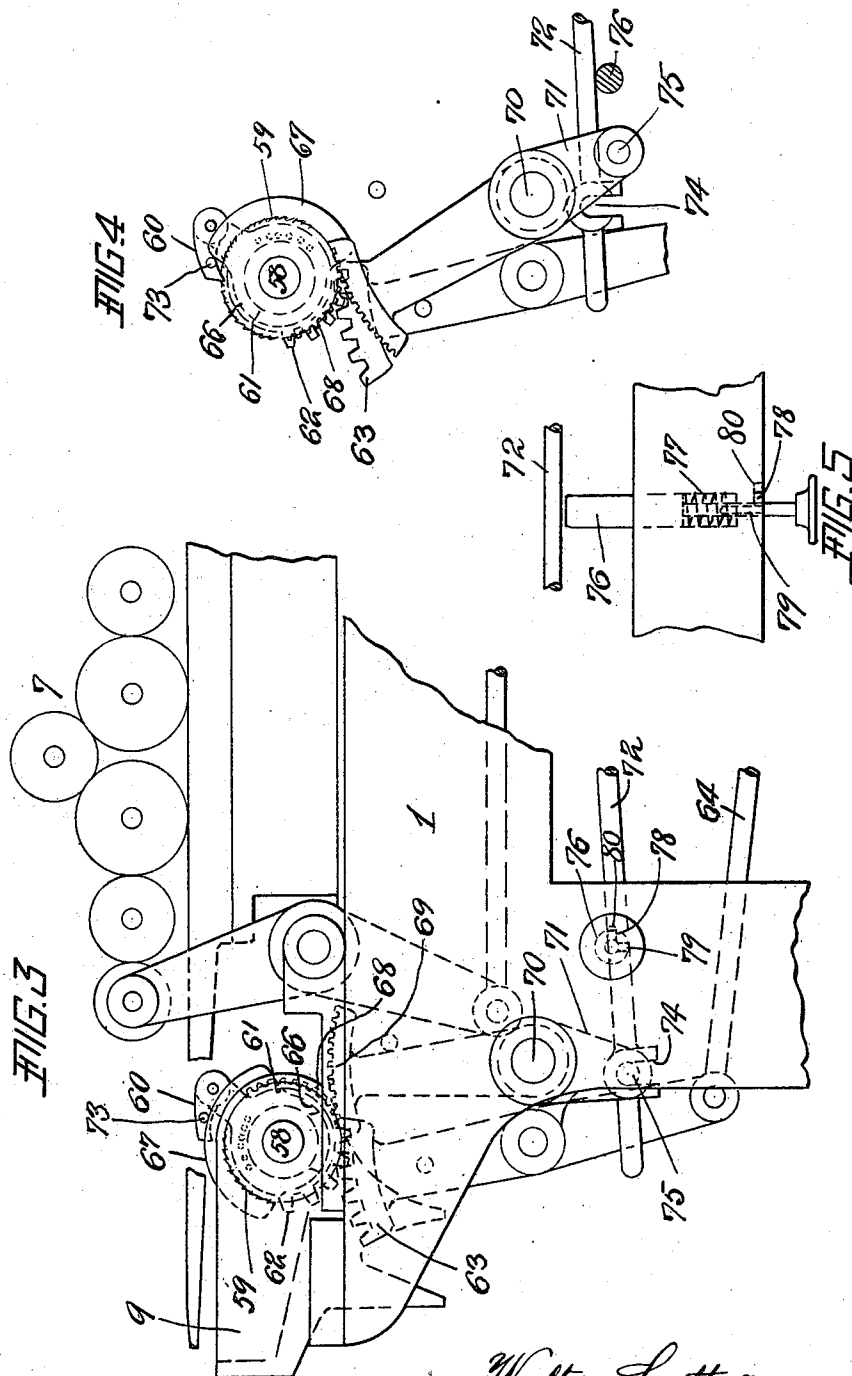
Walter Scott Inventor
Belknap & Spaulding Attorneys

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Witnesses
Ivan Horisberg
Theodore Steincke

Walter Scott Inventor
By his Attorneys
Decker & Spaulding

UNITED STATES PATENT OFFICE.

