

June 4, 1935.

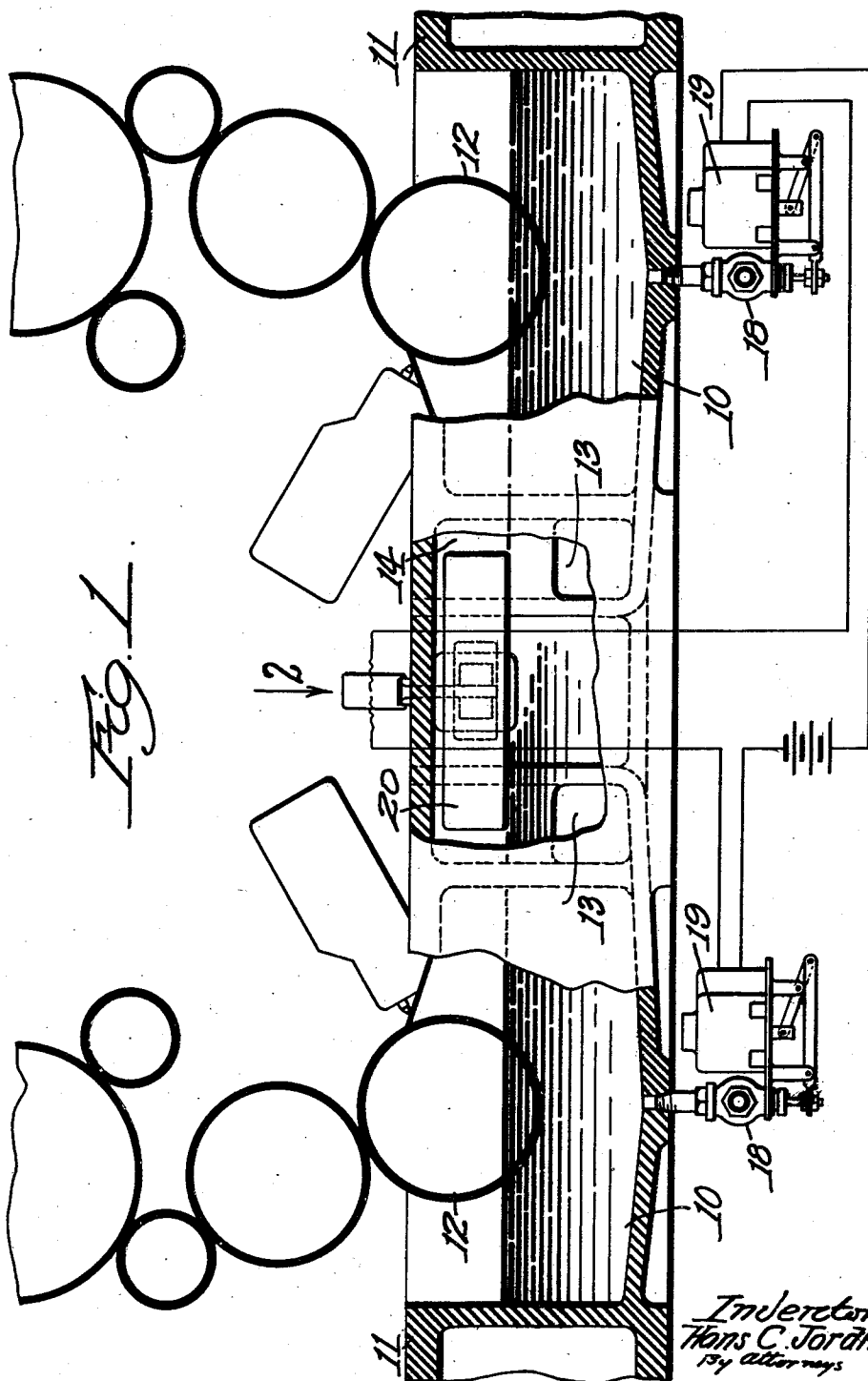
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2,003,544

