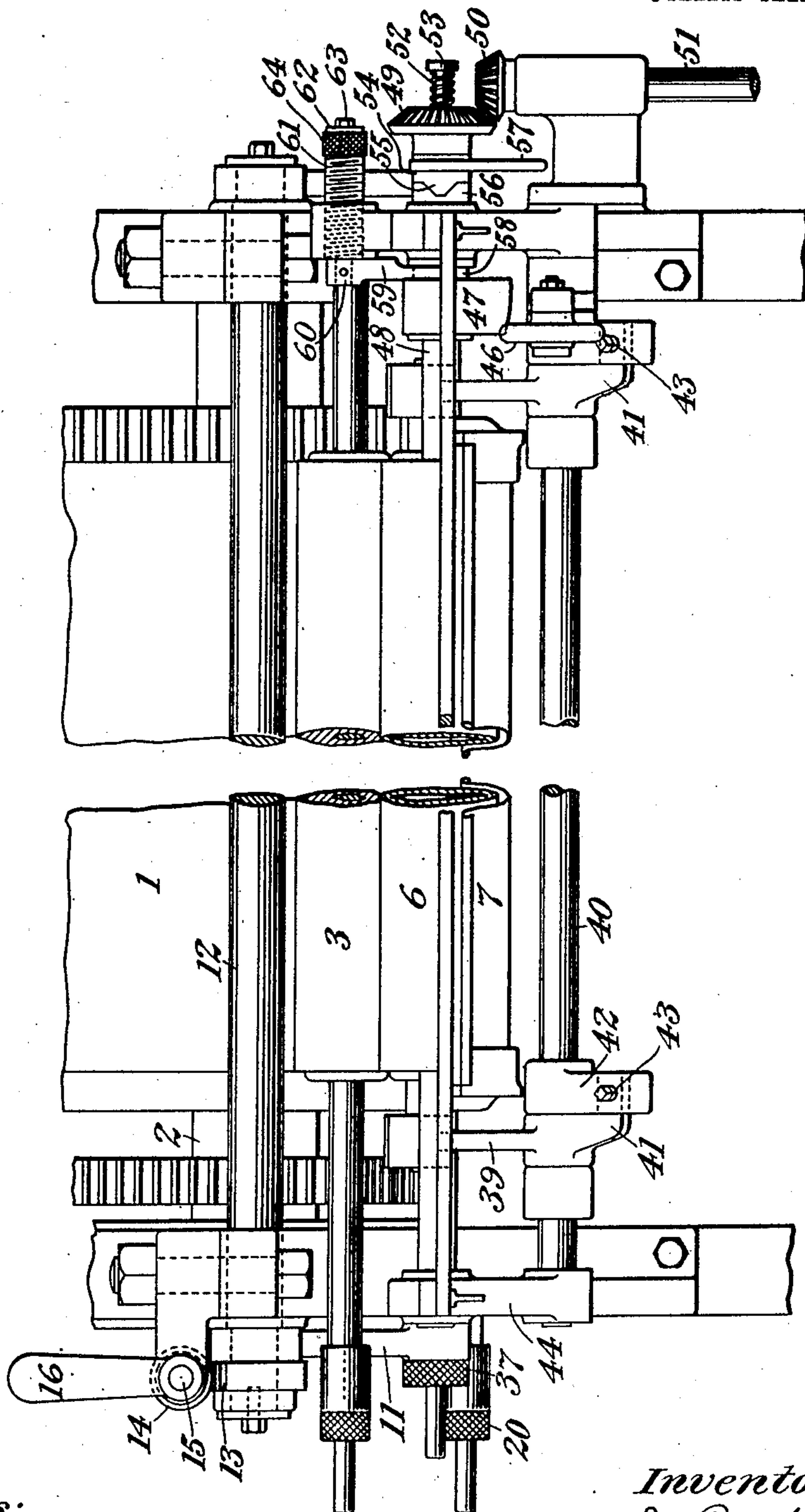


A. J. FORD.  
 MOISTENING MECHANISM FOR PRINTING PRESSES.  
 APPLICATION FILED MAY 25, 1908.

916,432.

Patented Mar. 30, 1909.  
 3 SHEETS—SHEET 1.

