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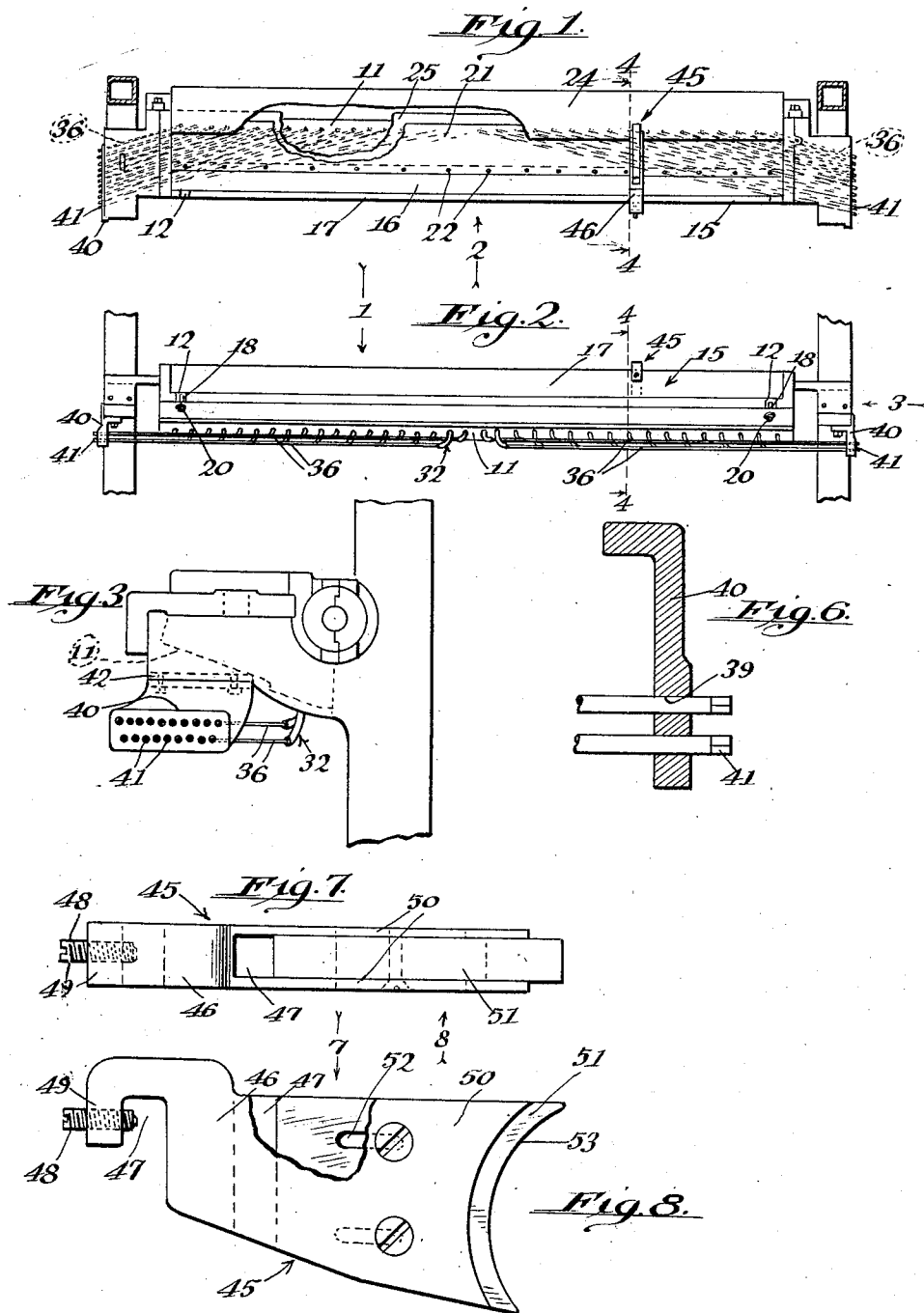
C. A. RUPP

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INK FOUNTAIN FOR PRINTING PRESSES