INK FOUNTAIN REGULATOR

Filed June 30, 1932

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

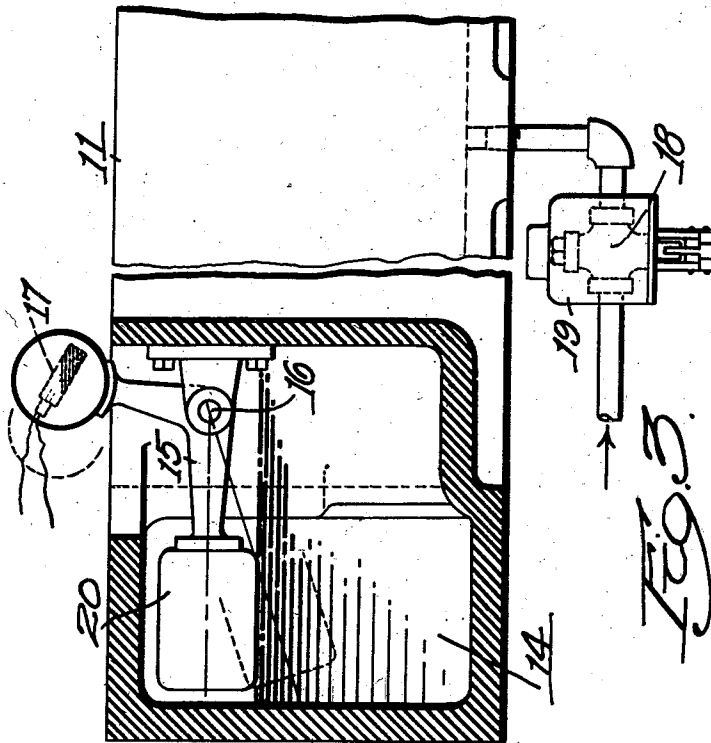


FIG. 3.

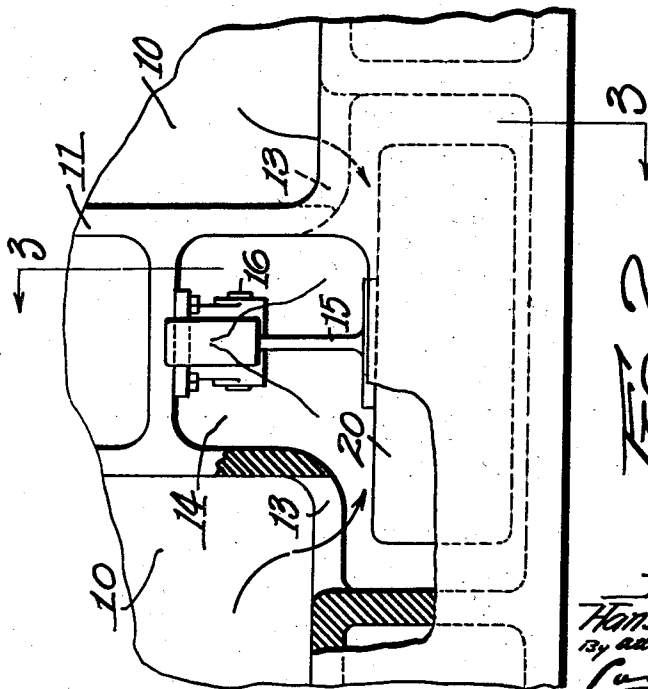


FIG. 2.

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UNITED STATES PATENT OFFICE

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INK FOUNTAIN REGULATOR

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Application June 30, 1932, Serial No. 620,124

2 Claims. (Cl. 101—364)

The principal objects of this invention are to provide means for keeping the level of the ink in an ink fountain constant so that it will deliver ink uniformly; to provide such means in a form in which only a very small amount of work is required in operating the valve for regulating the level of the ink and there is little danger of the caking of the ink, and to provide a valve operated by the energy from an independent source not in any way dependent on the direct buoyant power of a float carried in the ink.