Fig. 1



Witnesses:

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 Wm. Ashley Kelly

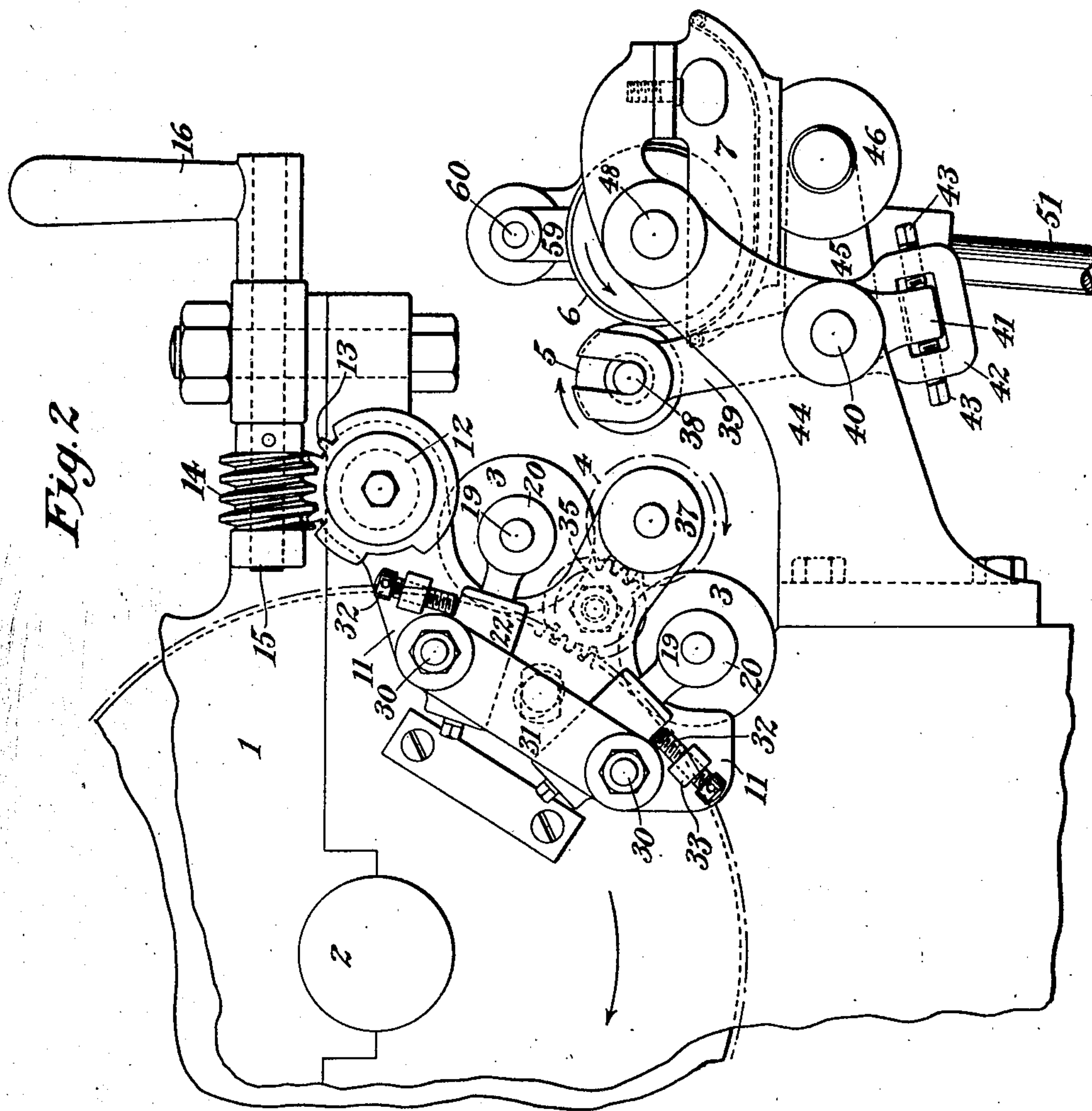
Inventor:

