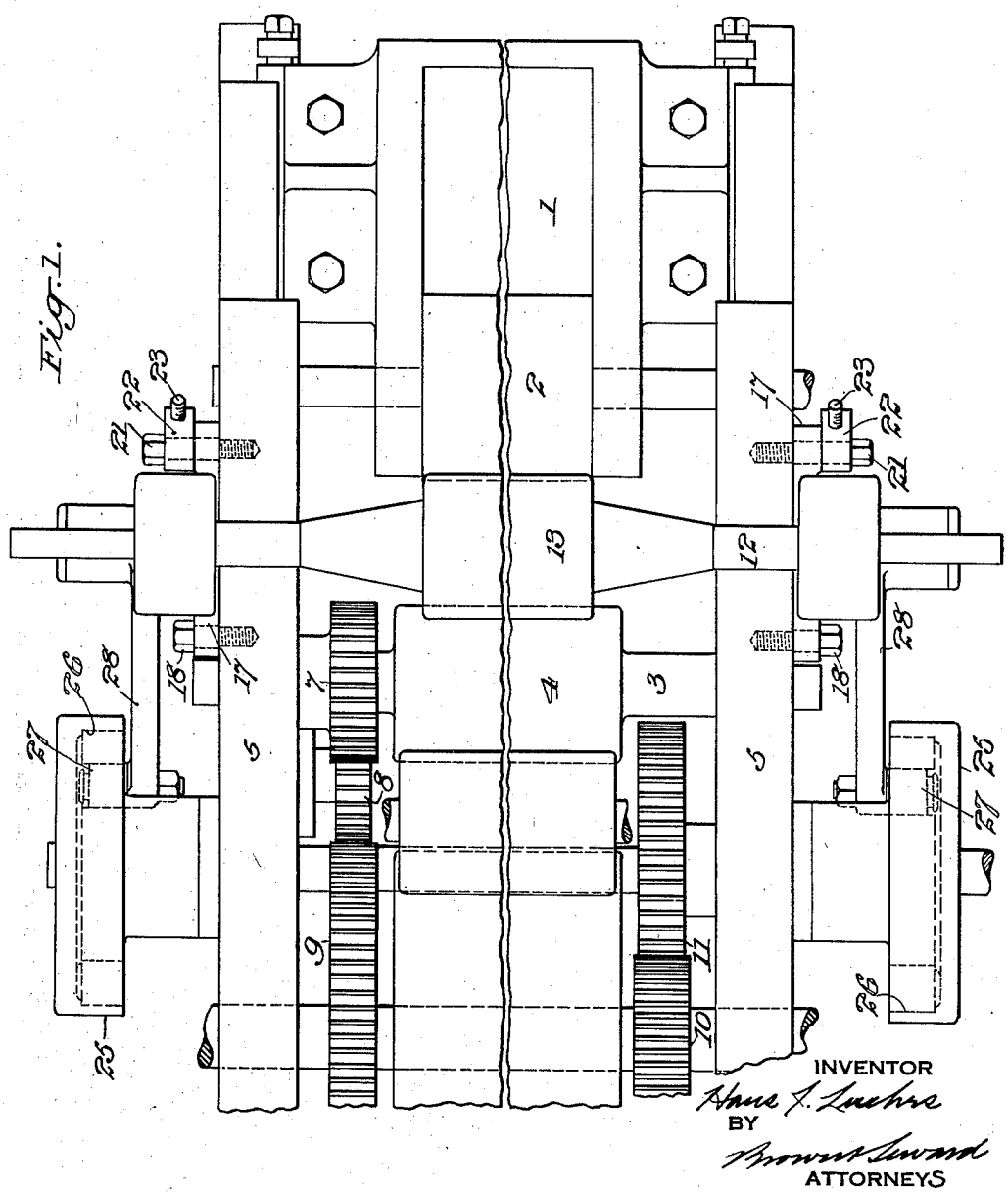
Sept. 7, 1937. H. J. LUEHRS 2,092,461

INKING MECHANISM FOR ROTARY PRINTING PRESSES

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Fig. 1.