WALTER SCOTT, OF PLAINFIELD, NEW JERSEY; ISABELLA SCOTT AND DAVID JOHN SCOTT EXECUTORS OF SAID WALTER SCOTT, DECEASED.

TRIPPING MECHANISM.

981,484.

Specification of Letters Patent.

Patented Jan. 10, 1911.

Application filed March 14, 1906. Serial No. 305,989.

To all whom it may concern:

Be it known that I, WALTER SCOTT, a citizen of the United States of America, and a resident of Plainfield, Union county, New Jersey, have invented certain new and useful Improvements in Tripping Mechanisms, of which the following is a specification.

The present invention relates generally to printing machines, and has more particularly reference to tripping mechanism connected therewith.

In printing machines, whether rotary or flat bed such as one, two or three revolution printing machines, stop cylinder and oscillating printing machines, it is customary to use a trip for the impression cylinder for moving it out of contact with the form, generally put into action at the will of the operator by means of foot or hand power or automatically at certain periods, thereby preventing the cylinder from taking an impression on the form. When the cylinder is tripped for a considerable period and consequently the supply of ink is not being used, the ink accumulates on the inking rolls and on the form.

The object of the present invention is the production of means whereby when the machine is tripped for a considerable period, the supply of ink may be cut off.

To this end the invention comprises the features of construction and combination of parts as will more fully hereinafter appear.

In the present instance the invention is shown applied to a two revolution printing machine; that is a printing machine in which the impression cylinder revolves twice to each sheet printed. In such machines means are usually employed to raise the cylinder during the return stroke of the bed or once to every two revolutions of the cylinder or other ratio according to the design of the machine. For the purpose of certain of the claims the precise means for tripping the cylinder are of course immaterial as any suitable means may of course be used for effecting this.

In the drawings, the invention has been embodied in several preferred forms, but changes in construction may be made without departing from the spirit of the invention.

In the said drawings: Figure 1 is a side elevation, with parts broken away showing a printing machine of the character indi-

cated with the ink tripping means applied.

Fig. 2 is a plan view of parts shown in Fig. 1.

Fig. 3 shows a side elevation of a modification showing the driving means for the fountain roll tripped. Fig. 4 is a view similar to Fig. 3 with the fountain roll untripped. Fig. 5 is a plan detail view of parts shown in Figs. 3 and 4.

Similar characters of reference indicate corresponding parts in the different views.

1 indicates a framework of any suitable construction for properly supporting the parts comprising the machine.

2 indicates the impression cylinder carried by the journal 3. This journal 3 is mounted in sliding frames or standards 4, one on each side of the machine, but only one of which is seen.

The form carrying means in the present instance consist of the reciprocating bed 5 on which is mounted the plate or type or other means constituting the form 6.

7 and 8 indicate two groups of distributing rolls such as are usually employed in machines of this character and adjacent to the group of distributing rolls 7 is a fountain 9 in which is located a fountain roll 10.

This fountain roll may be of any usual or suitable construction and may either rotate continuously or intermittently, or may be operated in any other way found useful.

The ink is transferred, as is customary, from the fountain roll to the distributing rolls or other distributing surface by means of the ductor roll 11 pivoted at 12 and operated in the usual manner from the cam 13 mounted on the shaft 14 and making one revolution to each impression or to each complete reciprocation of the bed. The motion of this cam is transferred to the ductor roll by means of the friction roll 15 carried by the lever 16 connected with the lower end of the ductor roll by means of the rod 17. On each return stroke of the bed the standards 4 are moved up and out of the way of the form while on the forward movement of the bed the impression cylinder is moved down so as to be in contact with the said form as it passes under the same.