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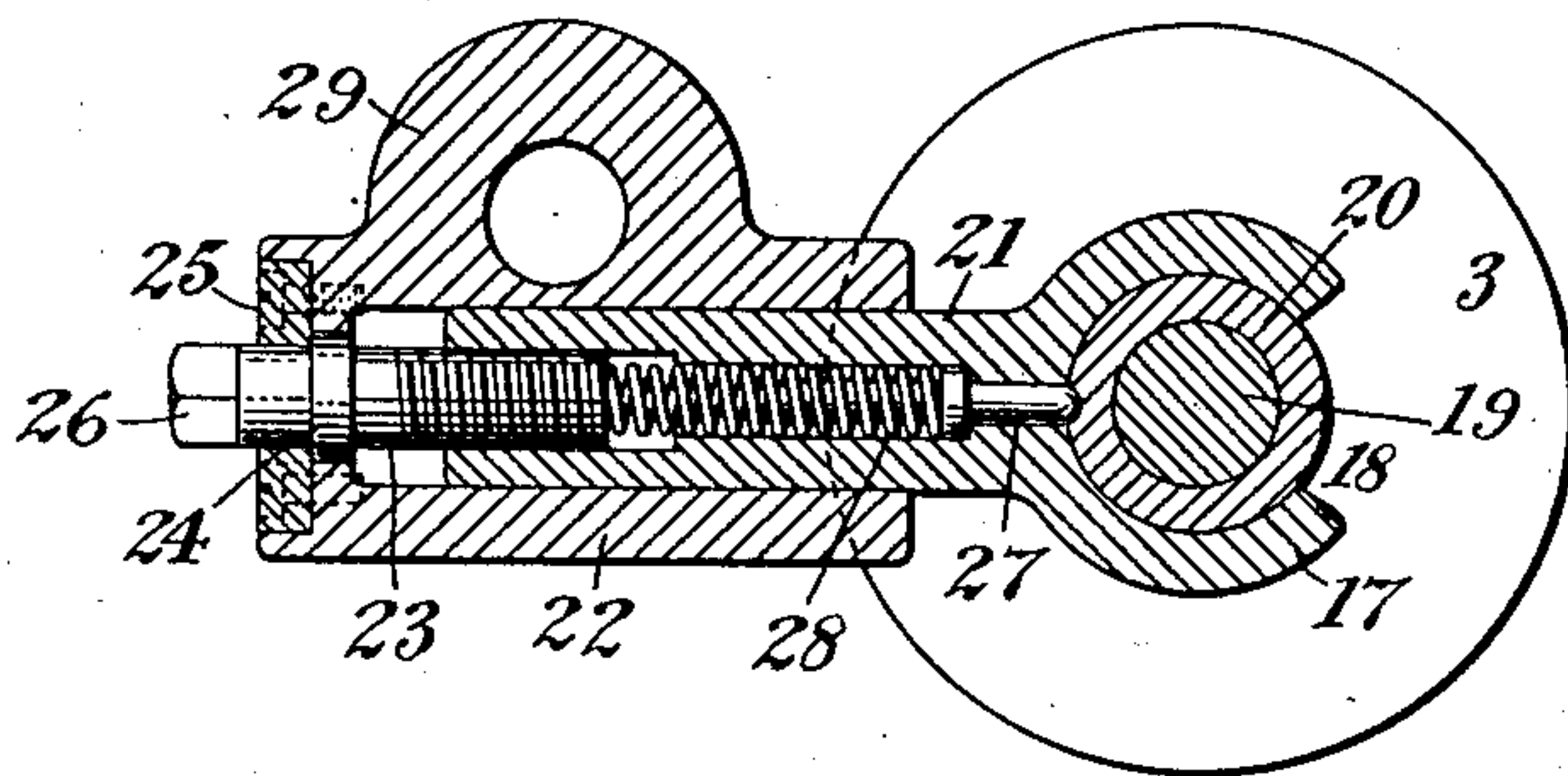
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