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Fig. 4.

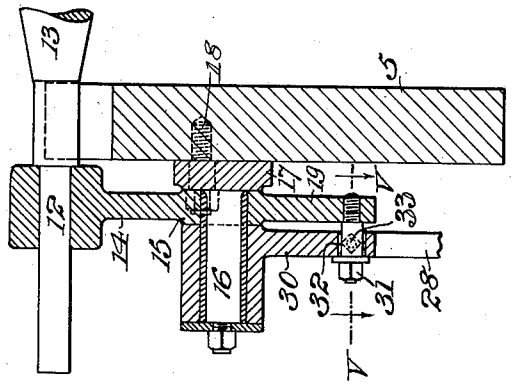


Fig. 5.

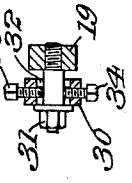


Fig. 2.

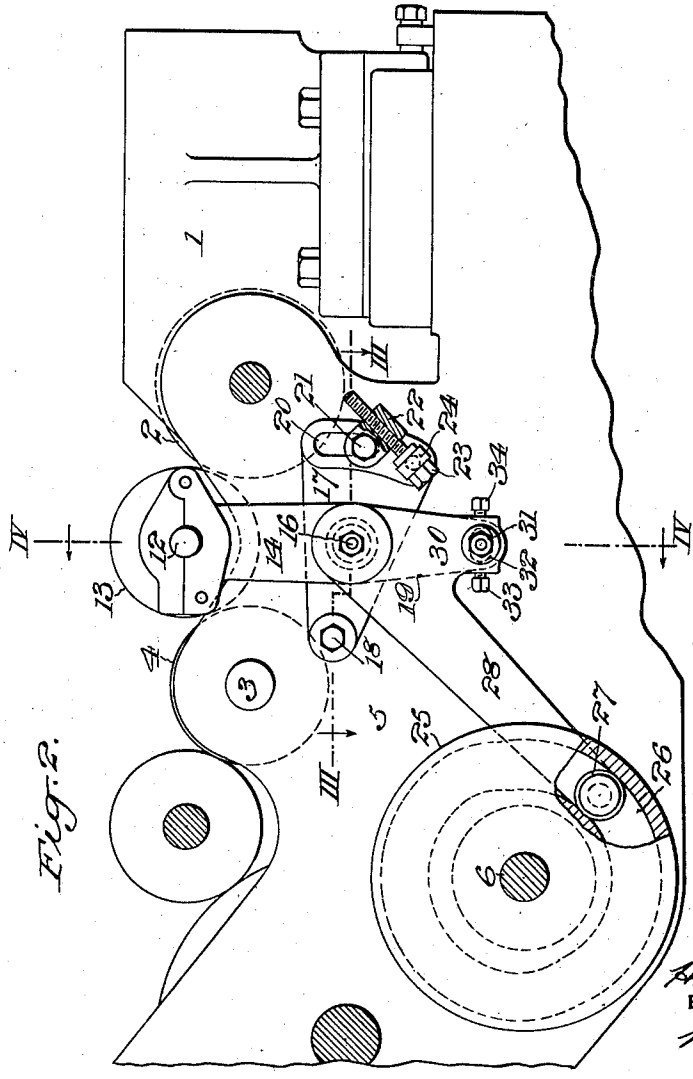
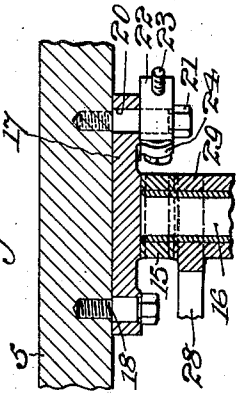


Fig. 3.