Filed Aug. 21, 1923

2 Sheets-Sheet 1



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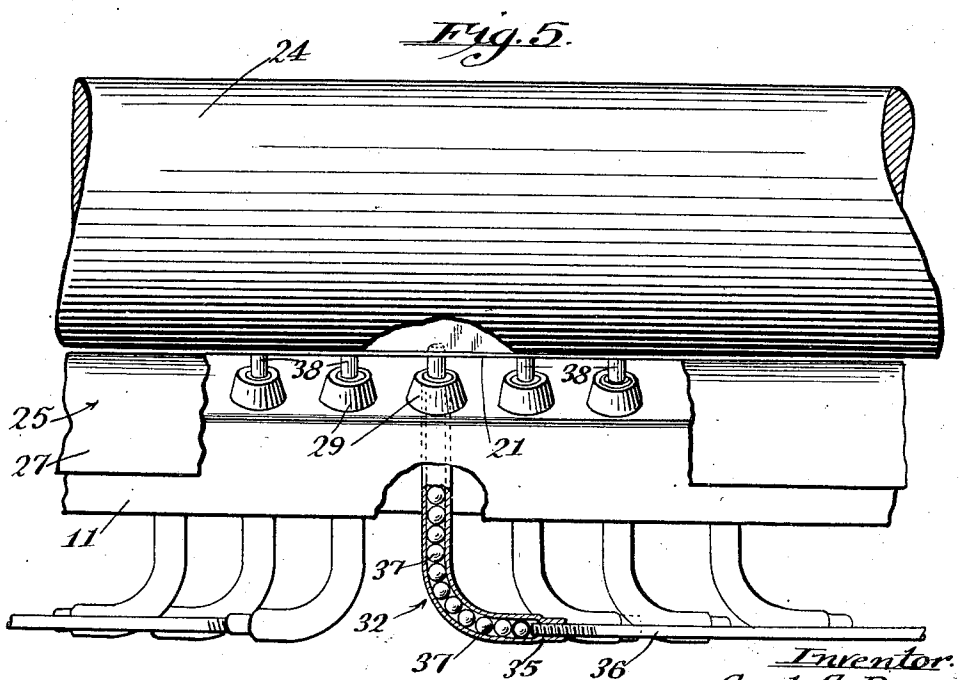
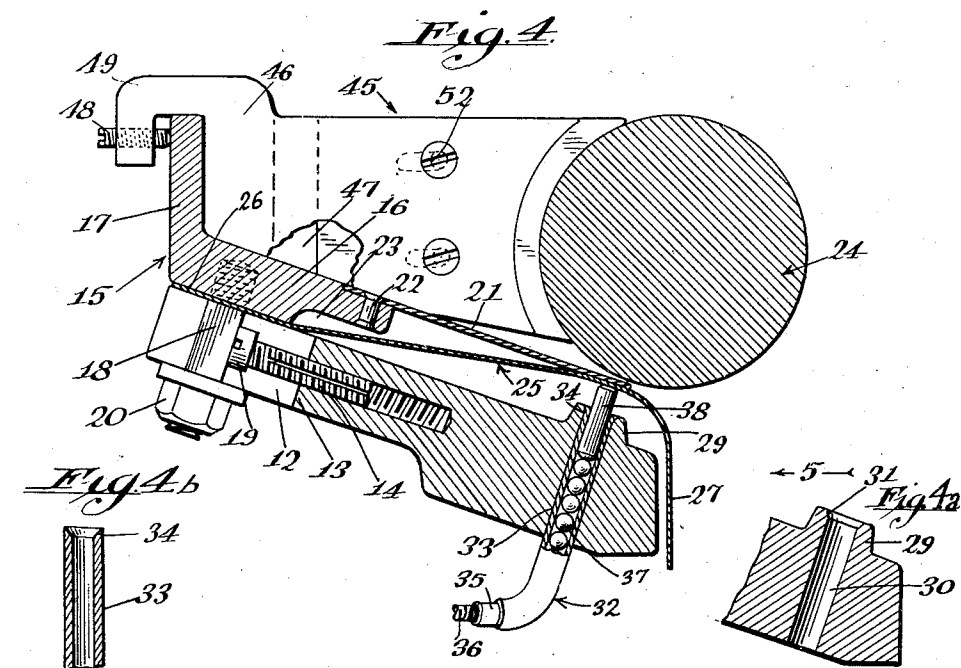
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INK FOUNTAIN FOR PRINTING PRESSES

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

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INK FOUNTAIN FOR PRINTING PRESSES

Application filed August 21, 1928. Serial No. 300,991.

My invention pertains to an ink fountain for printing presses, having to do with the control of the feed of ink by the fountain roller and to division plates for the fountain.

An object of my invention is a control for the spring blade of an ink fountain to adjust the pressure of the blade against the bottom of the fountain roller in which a series of balls are housed in a bent or elbow shaped pipe having means to prevent the balls from falling out of the pipe; and in this connection a further feature of my invention is in the connection of the bent pipes housing the balls to the body of the fountain to allow placing the pipes close together and supporting them in a swiveling manner in the body. The uppermost ball in each bent pipe supports a pin which adjusts the spring blade. The balls are actuated to transmit motion to the pins by adjusting rods screw threaded into the bent pipes.

Another object of my invention is in utilizing a protecting sheet of metal which is clamped between the body and the ink tray of the ink fountain and engages between the pins operated by the balls and the spring blade, so that in cleaning and readjusting the ink fountain there is no danger of the ink clogging the adjusting device having the shiftable balls.