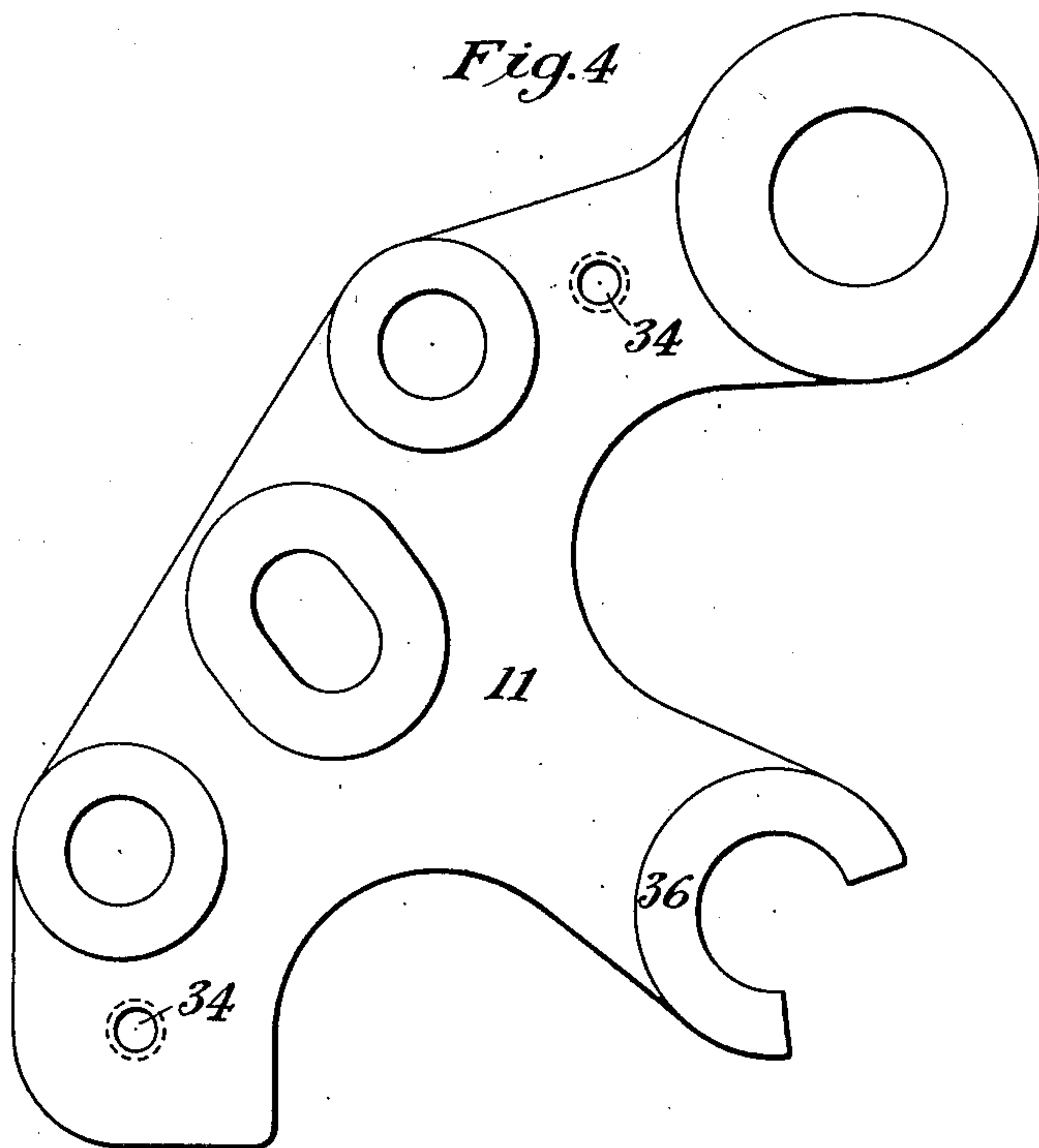
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3 SHEETS—SHEET 3.

