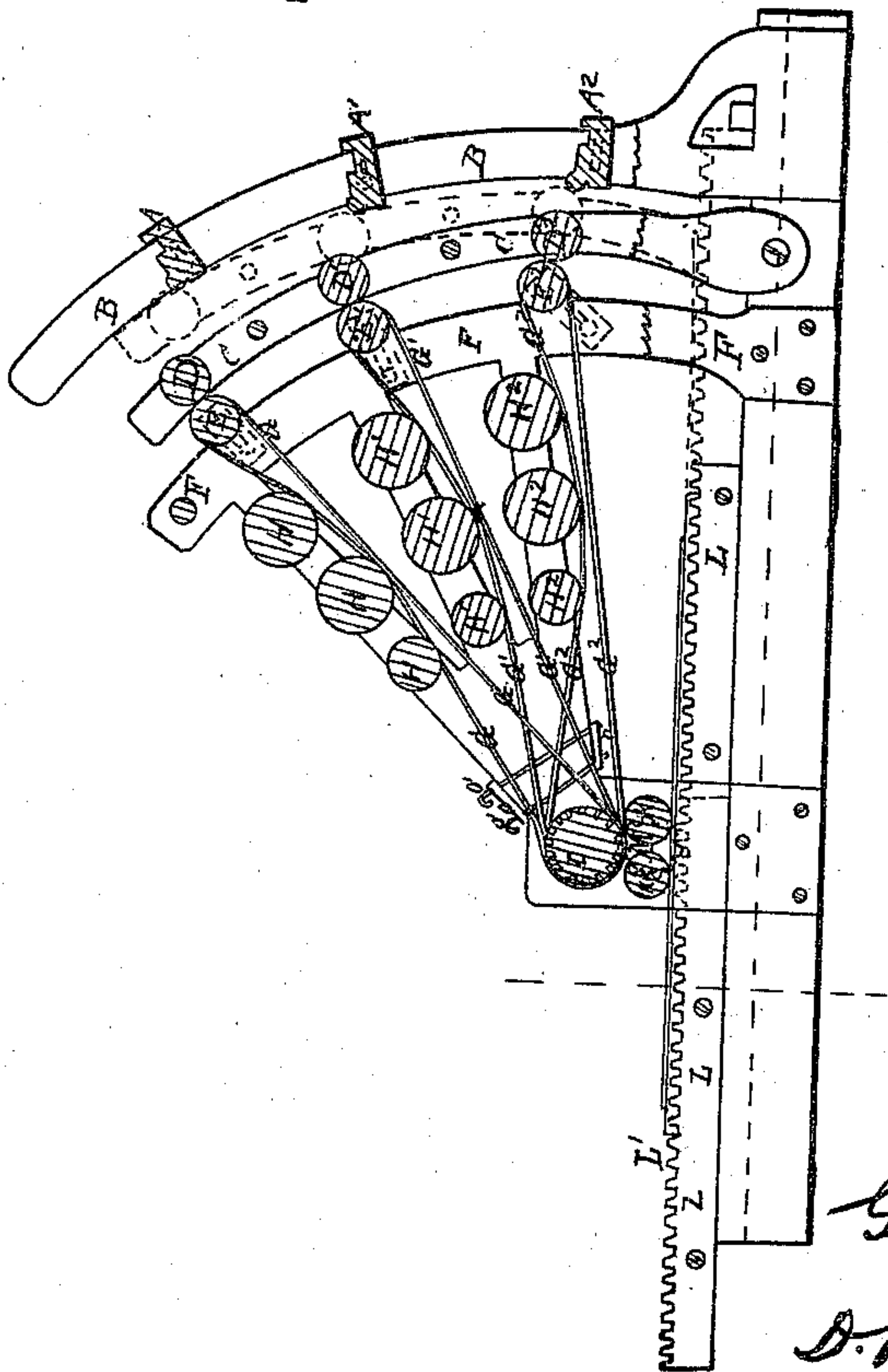