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Patented Sept. 7, 1937

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UNITED STATES PATENT OFFICE

2,092,461

INKING MECHANISM FOR ROTARY PRINTING PRESSES

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Application April 2, 1936, Serial No. 72,283

9 Claims. (Cl. 101—350)

The object of my invention is to provide means operatively connected to both ends of the ductor roll whereby the ductor roll may be positively vibrated at high speed without the tendencies to bounce. It also eliminates the twisting action which was inherent in ductor rolls that were driven by means of a shaft from one end only and by a combined cam and spring action.

A further object is to provide means whereby the opposite ends of the ductor roll may be independently adjusted radially and/or laterally to accurately position the ductor roll with respect to its fountain and distributing rolls even though the ductor roll becomes changed in size or shape.

My invention comprises an inking mechanism for rotary printing presses in which a ductor roll is mounted at its ends in levers which are pivoted to independently adjustable brackets, to which brackets are pivoted cam operated levers adjustably connected to the said ductor roll carrying levers, thereby permitting independent radial and lateral adjustments of both ends of the ductor roll with respect to its coacting rolls and the positive vibration of the ductor roll without a torsional strain thereon.

A practical embodiment of my invention is represented in the accompanying drawings, in which

Fig. 1 represents a detail top plan view of that part of an inking mechanism which includes my invention;

Fig. 2 represents a detail side view of the same;

Fig. 3 represents a detail horizontal section, taken in the planes of the line III—III of Fig. 2, looking in the direction of the arrows;

Fig. 4 represents a detail vertical section, taken in the plane of the line IV—IV of Fig. 2, looking in the direction of the arrows; and

Fig. 5 represents a detail horizontal section, taken in the plane of the line V—V of Fig. 4, looking in the direction of the arrows.

The ink fountain is denoted by 1 and its fountain roll by 2, which roll may be driven in the usual manner and at the desired speed by any well known or approved means, not shown herein.

The shaft 3 of the ink distributing roll 4 is rotatably mounted in the frame 5, which shaft may be operatively connected to the cam shaft 6 which is also mounted in the frame 5, through the train of gears 7, 8, 9, 10, 11, in the usual manner.

The opposite ends of the shaft 12 of the ductor roll 13 are mounted for independent adjustment as follows: Each end of the ductor roll shaft 12 is rotatably mounted in the uprising arm 14 of a two armed rock lever 15 pivoted to swing on a stud 16 projecting from a bracket 17. This bracket 17 may be vertically adjustable as, for instance, by pivoting the bracket on a pivot bolt 18 projecting from the frame 5. The depending arm of this rock lever 15 is denoted by 19. The bracket 17 has a concentric slot 20 along its outer end beyond the pivot stud 16, through which slot a bolt 21 extends into the frame 5. A swinging nut 22 is carried by the bolt 21, which nut is engaged by the threaded shank of an adjusting screw 23 rotatably mounted in a lug 24 projecting from the bracket 17.

The means which I have shown for rocking each of the levers 15 to vibrate the ductor roll 13 without a torsional strain thereon is as follows: The cam shaft has fixed thereon two box cams 25, each cam having a suitably shaped annular groove 26 in which travels a stud or roller 27 carried by one arm 28 of a two armed rock lever 29 pivoted on the stud 16 projecting from the bracket 17.

The means which I have shown for independently adjusting the positions of the rock levers 15 is as follows:

A depending arm 30 of the cam operated lever 29 is located adjacent to and in substantial alinement with the depending arm 19 of the ductor roll rock lever 15. This arm 19 is provided with a stud bolt 31 which extends through a slot 32 in the depending arm 30 of the cam operated lever 29, which slot is concentric with the stud 16 of the said lever. Oppositely disposed adjusting screws 33, 34 are carried by the lever arm 30 in position to engage the opposite sides of the stud bolt 31 whereby the adjustment of these screws will change the relative positions of the arms 19 and 30 of the levers 15 and 29 and thereby the lateral position of the ductor roll 13.