Any suitable means may be employed to move the impression cylinder up and down. In the present instance, however, there is mounted on the standards 4 a shaft 18 connected by means of the toggle links 19 to a fixed bracket 20 on the framework. This

shaft 18 is oscillated by means of the cam 21 conveniently mounted on the shaft 14 through the instrumentality of the rocker 22 pivoted at 23 and having a friction roll 24 engaging with the said cam 21. This rocker further carries another friction roll 25 adapted to engage in the notch 26 of the lever 27 whose other end is connected by means of the link 28 to the shaft 18. As the cam 21 rotates, the rocker 22 will push the lever 27 back and forth thereby oscillating the shaft 18 and raising and lowering the impression cylinder at the proper periods. Suitable means as the spring 29 is used to balance the weight of the cylinder.

Mounted on the stud 30 is a rocking and sliding cam 31 which is adapted to lift the lever 27 when it is desired to trip the cylinder or to maintain it in its uppermost position. In order to properly effect this, there is mounted on the cam 21 or elsewhere, a projection 32 which is adapted to act on the cam surface 33 of the cam 31. As previously stated, this cam 31 both oscillates and slides and is provided with a pin or other member 34 upon which the free end of the lever 27 rests. This pin is of such a length that it will always be in contact with the lever 27. But when it is desired not to trip the cylinder the cam is moved sidewise so as to bring the cam surface 33 out of the plane of the passing projection 32. When this cam surface 33 however is in the plane of 32 the pin 34 tends to raise the lever 27 up so as to bring the roll 25 out of the notch 26 as shown in the drawing, whereby when the cam 21 moves the rocker 22, said roll 25 will move loosely in the slot 35 of the lever 27 without operating the latter. By this means the cylinder remains in its elevated position.

The means for controlling the action of the cam 31 as shown in the present instance, are those commonly employed in the art and consist preferably of a foot treadle 36 adapted to act against the counterweight 37 when depressed and through the lever 38 pivoted at its central portion at 39 the cam 31 is moved sidewise so as to bring its surface 33 into and out of engagement with the projection 32. Preferably the parts are so arranged that the foot treadle can be depressed at any time during the operation of the machine so that at the proper moment said cam will be shifted sidewise into the path of the projection 32. This is effected by mounting on the pin 40 which is used to move the cam sidewise a spring 41 which presses against a collar 42 mounted on the said pin 40 adapted to slide into the socket 42^a so that when this spring 41 is compressed by the action of the lever 38, whose two forked arms 43 bear against the said spring, power will be stored whereby when the projection 32 has passed the cam 31, the

said cam will be moved sidewise into the plane of the said projection 32 so that when the latter comes around on the succeeding revolution it will encounter the cam surface 33 and tilt the cam 31. The foot pedal 36 is provided with a pin 44 which moves through the slot 45 when the said foot treadle is depressed, and by turning the said pedal around, the said pin 44 will engage with the underside of the collar 47 whereby the parts will be retained in their tripped position.

48 indicates a stop supported by the bell crank 49, mounted on the stud 50, and by the link 51 pivoted thereto and provided with two notches 52 and 53 adapted to receive the pin 54 on the framework. 55 is a rod connected at one end to the arm 56 of the lever 38 and at its other end to the bell crank 49. When the foot treadle is depressed the said stop 48 will be moved upward, and, encountering the surface 57 of the standards of the ductor roll, will prevent the latter from coming in contact with the fountain roll while the impression cylinder remains in its tripped position.

It will be understood from the foregoing, that the impression cylinder is moved periodically and automatically into and out of contact with the form without stopping the supply of ink when out of contact with the form, and that when the operation of the automatic means is interrupted and the impression cylinder remains tripped, the supply of ink is cut off. It is necessary, however, at times to operate the inking apparatus while the cylinder remains tripped. This is especially desirable before starting a run when the distributing rollers and the form must be linked up. It is for this reason that the link 51 is provided with the two notches 52 and 53. When the pin 54 is in the notch 52 as shown in Fig. 1, the supply of ink will be stopped when the foot treadle is depressed. But when the pin 54 is in the notch 53 the stop 48 is moved back so far that the surface 57 will not be encountered and consequently the ink supply will not be cut off.