*Fig. 3*



*Fig. 4*



*Witnesses:*  
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*Inventor:*  
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# UNITED STATES PATENT OFFICE.

ALBERT J. FORD, OF NEW YORK, N. Y., ASSIGNOR TO FUCHS AND LANG MANUFACTURING COMPANY, A CORPORATION OF NEW YORK.

## MOISTENING MECHANISM FOR PRINTING-PRESSES.

No. 916,432.

Specification of Letters Patent.

Patented March 30, 1909.

Application filed May 25, 1908. Serial No. 434,741.

*To all whom it may concern:*

Be it known that I, ALBERT J. FORD, a citizen of the United States, residing in the borough of Manhattan, city of New York, in the county of New York and State of New York, have invented a certain new and useful Improvement in Moistening Mechanism for Printing-Presses, of which the following is a specification, reference being had therein to the accompanying drawings, forming part thereof.

My invention relates to mechanism for applying moisture to the printing elements of printing presses.

One object of the invention is to produce a moistening mechanism in which the moistening rolls are mounted in a novel manner to facilitate adjusting them with respect to each other and to the printing element with which they coöperate, and to provide improved means for throwing them into and out of engagement with the printing element, and more particularly to permit the moistening rolls to be run when out of contact with the printing element, to effect a uniform distribution of moisture upon the rolls.

Another object of the invention is to provide a moistening mechanism with improved means for throwing it into and out of operation and for adjusting it with respect to the quantity of moisture applied by it to the printing element.

Other objects of the invention will be apparent from the following description of the preferred embodiment of the invention.

I will now describe the embodiment of the invention illustrated in the accompanying drawings, and will thereafter point out my invention in claims.

In the drawings, Figure 1 is a front elevation of a moistening mechanism embodying the present invention. Fig. 2 is an end view of the moistening mechanism. Fig. 3 is a detail sectional view of the means for supporting the moistening rolls, and Fig. 4 is a detail view of one of the brackets upon which the moistening rolls are carried.

The invention is illustrated as applied to a rotary printing press, the plate cylinder 1 and a part of the frame of the press being shown in Figs. 1 and 2. The cylinder 1 con-

stitutes an element of the printing couple, and rotates on a shaft 2 journaled in the frame.

The moistening rolls comprise two rolls 3 which directly engage the plate cylinder 1, and a third roll 4 which engages and feeds the rolls 3. The roll 4 is supplied with moisture by a ductor roll 5 which engages it intermittently for periods varying in length according to the amount of moisture to be applied to the plate cylinder. When out of engagement with the roll 4, the ductor roll 5 engages and is moistened by a fountain roll 6, which is journaled over a fountain 7. The fountain is filled with water, and the bottom of the fountain roll 6 is submerged therein.

The moistening rolls are so mounted that they may be thrown out of contact, when necessary, with the plate cylinder. For this purpose they are carried by two brackets 11 fixed to the ends of a rock-shaft 12 journaled in the frame of the machine. A gear segment 13 fixed to the shaft engages a worm 14 on a rock-shaft 15. The shaft 15 is journaled in the frame and provided with a handle 16. A partial rotation of this handle operates to swing the brackets 11, with the moistening rolls, toward or from the plate cylinder. The rolls 3 are not journaled directly on the brackets 11, but are so mounted thereon as to be adjustable with respect both to the cylinder 1 and the roll 4. The shafts 19 on which the rolls 3 are mounted are journaled in sleeves 20 seated in heads 17 integral with stems 21. The heads 17 are slotted at 18, and when the sleeves 20 are withdrawn endwise from the heads and shafts 19, the shafts may be passed laterally through the slots to remove the rolls from the machine. The sleeves are normally held in place by spring plungers 27 normally held, by springs 28, in engagement with suitable notches in the sleeves. The stems 21 are slidably mounted in sleeves 22, and the latter have ears 29 by which they are pivoted on studs 30 on the brackets 11. A plate 31 connects the outer ends of the studs and retains the sleeves in place thereon.

The rolls 3 are adjusted toward and from the cylinder 1 by moving the stems 21 longitudinally in the sleeves 22. For this pur-



pose each sleeve has an adjusting screw 23 threaded into the stem and provided with a collar 24 engaging a flange 25 at the end of the sleeve. By turning the squared head 26 of the screw, the stem may be moved, and by these means the rolls may be adjusted to engage the cylinder with equal pressure and uniformly from end to end. In conjunction with the adjustment just described it is necessary to adjust the rolls 3 toward and from the roll 4, and for this purpose the sleeves 22 are moved pivotally on studs 30 by means of adjusting screws 32, which are threaded into heads 33 having threaded shanks screwed into holes 34 on the brackets 11:

Means are provided for rotating the roll 4 to assist the rotation of the rolls 3 in unison with the cylinder 1. For this purpose, a pinion 35 is journaled on one of the brackets 11 and engages gears on the cylinder shaft 1 and the shaft of the roll 4. The roll 4 is removably mounted, in the same manner as the rolls 3, by means of sleeves 37 seated in slotted bosses 36 on the brackets 11.

