

H. Barth.  
 Tinking Apparatus.

N<sup>o</sup> 101,703.

Patented Apr. 12, 1870.

Fig. 1.

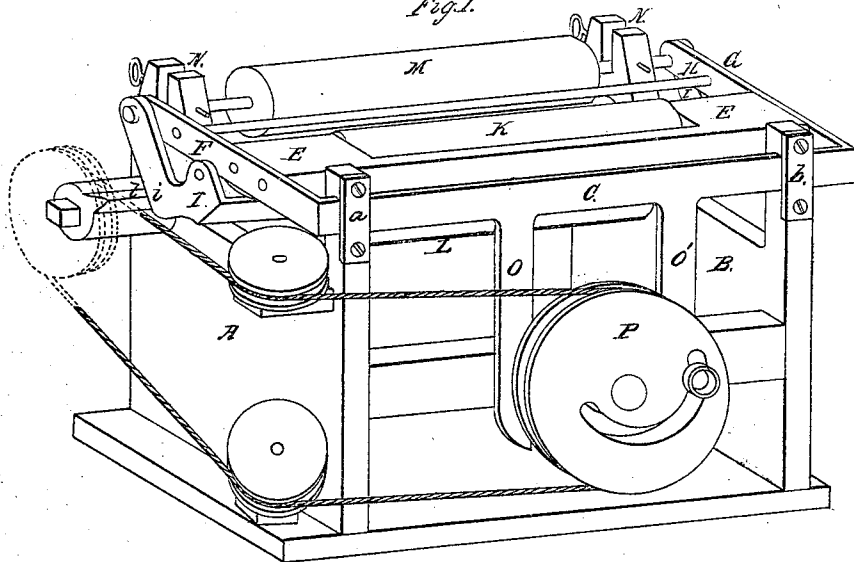


Fig. 2.

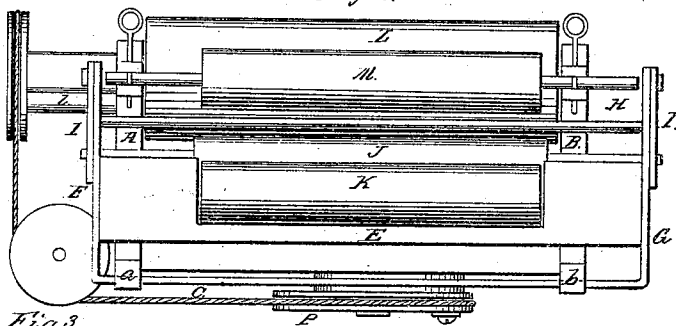


Fig. 3.

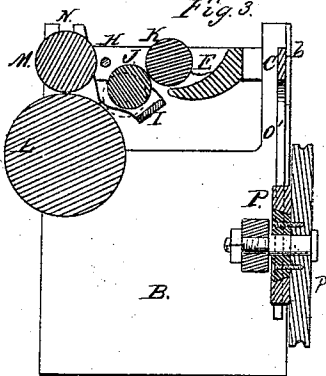
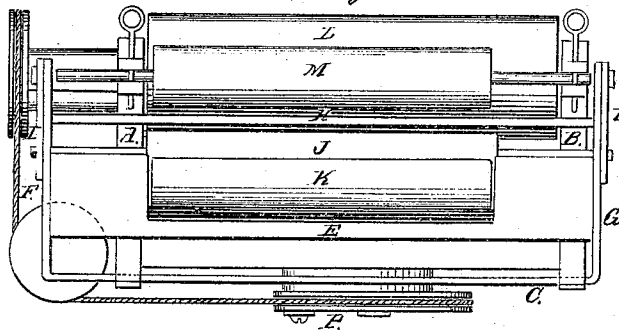


Fig. 4.



Witnesses.

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Inventor.

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 Atty.

# United States Patent Office.

HENRY BARTH, OF CINCINNATI, OHIO.

Letters Patent No. 101,703, dated April 12, 1870.

## IMPROVEMENT IN INKING-APPARATUS.

The Schedule referred to in these Letters Patent and making part of the same.

