

(No Model.)

F. VAN WYCK.
PRINTING PRESS.

No. 410,302.

Patented Sept. 3, 1889.

Fig. 1.

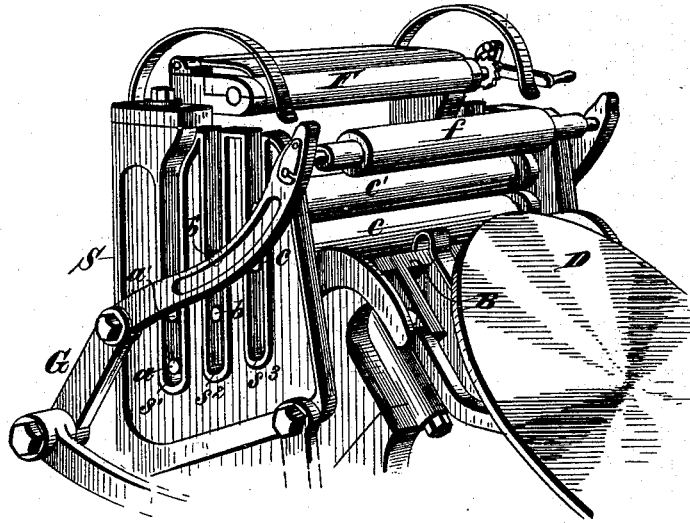


Fig. 2.

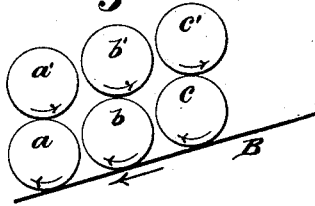


Fig. 3.

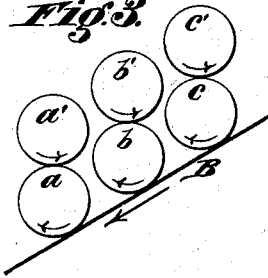


Fig. 4.

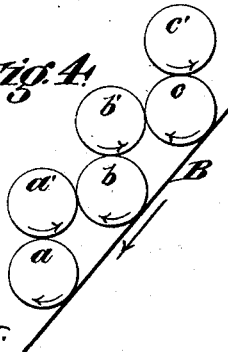
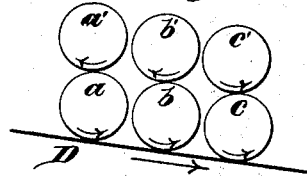


Fig. 5.



Witnesses.

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UNITED STATES PATENT OFFICE.

FREDERICK VAN WYCK, OF SCARSDALE, NEW YORK.

PRINTING-PRESS.

SPECIFICATION forming part of Letters Patent No. 410,302, dated September 3, 1889.

Application filed June 22, 1888. Serial No. 277,900. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK VAN WYCK, a citizen of the United States, residing at Scarsdale, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Printing-Presses; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters and figures marked thereon, which form part of this specification.

My invention relates to that class of job printing-presses in which the form-rollers are placed in a stationary frame and the hinged bed and revolving ink-disk pass beneath them, while the ink-disk is supplied with ink from a fountain through an intermediate transfer-roller; and, in brief, it consists in placing in the roller-frame vertically above each form-roller a rider-roller, which is lifted by the form-roller and moved in contact with it during the operation of the mechanism.

In the drawings, in which similar letters refer to the same parts in all the figures, Figure 1 is a perspective view of a portion of a job-press, showing my invention. Figs. 2, 3, 4, and 5 are skeleton or diagram figures illustrating the relative positions of the bed and the rollers at different points in the stroke, and represent also vertical medial sections of the rollers.

In the drawings, S is the stationary frame of the press, made of cast-iron or other suitable material, and slotted, as at s' , s^2 and s^3 , to form vertical guides, in which move the form-rollers a , b , and c and the rider-rollers a' , b' , and c' in pairs. These rollers are held in position simply by the force of gravity.

G is the arm, at the upper end of which is attached the transfer-roller f , which takes ink from the fountain F. (Shown above the frame S.)

D is the ink-disk, caused to revolve in the usual manner.

B is the hinged bed. The ink-disk and hinged bed are caused to move under the form-rollers, and the arm G is actuated by means well known to those skilled in the art, and no explanation thereof is needed. The transfer-roller f is carried to the fountain F

when the press is open, and distributes its ink on the disk D when the press is closed.

In Fig. 2 I illustrate the relative positions of the rollers and the bed at the beginning of the downward stroke. The frictional contact of the bed with the rollers causes them to turn in the direction shown by the arrows in the drawings. The form-rollers have, when in this position, just taken their ink from the disk. As the stroke continues and the rollers reach the position shown in Fig. 3, the ink has been distributed to the rider-rollers, and they in turn, by their contact with the form-rollers, cause a more even distribution of the ink than can be obtained by the use of form-rollers alone.

In Fig. 4 I show the position assumed by the rollers near the end of the stroke. The weight of the roller c has caused it to flatten a little and placed it in contact with the rider-roller b' . The same thing has similarly taken place with the rollers b and a' . This new contact causes a fresh distribution of the ink by presenting new surfaces to its action.

In Fig. 5 I show the rollers at the end of the stroke as they appear on the ink-disk the moment after a reversal of the motion has taken place. In that case the rider-roller c' , being the last of the train, is the last one acted upon, and through the momentum acquired moves at times a quarter of a revolution or more in the direction indicated by the arrow before it acquires the reverse motion. This of course causes the presentation of a further new inking-surface throughout the train. The same relative positions are assumed by the rollers in the upward stroke of the bed, except that the rider-roller a' will then be the last of the train and the one which turns a quarter-revolution or so through its momentum and causes the presentation of new inking-surfaces, as before.

The advantages obtained by the use of my invention are very great. The perfection of printing is attained when the ink is distributed with perfect evenness and the least possible amount of ink is used, and my invention, by its continual change of contact-surfaces among the rollers, accomplishes this in a remarkable degree. The saving of ink is great, and an ordinary press equipped with

my device can be used all day without reinking, which is a great saving of time and labor. It also saves the rollers. In an ordinary job-press, as the same spots on the rollers and the form touch each other at each stroke, the rollers cut and tear when the form contains uneven surfaces like cuts and brass rules. All this is avoided by the presentation of new surfaces to each other by the use of my device. When composition rollers are used, and my invention is especially adapted therefor, old form-rollers can be used as rider rollers and last a long while without recasting.

I am well aware that "rider-rollers," so called, have been heretofore used in a press with a moving roller-carriage which was dragged over the form; but these rollers always re-

involved in unison with their respective form-rollers, and did not and could not perform the function of my device. 20

What I claim as new is—

In a printing-press of the class described, having a stationary roller-frame and a moving hinged bed and revolving ink-disk, the combination, with the said bed and ink-disk, of form-rollers, as *a*, *b*, and *c*, and rider rollers, as *a'*, *b'*, and *c'*, arranged in pairs, the former placed vertically above the latter and lifted thereby. 25 30

In testimony whereof I affix my signature in presence of two witnesses.

FREDERICK VAN WYCK.

Witnesses:

WM. H. SLOAN,

WM. R. BAIRD.