In Figs. 3, 4 and 5 is shown a modification in which the rotation of the fountain roll is stopped when it is desired to cut off the supply of ink. In these figures there is mounted fast on the fountain roll shaft 58 a ratchet 59. Engaging with this ratchet is a pawl 60 mounted on the sleeve 61 loose on the said fountain roll shaft. This sleeve is provided with teeth 62 with which engage the sector 63 operated in the usual manner by means of the rod 64 to give an intermittently progressive motion to the fountain roll. Mounted loosely on the fountain roll shaft is further the sleeve 66 provided with the cam surface 67. This sleeve is also provided with teeth 68 with which mesh the

sector 69 mounted on the stud 70. Connected to the arm 71 of this sector is the rod 72 which corresponds to the rod 55 in Fig. 1 and which is connected up in the same manner to the foot treadle. On the pawl 60 is a pin 73 so that when the cam 67 is moved in under the said pin 73 the rotation of the fountain roll will cease. The rod 72 is connected to the arm 71 by means of the gab hook 74 engaging the pin 75, and when it is desired to maintain the impression cylinder tripped without stopping the supply of ink, the said gab hook is lifted out of engagement with the pin 75 and the rod 72 is placed on the lug 76. This lug 76 is in the form of a pin normally held in the plane of the rod 72 by means of the spring 77; the lug is further provided with a peg 78 which is capable of movement through the slot 79 in the framework, and when the said lug is withdrawn and the peg 78 turned into the slot 80 the lug will be out of the plane of the rod 74.

What is claimed is:

1. In a printing machine, the combination with an impression cylinder, form carrying means, and inking apparatus, means for automatically tripping and untripping the impression cylinder, a rod controlling the inking apparatus, a lever adapted to be actuated by the operator, means operated by the said lever for interrupting the operation of the automatic means aforesaid so as to prevent the return of the impression cylinder into contact, connections between the lever aforesaid and the rod whereby the said rod is operated simultaneously therewith to trip the inking apparatus when the lever is operated to interrupt the operation of the automatic means aforesaid.

2. In a printing machine, the combination with an impression cylinder, form carrying means, and inking apparatus, means for automatically tripping and untripping the impression cylinder, a rod controlling the inking apparatus, a lever adapted to be actuated by the operator, means operated by the said lever for interrupting the operation of the automatic means aforesaid so as to prevent the return of the impression cylinder into contact, connections between the lever aforesaid and the rod whereby the rod is operated simultaneously therewith to trip the inking

apparatus when the lever is operated to interrupt the operation of the automatic means aforesaid, and means whereby the operation of the said automatic means can be interrupted without tripping the operation of the inking apparatus.

3. In a printing machine, the combination with an impression cylinder, form carrying means, a fountain and fountain roll, a ductor roll, and a distributing surface, means for automatically tripping and untripping the impression cylinder, a rod controlling the ductor roll, a lever adapted to be actuated by the operator, means operated by the said lever for interrupting the operation of the automatic means aforesaid so as to prevent the return of the impression cylinder into contact, and connections between the lever aforesaid and the rod whereby the said rod is operated simultaneously therewith to prevent the ductor roll from transferring ink from the fountain roll to the distributing surface when the lever is operated to interrupt the operation of the automatic means aforesaid.

4. In a printing machine, the combination with an impression cylinder, form carrying means, a fountain and fountain roll, a ductor roll, and a distributing surface, means for automatically tripping and untripping the impression cylinder, a rod controlling the ductor roll, a lever adapted to be actuated by the operator, means operated by the said lever for interrupting the operation of the automatic means aforesaid so as to prevent the return of the impression cylinder into contact, connections between the lever aforesaid and the rod whereby the said rod is operated simultaneously therewith to prevent the ductor roll from transferring ink from the fountain roll to the distributing surface when the lever is operated to interrupt the operation of the automatic means aforesaid, and means whereby the operation of the said automatic means can be interrupted without preventing the ductor roll from transferring ink from the fountain roll to the distributing surface.

Signed at New York this 5th day of March, 1906.

WALTER SCOTT.

Witnesses:

AXEL V. BEEKEN,
GEO. A. HOFFMAN.