Another object of my invention is the construction of a division plate for use in an ink fountain where different colored inks are run at the same time, this plate being adjustable and having a combination of a metal and a wood construction.

My invention is illustrated in the accompanying drawings, in which:

Fig. 1 is a plan view of a fountain taken in the direction of the arrow 1 of Fig. 2, with parts broken away,

Fig. 2 is an elevation taken in the direction of the arrow 2 of Fig. 1,

Fig. 3 is an end elevation taken in the direction of the arrow 3 of Fig. 2,

Fig. 4 is a cross section through the fountain on the line 4—4 of Figs. 1 or 2 in the direction of the arrows,

Fig. 4^a is a cross section through the body showing one of the holes in which bent pipes

are freely hung by means of flanged over upper ends,

Fig. 4^b is a section through the upper portion of one of the bent pipes,

Fig. 5 is an elevation of Fig. 4 in the direction of the arrow 5, with parts broken away,

Fig. 6 is a detail section through one of the adjusting rod brackets,

Fig. 7 is a plan view of one of the division plates taken in the direction of the arrow 7 of Fig. 8,

Fig. 8 is an elevation of Fig. 7 in the direction of the arrow 8.

In my invention I utilize certain features of a conventional ink fountain, in which an elongated frame body 11 extends from side to side of the press and forms the main body support for the ink fountain. This body has a pair of slots 12 at the ends, and in the base 13 of these slots there is threaded an adjustable screw 14. The front section 15 of the ink tray has a sloping plate 16 and a front or vertical plate 17. There is a squared stud 18 fitted in the plate 16 so that a square side may be engaged by the head 19 of the screw 14. The nut 20 is utilized to clamp the tray section to the frame body 11.

A spring blade 21 is secured by rivets 22 or the like to the plate 16, this plate having an undercut section 23. The end of the blade passes underneath the bottom of the fountain roller 24. A protecting apron plate 25 formed preferably of comparatively thin flexible copper has one edge 26 gripped between the plate 16 of the front section of the ink tray and the edge of the body 11. This plate or strip passes underneath the blade and has an apron 27 extending downwardly at the opposite edge of the body 11.

The body is provided with a plurality of bosses 29 and with holes 30 through the body and through these bosses, the holes and bosses being spaced comparatively close together and forming a longitudinal row across the bar. Each of the holes has a chamfer 31 at the top. (Note Fig. 4^a.)

A series of bent pipes 32 have upper sections 33 fitted in the holes 30. These sections have chamfers 34 (note Fig. 4^b), which are flanged outwardly to fit the chamfers 31 in

the body 11 and thus hold the bent pipes in position. (Note Fig. 4.) This connection however allows the bent pipes to swivel to take up their proper adjustment. Each of these pipes has a reduced end 35 in which is threaded an adjusting rod 36. A series of balls 37 are fitted in the pipe bearing against the end of the rod and support a floating adjusting pin 38, the pin bearing upwardly on the apron plate 25 and thrusting the blade 21 upwardly into proper adjustment with the fountain roller.

These adjusting rods extend laterally to each side of the printing press and extend through holes 39 in adjusting rod brackets 40 mounted on each side of the frame. These rods have preferably squared ends 41 for adjustment with a wrench.

From my construction as above described it will be apparent that the bent pipes may be placed close together so that there are a large number of the floating pins 38 for adjusting the spring blade 21, thus allowing accurate adjustment of this blade at different positions in the press to obtain the desired inking. In the construction of these bent pipes it is desirable to have an easy curve to allow transmission of the motion due to the adjusting rods in the bent pipes so that the floating pins may be readily controlled; and the ends 35 of these bent pipes overlap adjacent pipes and prevent their turning a full revolution, but there is sufficient swiveling allowed to obtain the proper fitting in connection with the adjusting rods.

The division plates designated generally by the numeral 45 are illustrated particularly in Figs. 7 and 8. These comprise a metal base 46 having a vertical slot 47 therein with a set screw 48 extending through the outside section 49 of the base. The slot 47 is adapted to fit the vertical plate 17 of the front section of the ink tray and the set screw to hold the plate in position as illustrated in Fig. 4. Extending forwardly from the base there are a pair of side plates 50 and fitted between these side plates there is a wood filler 51 being secured by a screw and slot connection 52. These fillers have a concave end 53 to conform to the circumference of the fountain roller. These division plates by the adjustable feature of the filler allow a sufficiently close contact with the fountain roller to prevent spreading of ink from the tray at one side of the division plate to the other. The bottom of the division plate adjacent the spring blade and the front section of the tray is packed in a suitable manner to prevent underflow of the ink.

Various changes may be made in the principles of my invention without departing from the spirit thereof, as set forth in the description, drawings and claims.