To impart a reciprocating motion to the carrier roll 5, its shaft 38 is journaled in the forked upper ends of two arms 39 loosely mounted on a rock-shaft 40. The arms 39 have downward extensions engaged between adjusting screws 43 threaded in slotted arms 42 fixed to the shaft 40. The adjusting screws permit adjustment of the two ends of the roll independently, to cause the roll to engage the rolls 4 and 6 evenly from end to end.

The rock-shaft 40 has fixed thereto an arm 45 upon which is mounted a cam roll 46. A cam 47 is splined upon the shaft 48 of the feed roll 6. The shaft 48 is constantly rotated by means of bevel gears 49 and 50 connecting it with a drive shaft 51 which is suitably connected with a moving portion of the printing press. The fountain roll 6 and the cam 47 are thus rotated, and the cam is formed to impart an oscillating movement to the arm 45 and the rock-shaft 40, thereby moving the carrier roll 5 backward and forward and alternately into contact with the fountain roll 6 and the roll 4.

Provision is made for interrupting the movements of the fountain roll and the carrier roll to throw the moistening mechanism out of operation. To this end the bevel gear 49 is splined to the shaft 48 and longitudinally movable thereon. A spring 52, mounted on a reduced extension 53 of the shaft, tends to move the gear out of engagement with the gear 50. A collar 54 loosely mounted on the shaft has inclined cam projections 55 engaging corresponding projections on a sleeve 56 fixed to the frame of the machine. By means of a handle 57 fixed to the collar 54 the collar may be turned

so as to cause the projections to ride upon each other, thereby moving the gear 49 along the shaft and causing it to operatively engage the gear 50. As shown in Fig. 1 the gears are out of engagement and the mechanism is out of operation.

The amount of moisture delivered by the carrier roll to the moistening rolls, and from them to the cylinder, is governed by the length of time during which the carrier roll engages the roll 4 at each reciprocation, and in order that this may be varied as desired provision is made for varying the length of such contact. The cam 47 is formed to have a throw of varying length according to the relative lateral position of the cam and the cam roll, and as the cam is splined on the shaft 48 this position may be changed by shifting the cam along the shaft. For this purpose the cam has a groove 58 engaged by an arm 59 depending from a rod 60. The rod is mounted loosely in a threaded sleeve 61 which screws into the frame of the machine. The arm 59, and a washer 62 and screw 63 at the outer end of the rod, constrain the rod and arm to move longitudinally with the sleeve. By means of a milled head 64 on the sleeve the latter may be turned so as to adjust these parts, and the cam, longitudinally, and thus regulate the action of the cam.

The handle 57 and the sleeve 61, by which the operation of the moistening mechanism is controlled, are located close together and in a convenient position at the side of the machine, and thus the mechanism may be conveniently and quickly controlled while it is in operation.

It is obvious that various modifications may be made in the details of construction and operation of the embodiment of my invention hereinbefore described and illustrated in the accompanying drawings, within the principle and scope of the invention as defined in the following claims.

I claim:

1. Moistening mechanism for printing presses comprising a reciprocating ductor roll, a cam-roll operatively connected with the ductor roll, a variable-throw cam for actuating the cam roll and the ductor roll, and means for adjusting the cam longitudinally to vary the throw of the cam roll comprising a rod, an arm engaging the cam and fixed to the rod, a threaded sleeve in which the rod is mounted, and manually-operable means for rotating the sleeve to adjust it longitudinally.

2. Moistening mechanism for printing presses comprising a moistening roll, a fountain roll, a reciprocating ductor roll engaging the moistening roll and the fountain roll alternately, a shaft on which the fountain roll is mounted, gears by which the shaft and the fountain roll are rotated



of which one is splined on the shaft so as to be movable into and out of engagement with the other, a cam roll connected with the ductor roll, a variable-throw cam splined on the shaft and engaging the cam roll, and manually-operable means for moving the gear along the shaft to throw the mechanism into and out of operation and for moving the cam along the shaft to vary its

operation on the cam roll and the ductor 10 roll.

In testimony whereof I have affixed my signature in presence of two witnesses.

ALBERT J. FORD.

Witnesses:

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HENRY H. DAVIS.