

H. F. BECHMAN.  
DISTRIBUTING FOUNTAIN MECHANISM.  
APPLICATION FILED JULY 23, 1917.

1,293,305.

Patented Feb. 4, 1919.

2 SHEETS—SHEET 1.

Fig. 1.

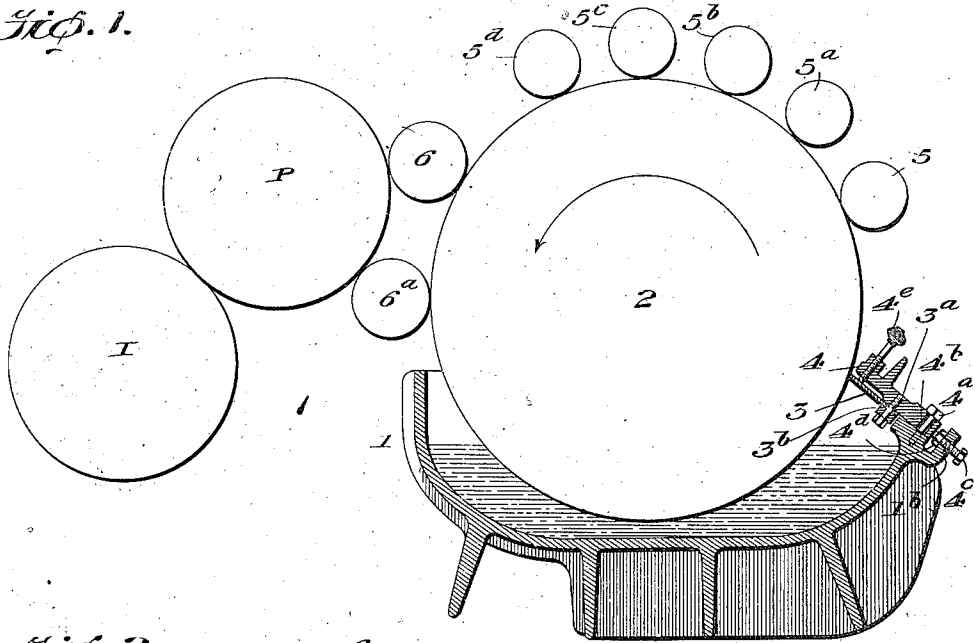
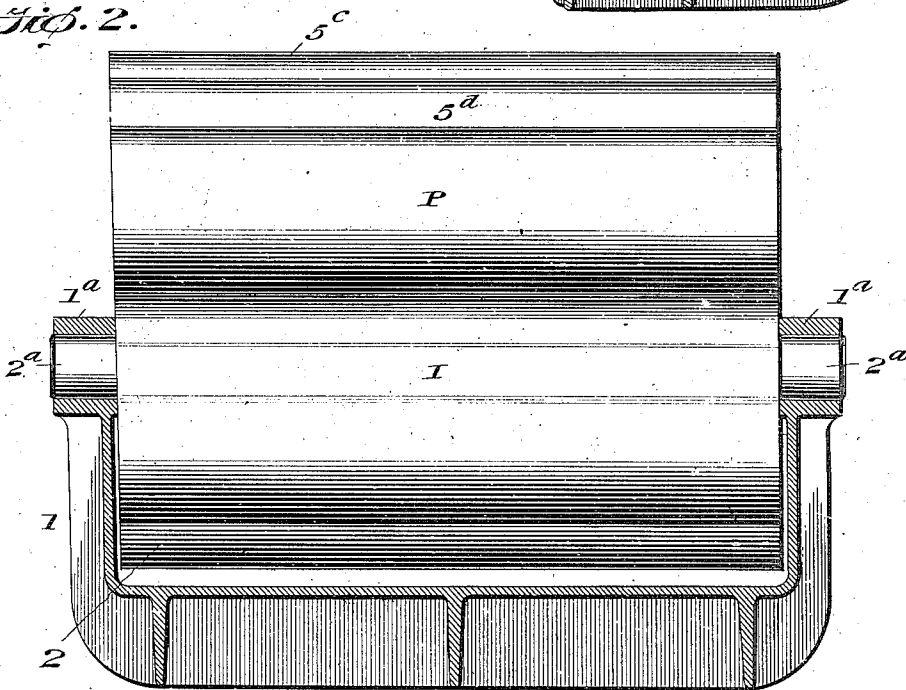


Fig. 2.