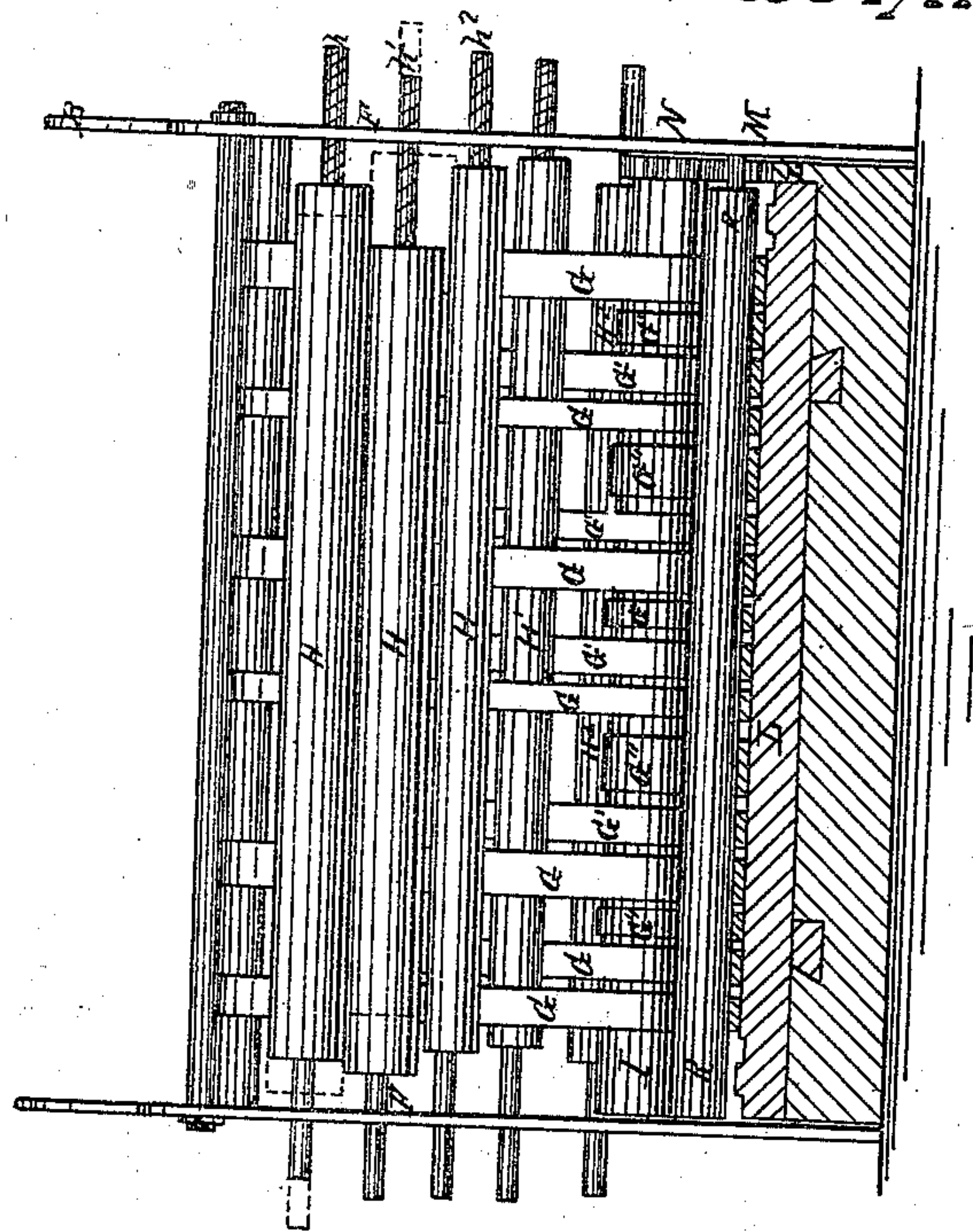


