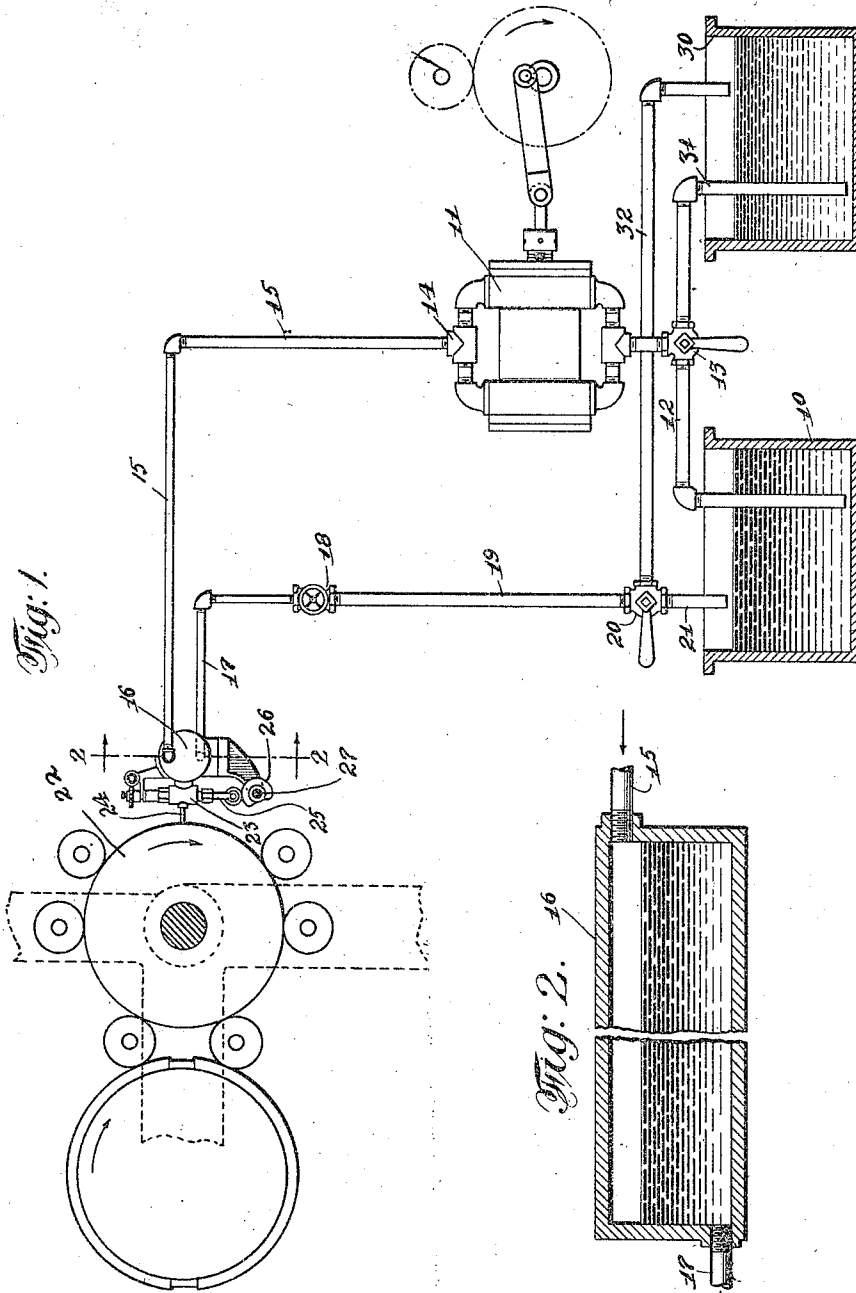


1,185,668.

Patented June 6, 1916.



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UNITED STATES PATENT OFFICE.

ROBERT HOE, OF BATTLE CREEK, MICHIGAN.

INKING MECHANISM.

1,185,668.

Specification of Letters Patent.

Patented June 6, 1916.

Application filed April 24, 1915. Serial No. 23,569.

To all whom it may concern:

Be it known that I, ROBERT HOE, a citizen of the United States, residing at Battle Creek, in the county of Calhoun and State of Michigan, have invented new and useful Improvements in Inking Mechanisms, of which the following is a specification.

This invention relates to inking mechanism for printing presses.

One object of the invention is to provide a pressure system for the feeding of ink.

Another object is to provide a circulating supply system for the inking mechanism.

Another object is to provide a system in which the inking mechanism may be easily cleaned or in which the color of the ink may be readily changed; and still other objects will appear in the following description and appended claims

Referring to the drawing: Figure 1 is an end elevation, partly in section of the improved mechanism; and Fig. 2 is a longitudinal elevation partly in section of the ink container taken on the line 2—2 of Fig. 1.

To reduce the inking mechanism to its simplest form and to keep the ink in as good a condition as possible, the invention embodies means for supplying the ink under pressure in a closed conduit, and maintaining it in circulation in the conduit under any desired pressure so that the ink is at all times thoroughly mixed and is supplied to the inking mechanism in any quantity required.