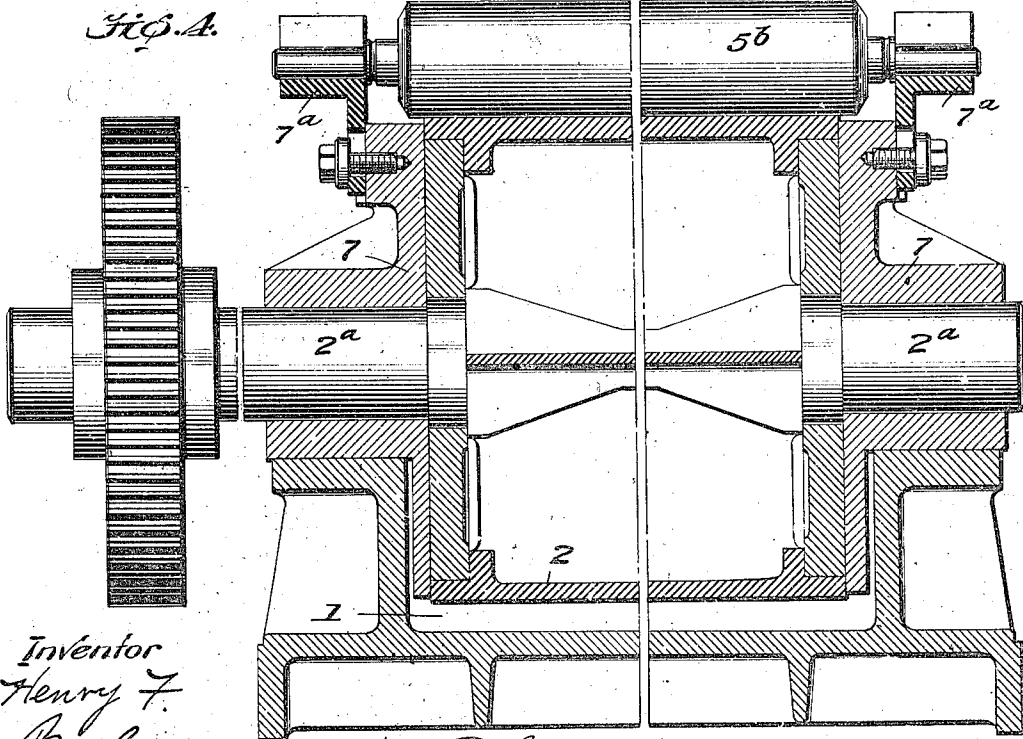
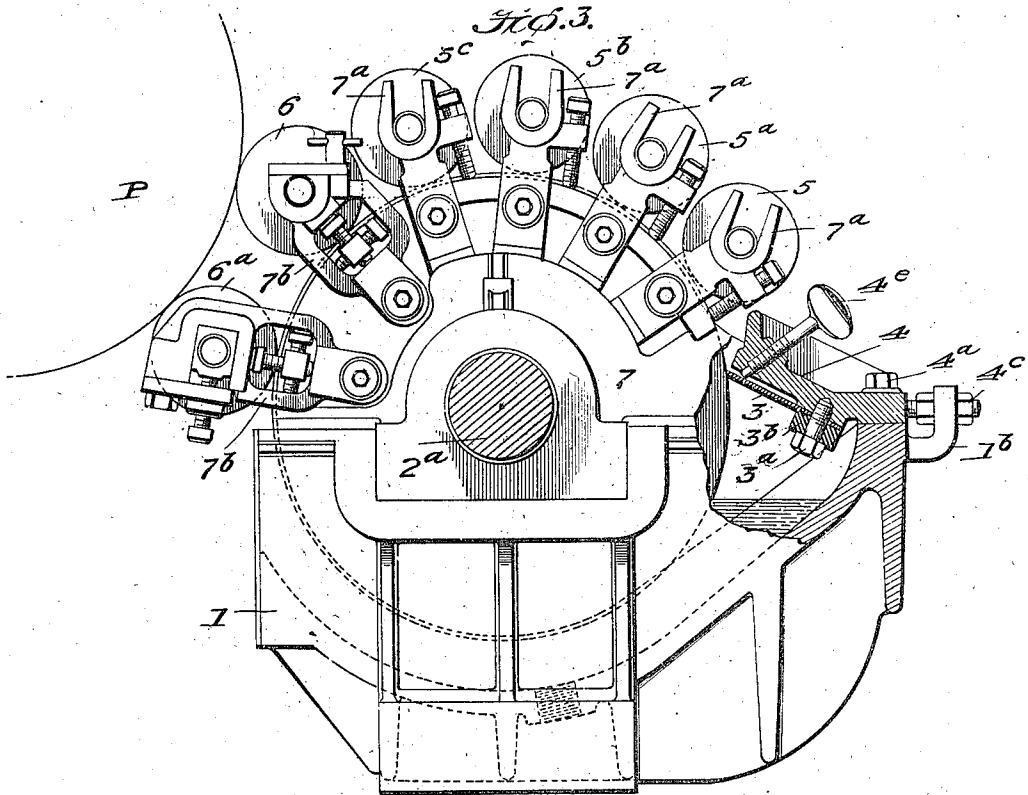