### To whom it may concern:

Be it known that I, HENRY BARTH, of Cincinnati, Hamilton county, Ohio, have invented a certain new and useful Improved Ink-Distributing Apparatus for Printing-Presses; and I hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

My invention has for its primary object the regulation of the distribution of the ink without disturbing the surface with which the type-rollers come in contact.

The first part of my invention consists in giving the ink-fountain, or adapting it to receive, an endwise reciprocation.

The second part of my invention consists in the employment or use, in combination with such fountain and a rotary ink-cylinder, of a fountain-roller and dip-roller, reciprocating with the former.

Figure 1 is a perspective view of a portion of an inking-apparatus embodying my improvement.

Figures 2 and 4 are top views of my apparatus in different positions of the fountain and its attachments.

Figure 3 is a transverse section of my apparatus.

The upright portions A B of the main frame have rectangular boxes, *a b*, in which slides a bar, C, of the reciprocating fountain-frame.

The fountain E is attached to the arms F G of the frame, and thus acts as a brace thereto.

The arms F G are also stayed by a cross-bar H, which prevents their ends from spreading.

To the ends of the arms F G is pivoted the dip-roller frame I, in which is journaled the dip-roller J.

This frame I is raised to bring the dip-roller in contact with the fountain-cylinder K by a cam-projection, *l*, upon the shaft of the ink-cylinder L, the said projection coming in contact, at a certain part of its revolution, with the elbow *i* of the dip-roller frame.

As the frame I is allowed to subside with the elbow *i* resting upon the concentric portion of the shaft of the cylinder L, the surface of the dip-roller is brought in contact with the said cylinder L, and communicates to the same a portion of the ink taken from the fountain-cylinder K.

In line with the axis of oscillation of the frame I is the distributing-roller M, which is journaled in vertical slots N in the portions A B of the main frame.

This distributor M rests upon the cylinder, and has endwise reciprocation given to it by the alternate pressure against its two ends of the frame-arms F and G.

The bar C has two downwardly-extending cheeks, O O', which form a yoke embracing the cam P, from which the fountain-frame I receives its reciprocation.

The cam P may be similar in all respects to the cam employed to cause an adjustable reciprocation of the ink-plate, in my patent on improvements in printing-presses, dated October 22, 1867, and it is unnecessary to describe the same here.

It will be seen that, owing to the endwise reciprocation of the dip-roller and fountain, the ink will be supplied with more regularity to the ink-surface upon the cylinder L, for the reason following:

It being found practically impossible to so regulate the ink that it shall be brought up in equal quantity along the whole length of the fountain-cylinder, it will be obvious that, by giving a proper endwise reciprocation to the dip-roller and fountain, the portion of the cylinder receiving an undue amount of ink from the dip-roller at one contact may be made to receive a smaller amount at the next contact, and *vice versa*.

This important end has heretofore been sought to be obtained by giving an endwise reciprocation to the ink-distributing cylinder, but with imperfect results, because the friction against the inking or type-rollers was so great as to destroy them.

It is well-known to printers that to perform good work the type-rollers must have an elastic, smooth and tender face, and that the greatest hardship which they are capable of undergoing is that of rolling upon the ink-surface and type; consequently, when there is endwise motion between the said rollers and the ink-surface, as of cylinder L, the face of the rollers is destroyed and they are rendered worthless.

Another advantage of my plan is the more perfect and even distribution of ink arising from commencing the operation at an earlier portion of the work.

Still another advantage consists in saving the cost and friction of one distributor, and the space occupied by the same, by making the supply-roller discharge also the function of a distributor.

I have described my improvement as adapted to an ink-distributing fountain, but reserve the right to apply the same principle of distribution to presses having an ink-plate or band, or other ink-supply or source.

I claim herein as new and of my invention—

1. The provision in a printing-press of an inktrough or fountain having an automatic reciprocation transverse of the delivery, substantially as herein shown and described, for the purpose set forth.

2. The combination and arrangement of the dip-roller frame I, rollers J K, fountain E, and cylinder L, substantially as set forth.

In testimony of which invention I hereunto set my hand.

Witnesses:

HENRY BARTH.

GEO. H. KNIGHT,  
JAMES H. LAYMAN.