As shown in Fig. 1, the ink may be stored in a supply tank as at 10 through which it is drawn by pump 11 through a pipe 12 and a port in a four way valve 13. The ink is delivered from the pump at the outlet 14 through a conduit 15 into the sealed ink container 16. It passes through this container to conduit 17, through a pressure regulator 18 pipe 19 three way valve 20 and pipe 21 back into the ink supply tank 10. The pump is driven by any suitable mechanism and in the arrangement shown, the actuation of the pump causes a continual circulation of ink through the ink container the ink being maintained under a pressure in the ink container that is regulated by the adjustment of the pressure valve 18.

The ink may be drawn from the container 16 and delivered to the distributing roll 22 by any suitable mechanism. The particular mechanism herein disclosed, described and claimed in a co-pending application, Serial

Number 1298, filed February 15, 1915, comprises a valve body 23 communicating with the ink container 16 and with a duct 24 through which the ink passes to the roll 22, and a valve located within the port 23 is actuated by means of a plunger 25 which is reciprocated by a cam 26 mounted upon a rotating shaft 27. A series of these devices, one for each column, is provided in order that the ink may be fed in columns to the distributing roll 22.

In the arrangement described, the ink is kept free from contact with the air, and until the time it is delivered to the distributing roll, it is kept in continual movement so that at all times it is uniformly mixed. This arrangement not only permits the delivery of ink under the most favorable conditions, but it also permits the ready cleaning of the inking mechanism or of a change in the color or character of the ink. For this purpose extra supply tanks with suitable connections to the pump 11 may be provided, one of such tanks being shown in the figure at 30. A pipe 31 connects this tank with the four way valve 13 and a second pipe 32 connects the tank with the three way valve 20.

If the four way valve 13 be turned to close the passage 12 and to place the suction side of the pump in communication with the air, the pump will force all of the ink from the pipes and system back into tank 10. As shown in Fig. 2, the inlet 15 into the ink container 16 and the outlet 17 are so located with respect to each other that the ink in the container is displaced by air which is pumped into the container so that a few strokes of the pump will drive all of the ink out of the system. If tank 30 be filled with benzine, or other cleaning fluid, and the four way valve 13 be then adjusted so that pipe 31 connects with pump 11 and valve 20 be adjusted so that pipes 32 and 19 are in communication with each other, then the actuation of the pump will cause a current of benzine to flow through the system which will work through the valve body 23 and ports in the inking mechanism, dissolving and removing any hard or caked deposit of ink that may have been deposited in any parts of the apparatus, and will carry such ink back to the tank 30. It will be seen by this arrangement that all that is necessary to do to clean the entire inking mechanism of the press is to manipulate valves 13 and 20 as described, keeping the pump 11 in actuation,

the cleaning being accomplished conveniently in a very short space of time, and without disturbing the press. It is obvious that if tank 30 be filled with a different ink than tank 10, the arrangement provides a quick and easy method of changing the color or kind of ink delivered by the mechanism. It is also obvious that other tanks may be likewise connected to the system so as to supply other inks as desired.

I claim:

1. In an inking mechanism for printing presses, a system comprising an ink container, equipped with ink delivery plungers, a supply tank, a pump, and connections between the said container, tank and pump, whereby a continuous flow of ink may be maintained through the system.

2. In an inking mechanism for printing presses, a system comprising an ink container equipped with ink delivery plungers and adapted to hold ink under pressure, a supply tank, a pump, and connections between the said container, tank, and pump, whereby a continuous flow of ink may be maintained through the system.

3. In an inking mechanism for printing presses, an ink container, a plurality of independent supply tanks, a pump and conduit for delivering ink to the container, and means for placing the pump in communication with any of the respective tanks.

4. In combination, an inking mechanism, a plurality of independent supply tanks, a pump and conduit for delivering ink to said mechanism and means for placing the pump

in communication with any of the respective tanks.

5. In an inking mechanism for printing presses, a system comprising an ink container adapted to hold ink under pressure, a plurality of supply tanks, connections between the container, pump, and the respective tanks, whereby a continuous flow of ink may be maintained through the container, the pump, and any one of said tanks.

6. In an inking mechanism for printing presses, a system comprising an ink container equipped with ink delivery plungers and adapted to hold ink under pressure, a supply tank, a pressure regulator, a pump, and connections between the container, pump, tank, and regulator whereby a continuous flow of ink under a predetermined pressure is maintained through the container.

7. In an inking mechanism for printing presses, an ink container, inking devices comprising plungers for drawing ink from said container, a supply tank, a pump, and connections between the said container, tank and pump, whereby a circuitous flow of ink may be maintained through the container, tank, pump, and connections.

8. In an inking mechanism for printing presses, the container 16, plungers 25, pump 11, tank 10, and connections 12, 15, 17 and 19.

9. In an inking mechanism for printing presses, the container 16, plungers 25, pump 11, tank 10, connections 12, 15, 17, and 19, and pressure regulator 18 located between the container and the tank.

ROBERT HOE.