It will thus be seen that I have provided means whereby each end of the ductor roll may be adjusted radially and/or laterally to bring the ductor roll into exact contact throughout its length with its coacting rolls as the ductor roll is vibrated, even though the shape and size of the ductor roll be changed due to the use of the ductor roll. The radial and/or lateral adjustment of the ductor roll will ensure the even transfer of the ink in the desired amounts from one of its coacting rolls to the other of its coacting rolls.

It will also be seen that the positive operation of both of the ductor roll carrying levers prevents torsional strain on the formerly used ductor roll

shaft. This positive operation of the ductor roll also ensures its even and positive movement and eliminates the bouncing of the roll which is liable to happen where the roll is operated at high speeds under a cam and spring control at one end of the roll.

It is evident that various changes may be resorted to in the construction, form and arrangement of the several parts without departing from the spirit and scope of my invention, and hence I do not intend to be limited to the particular embodiment herein shown and described, but what I claim is:

1. In an inking mechanism for rotary printing presses, a frame, two brackets independently adjustable thereon, two ductor roll levers pivoted on said brackets, a ductor roll mounted at its ends in said levers, and means operatively connected, through said levers, to the opposite ends of said ductor roll for vibrating it.

2. In an inking mechanism for rotary printing presses, a frame, two brackets independently adjustable thereon, two ductor roll levers pivoted on said brackets, a ductor roll mounted at its ends in said levers, and means operatively connected, through said levers, to the opposite ends of said ductor roll for vibrating it, said means comprising two cam operated levers pivoted on the same axes as the ductor roll levers and connected thereto.

3. In an inking mechanism for rotary printing presses, a frame, two brackets independently adjustable thereon, two ductor roll levers pivoted on said brackets, a ductor roll mounted at its ends in said levers, and means operatively connected, through said levers, to the opposite ends of said ductor roll for vibrating it, said means comprising two cam operated levers pivoted on the same axes as the ductor roll levers and adjustably connected thereto.

4. In an inking mechanism for rotary printing presses, a frame, two independently adjustable brackets pivoted thereon, two ductor roll levers pivoted on said brackets, a ductor roll mounted at its ends in said levers, and means operatively connected through said levers to the opposite ends of said ductor roll for vibrating it.

5. In an inking mechanism for rotary printing presses, a frame, a ductor roll, and means for independently adjustably supporting and positively vibrating each end of the ductor roll, said means comprising an adjustable bracket pivoted on the frame, a ductor roll lever pivoted on the bracket and a cam operated lever pivoted on the same axis as the ductor roll lever and connected thereto.

6. In an inking mechanism for rotary printing presses, a frame, a ductor roll, and means for independently adjustably supporting and positively vibrating each end of the ductor roll, said means comprising an adjustable bracket pivoted on the frame, a ductor roll lever pivoted on the bracket and a cam operated lever pivoted on the same axis as the ductor roll lever and adjustably connected thereto.

7. In an inking mechanism for rotary printing presses, a frame, a ductor roll, and means for independently adjustably supporting and positively vibrating each end of the ductor roll, said means comprising an adjustable bracket pivoted on the frame, a stud projecting from the bracket, a ductor roll lever and a cam operated lever both pivoted on said stud and means connecting the two levers.

8. In an inking mechanism for rotary printing presses, a frame, a ductor roll, and means for independently adjustably supporting and positively vibrating each end of the ductor roll, said means comprising an adjustable bracket pivoted on the frame, a stud projecting from the bracket, a ductor roll lever and a cam operated lever both pivoted on said stud and means adjustably connecting the two levers.

9. In an inking mechanism for rotary printing presses, a frame, a ductor roll, and means for independently adjustably supporting and positively vibrating each end of the ductor roll, said means comprising a bracket pivoted on the frame, separate means for adjusting the position of the bracket and operatively connected ductor roll, cam operated levers mounted on the bracket to swing on the same axis and means for adjusting the angular positions of the two levers with respect to each other.

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