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# UNITED STATES PATENT OFFICE.

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DISTRIBUTING-FOUNTAIN MECHANISM.

1,293,305.

Specification of Letters Patent.

Patented Feb. 4, 1919.

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*To all whom it may concern:*

Be it known that I, HENRY F. BECHMAN, a citizen of the United States, residing at Battle Creek, in the county of Calhoun and State of Michigan, have invented certain new and useful Improvements in Distributing-Fountain Mechanism; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form part of this specification.

This invention is a novel distributing fountain mechanism particularly designed for printing presses, and especially adapted for use in connection with rotary-cylinder printing presses.

The objects of the invention are to simplify the construction, reduce the number of parts, and dispense with the ordinary fountain roll and ductor, and to take ink from the fountain and deliver it to the form-rollers by one large roller or drum, which drum performs the functions of the ordinary fountain roller, ductor and distributing drum. The construction is very simple and will be readily understood by those familiar with the art and is capable of embodiment in different forms, and of use in various types of presses, and in other machines where viscous fluid is fed from a fountain and has to be distributed before reaching the point of its application to the material acted upon.

The accompanying drawings illustrate one practical embodiment of the invention, which I will explain with reference to such drawings, and the essential features and combinations of parts for which protection is desired are summarized in the claims.

In said drawings:—

Figure 1 is a sectional view of a fountain, and a diagrammatic view of a drum cooperating with the fountain, of a printing couple, and of a system of rollers cooperating with the drum to distribute the ink and supply same to the printing couple.

Fig. 2 is a detail part side view and part section of Fig. 1.

Fig. 3 is an end view partly in section of one practical embodiment of the invention in a printing press inking mechanism.

Fig. 4 is a longitudinal sectional view of such a mechanism partly broken away.

Referring to Figs. 1 and 2. The fountain 1 may be of any suitable form, and is pre-

erably considerably larger in width than the ordinary ink fountains, and as shown in Fig. 2 is provided with bearings 1<sup>a</sup> for the trunnions 2<sup>a</sup> an ink drum 2 which depends into the fountain so as to take ink or fluid therefrom; the major part of this drum being outside of the fountain.

The drum may be rotated by gearing or any suitable means (not shown) in the direction of the arrow indicated in Fig. 1, and takes ink or fluid from the fountain, surplus fluid being removed from the surface of the drum by means of a suitable scraper blade 3.

As shown in Fig. 1 this scraper blade 3 is adjustably attached to a plate or casting 4 which is secured to one side of the fountain by bolts 4<sup>a</sup> passing through slots 4<sup>b</sup> in the plate 4; and said plate 4 may be adjusted toward or from the drum 2 by means of bolts 4<sup>c</sup> tapped through a lip or flange 1<sup>b</sup> on the side of the fountain, and bolts 4<sup>c</sup> may be locked when adjusted by means of nuts 4<sup>d</sup>.