Other objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings, in which

Fig. 1 is a vertical longitudinal sectional view of a double ink fountain for a newspaper printing press, constructed in accordance with this invention;

Fig. 2 is a plan of the same, partly in section, and

Fig. 3 is a sectional view on the line 3—3 of Fig. 2.

It is a well known fact that a variation in the level of the ink in the fountain of a printing press produces a variation in the amount of ink carried up between the fountain roller and the blade, more ink being carried up on the fountain roller when the ink is high, producing a heavier pumping action than when the ink is low. The expedients that have been tried to render the level constant have given some trouble. Most of them involve a fountain float which, by a direct connection, opens and closes a valve placed in the ink supply for the purpose of maintaining a constant level. This float has a certain amount of work to do in closing the valve and the valve after a while does not work well because of the caking of the ink. On account of the small amount of power supplied by the float this caking becomes a serious matter. This invention is designed to overcome these difficulties.

In the drawings the invention is shown as applied to a pair of fountains used for a newspaper printing press, in which each fountain consists of a depression 10 in the bed plate 11 of the press. The two fountains are provided with fountain rollers 12 which deliver ink to the inking mechanism above. The fountains are connected by passageways 13 to a float chamber 14. These passageways are large and thereby insure the same level in the float chamber as in the fountains.

In the float chamber is a float 20 on a lever 15 pivoted at 16. The other end of this lever carries

a mercury contact 17 which of course tilts with the lever and the float. When the float lever is in the position shown in full lines in Fig. 3, the contacts 17 are broken. These contacts supply electric energy to solenoids 19 of two solenoid controlled valves 18. Consequently at this time when the level of the ink in the float chamber is high these valves are closed.

When the level of the ink in the float chamber is lowered the float 20 descends as indicated in dotted lines in Fig. 3 and this establishes the contacts 17 by the swinging of the same. This establishes a circuit through both of the solenoids 19 to open the valves 18. These valves will remain open delivering ink to both fountains until the level of the ink rises enough to bring the float up to level position and close the valves 18.

It will be obvious that, as the ink is used and the level lowers, the solenoids operate to admit more ink the level of which in turn rises and automatically cuts off the supply. In this way a substantially constant level is maintained and the amount of ink delivered to the printing press is practically uniform and constant.

This invention overcomes the difficulties of having a light float which may be stopped by the caking up of the ink and the difficulty of having the power of the float used directly for operating the valves. The energy needed for operating the valves is supplied from an independent source and is not dependent on the direct buoyant power of the float.

Although I have illustrated and described one form of the invention I am aware of the fact that modifications can be made therein by any person skilled in the art without departing from the scope of the invention as expressed in the claims. Therefore I do not wish to be limited in this respect otherwise than as set forth in the claims, but what I do claim is:—

1. In an ink supply device for a printing press, the combination of an ink fountain and a chamber freely communicating with said fountain, a float located in said chamber, a lever having an arm to which the float is fixed pivoted at the side of said chamber, a mercury circuit closing device located on said lever, a valve for supplying the fountain with ink, an electromagnetic closing and opening device for said valve in a circuit including said mercury closing device, whereby said valve will be opened by energy independent of the float when the float descends materially below its normal level.

2. The combination with an ink fountain for a printing press, of a float located in said fountain

tain and mounted to swing on a pivot with the increase and decrease of the level of the ink, a bell crank in the fountain on one arm of which said float is mounted, the other arm of the bell crank 5 having a gravity operated circuit-closing means carried thereby which will complete the circuit when the bell crank is turned by the descent of the float, a valve in the bottom of the fountain for supplying ink to the fountain quietly, electro-magnetic means for opening the valve, and a circuit connecting said electromagnetic means with said circuit-closing means on the bell crank. 5

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