I claim:

1. An ink fountain having an ink tray with

a spring blade and a fountain roller, a plurality of bent pipes in alignment positioned sufficiently close together to establish closely grouped adjusting points, each pipe having a series of balls therein with a pin to press against the blade, and an adjusting rod engaging the balls at the opposite end of each pipe from the pin.

2. An ink fountain having an ink tray with a spring blade, a fountain roller, a transverse frame bar below the roller with a plurality of perforations therethrough, a bent pipe in each perforation, said pipes being sufficiently close together to prevent turning of one relative to the other, a series of balls in each pipe, a pin resting on the uppermost ball to press the blade, and an adjusting rod at the opposite end of the pipe from the pin.

3. An ink fountain having an ink tray with a spring blade, a fountain roller, a frame bar positioned below the roller and having a series of bosses in alignment under the roller with perforations therethrough, a bent pipe in each perforation, the pipes being positioned sufficiently close together to prevent turning of one relative to the other, a series of balls in each pipe with a pin on the uppermost ball, and an adjusting rod at the end opposite the pin, the adjusting rods leading to opposite sides of the fountain.

4. An ink fountain as claimed in claim 3, a flexible apron positioned underneath the blade passing between the blade and the pins.

5. An ink fountain having an ink tray with a spring blade and a fountain roller, a frame bar positioned below the roller and having a series of perforations each with a chamfer at the upper edge, a bent pipe in each perforation having an upper portion swaged to fit in the chamfer and allow slight rotation, a series of balls in each pipe, a pin on the uppermost ball to press the blade, and an adjusting rod connected to each pipe.

6. An ink fountain having an ink tray with a spring blade, a fountain roller and a frame bar with a series of perforations below the roller, a bent pipe secured in each perforation and having a reduced end with a series of balls in the pipe, the reduced end preventing escape of the balls, an adjusting rod threaded in the reduced end, and a pin on the uppermost ball to exert pressure against the blade.

7. An ink fountain having an ink tray with a spring blade, a fountain roller and a frame bar below the roller and a series of perforations with a chamfer at the top thereof, a bent pipe in each of the perforations having a swaged upper end engaging the chamfer and allowing slight rotation, the opposite end of the pipe being reduced, a series of balls in the pipe prevented from escape by the reduced end, an adjusting rod in the reduced end, and a pin on the uppermost ball to exert pressure against the blade.

8. An ink fountain as claimed in claim 7,

a metal apron secured between the ink tray and the frame bar and passing between the pins and the blade, and having an apron portion extending over the side of the frame bar.

wood filler adjustably mounted in the side plates and adapted to fit against the fountain roller.

In testimony whereof I have signed my name to this specification.

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5 9. An ink fountain having an ink tray with a spring blade, a fountain roller, a frame bar positioned below the roller and forming a support for the tray with a series of bosses and perforations therethrough, the upper edge of the perforations being chamfered, a bent
10 pipe fitted in each perforation and being swaged into the chamfer to allow partial rotation, the pipes being sufficiently close together to prevent turning of one relative to
15 the other, each pipe having a reduced end, a series of balls therein prevented from escape by the reduced end, an adjusting rod for each pipe, a pin supported on the uppermost ball, and an apron plate connected between the
20 frame bar and passing between the blade and the pins.

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10. An ink fountain having an ink tray with a spring blade, a fountain roller, a pressure means to exert pressure on the under
25 side of the blade, and an imperforate apron passing between the blade and the said pressure means to prevent ink contacting with the pressure means.

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11. An ink fountain having an ink tray, a
30 frame bar supporting the tray, a spring blade, a fountain roller, a pressure means to exert pressure on the blade against the roller, and an imperforate apron passing between the pressure means and the blade to prevent ink
35 contacting with the pressure means.

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12. An ink fountain having an ink tray, a frame bar supporting the tray, a spring blade, a fountain roller, a pressure means extending through the bar to exert pressure on
40 the blade against the roller, and a metal imperforate apron secured between the frame bar and the tray and passing between the pressure means and the blade to prevent ink contacting with the pressure means.

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13. In an ink fountain having an ink tray with a front plate and a fountain roller, a division plate having a base portion with a slot therein, means to adjustably engage the front plate of the tray in the slot, and a
50 wood filler adjustably secured to the said base to engage the roller.

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14. In an ink fountain having an ink tray with a front plate and a fountain roller, a division plate having a metal base with a slot therein and an outer section with a set screw therethrough to engage the front plate of the tray in the slot, and a wood filler adjustably mounted on the said base, the filler being adapted to engage the fountain roller.

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15. In an ink fountain an ink tray having a front plate and a fountain roller, a division plate having a metal base with a slot therein and an outside section with a set screw adapted to engage the vertical plate in the slot, side pieces secured to the base, and a

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