The scraper blade 3 may be secured to the plate 4 by means of bolts 3<sup>a</sup> tapped into plate 4, washers 3<sup>b</sup> being preferably interposed between the heads of the bolts 3<sup>a</sup> and the blade 3. The scraping edge of the blade 3 may be further adjusted relatively to the periphery of the drum 2 by means of thumb-screws 4<sup>e</sup> which can be adjusted in the usual manner so as to regulate the amount of ink on the surface of the drum 2 that can pass the scraper.

Cooperating with the drum 2 exterior to the fountain are a series of vibrating and distributing rollers (five being shown in Fig. 1 at 5, 5<sup>a</sup>, 5<sup>b</sup>, 5<sup>c</sup>, and 5<sup>d</sup>). One or more of these rollers, as for instance roller 5<sup>a</sup>, may be a vibrating roller; and if desired one or more of these rollers may be composition rollers. A sufficient number of distributing rollers should be employed and properly operated to thoroughly disseminate the ink upon the surface of the drum 2 before it reaches the form-rollers 6, 6<sup>a</sup>, which form-rollers are arranged after the last distributing roller, of the series of distributing rollers, and can supply ink or fluid direct from the drum 2 to the printing surfaces or other receiver.

The form-rollers 6, 6<sup>a</sup> contact with the periphery of the drum and receive the ink therefrom, and, in example shown, transfer it directly to the printing surfaces on the

plate cylinder P of a rotary printing couple of any suitable construction. In the example indicated in Fig. 1 the plate cylinder P is arranged between the impression cylinder I and the drum 2. In Figs. 3 and 4 I have shown a practical form of construction embodying the invention and especially adapted for ink distributing fountains for printing presses. In this construction however only four ink rollers 5, 5<sup>a</sup>, 5<sup>b</sup>, 5<sup>c</sup> are employed instead of five as indicated in Fig. 1. These rollers are supported in brackets 7<sup>a</sup> attached to castings 7 mounted on the ends of the fountain and which may form or carry the bearings in which the journals 2<sup>a</sup> of the fountain roll 2 are mounted. The form rollers 6, 6<sup>a</sup> are shown as mounted in adjustable brackets 7<sup>b</sup> attached to the castings 7. The particular construction of these brackets and castings are not essentials of the present invention.

In practice the drum 2 may be driven at any desired speed. It is preferably driven at the same speed as the printing surfaces on plate cylinder P; and for this purpose the plate cylinder P and the drum 2 may be intergears, in any suitable manner (not shown), so that they will rotate at the same peripheral speed and in the same direction; so that the form rollers 6, 6<sup>a</sup> can readily and properly transfer ink from the drum to the printing surfaces on the plate cylinder.

It will be seen that with this construction the drum 2 performs the functions of a fountain roll, a ductor, and a distributing drum.

By this invention as applied to printing presses I dispense with the ordinary fountain roller and the ductor roller, simplify the inking mechanism by lessening the number of parts required and the amount of gearing; and render the mechanism more compact. It also enables a larger supply of ink to be maintained in the fountain, and causes

the ink or fluid to be thoroughly disseminated and supplied directly from the fountain to the surface on which it is to be utilized.

What I claim is:—

1. In combination a fountain, distributing rollers, including a vibrator, a drum taking fluid from the fountain as a fountain roller and co-acting with the distributing and form rollers as a distributing surface.

2. In combination a fountain, distributing rollers, including a vibrator, a drum taking fluid directly from the fountain and co-acting with the rollers as a distributing drum, and means for regulating the amount of fluid taken by the drum from the fountain.

3. In combination a fountain, distributing rollers, form rollers, a drum taking ink from the fountain as a fountain roller and co-acting with the distributing rollers as a distributing surface, and means for regulating the amount of ink taken by the drum from the fountain.

4. Inking mechanism comprising a fountain a drum, taking ink from the fountain as a fountain roller, and form and distributing rollers operating on said drum as a distributing surface.

5. Inking mechanism, comprising a fountain, a drum entering the fountain, distributing rollers including a vibrator roller operating on said drum, and means for regulating the amount of ink taken by the drum from the fountain.

6. Inking mechanism comprising a fountain, a drum, taking ink from the fountain as a fountain roller, form and distributing rollers including a vibrator roller operating on said drum as a distributing surface, and means for regulating the amount of ink taken by the drum from the fountain.

In testimony that I claim the foregoing as my own, I affix my signature.

HENRY F. BECHMAN.