*G. W. Wood.*  
*Inking App's for Printing Press.*  
*N<sup>o</sup> 63975.* *Patented Apr. 16. 1867.*



*Witnesses*  
*C. F. Blum*

*Geo. W. Wood.*  
*By*  
*D. P. Holloway & Co.*  
*Attys.*



# United States Patent Office.

GEORGE W. WOOD, OF RICHMOND, INDIANA.

Letters Patent No. 63,975, dated April 16, 1867.

## INKING APPARATUS.

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

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, GEORGE W. WOOD, of Richmond, in the county of Wayne, and State of Indiana, have invented a new and useful improvement in Inking Apparatus; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is a vertical transverse section; and

Figure 2 is a front elevation.

The same letters are employed in both figures in the designation of parts which are identical.

The following description will enable one skilled in the art to construct and apply my invention.

A, A<sup>1</sup>, and A<sup>2</sup> are a series of any required number of ink fountains adjustably attached to the frame B, so that the fountain may be set forward or back to regulate the pressure of the feed-rollers D, D<sup>1</sup>, and D<sup>2</sup>, which are attached to the oscillating frame C. The frame C is actuated in the ordinary manner, by mechanism which causes it to oscillate at proper intervals between the fountain and the inking belts, by which the ink is transferred from the fountain to the type through the medium of the soft rollers D, D<sup>1</sup>, and D<sup>2</sup>, made of the usual material. The rollers in front of the fountains are caused to revolve by mechanism so arranged as to give them a partial revolution when they are brought into contact with the soft rollers D, D<sup>1</sup>, and D<sup>2</sup>. As this arrangement is familiar in presses it is not necessary to show it here. I have shown in the drawings three sets of fountains; the number may be more or less. The number of the soft rollers in the oscillating frame will correspond with the number of fountains, and there is a corresponding number of rollers, E, E<sup>1</sup>, and E<sup>2</sup>, adjustably attached to the frame F, so that the pressure of the soft rollers D, &c., may be regulated as may be necessary for the proper transfer of the ink from the soft rollers to the inking belts G, G<sup>1</sup>, and G<sup>2</sup>. A series of endless belts, G, G<sup>1</sup>, and G<sup>2</sup>, is carried around the respective rollers E, E<sup>1</sup>, and E<sup>2</sup>, and all passed around the roller I, the journals of which are held in the radial frame F. H H H, H<sup>1</sup> H<sup>1</sup> H<sup>1</sup>, and H<sup>2</sup> H<sup>2</sup> H<sup>2</sup> are sets of metal or wooden rollers resting against the upper surfaces of the respective sets of belts G, G<sup>1</sup>, and G<sup>2</sup>. I have shown three of these rollers, which I shall call the distributing rollers; in each set the number I should prefer to have greater, as the work will be more perfect according to the increase in their number. The ink taken from the soft rollers D, D<sup>1</sup>, D<sup>2</sup> upon the surface of the belts G, G<sup>1</sup>, G<sup>2</sup>, is distributed by the rollers H, H<sup>1</sup>, and H<sup>2</sup>, which revolve upon their respective axes attached to the radial arms of the frame F. The simple revolution upon their axes of the distributing rollers would not give a perfect distribution to the ink upon the belts, and I therefore cut threads upon the journals of these rollers h, h<sup>1</sup>, and h<sup>2</sup>, at one end of roller, passing through corresponding female screws in the radial arms; the journals upon the other ends may be smooth. The screws h, h<sup>1</sup>, and h<sup>2</sup>, I make alternately right and left screws, so that the distributing rollers may have alternately a reciprocating motion in opposite directions across the face of the belts, and at the same time a revolution upon their respective axes. K and K<sup>1</sup> are the composition rollers. These are soft rollers, to which the ink is transferred from the inking belts G, G<sup>1</sup>, G<sup>2</sup>. The journals of these rollers should be adjustably attached to frame F, so that they may be vertically adjusted in relation to the type. L is the bed upon which the form is placed, so that the lines of type shall run from front to rear. A reciprocating motion is communicated to the bed so as to carry the type under and press their faces against the soft composition rollers K and K<sup>1</sup>, from which each line will take up its appropriate color. The width and position of the distributing belts must be regulated according to the size of the type or width of each breadth of color intended to be given on the finished job. The belts are held in position by any suitable device to prevent any lateral motion along the roller I. I have shown one mode of effecting this. Plates O are attached to the radial frame F, and constructed with a series of holes, through which pins O<sup>1</sup> may be passed upon each side of the belts. A preferable arrangement would probably be to use rollers with adjustable flanges, between which the belts should be made to pass.

In describing the distributing rollers H H<sup>1</sup> H<sup>2</sup> I should have added that I prefer to make these rollers of different diameters, as the distribution of the ink will be more perfectly effected by such rollers than if they were all made of the same diameter. L<sup>1</sup> is a rack on one side of the bed L, the teeth of which engage those of a pinion, M, on a wrist between the journals of the composition rollers. This pinion drives the spur-wheel N on the journal of the roller I. The reciprocating motion of the bed L and rack L<sup>1</sup> will thus cause



the roller I to revolve alternately in different directions, and give a reciprocating revolution to the distributing belts G G<sup>1</sup> G<sup>2</sup>, and by the friction of their surfaces also a reciprocating revolution to the distributing rollers H H<sup>1</sup> H<sup>2</sup>, and also cause the latter with a reciprocating motion to traverse longitudinally across the face of the distributing belts, each in a direction opposite to that in which the adjoining roller in its own set is moving. This inking apparatus may be applied to use for printing in a single color, by removing the belts G G<sup>1</sup> G<sup>2</sup> and substituting therefor a single wide belt or endless apron extending around one of the rollers E, E<sup>1</sup>, or E<sup>2</sup>, and around the roller I.

I have shown in my drawings the form of inking apparatus adapted to use on a cylinder press. It may also be applied to other varieties of presses—as to the platen job press or to the Adams press. In the latter cases the bed being stationary, a reciprocating motion must be given to the composition rollers K K<sup>1</sup>, after receiving the colors from the belts G G<sup>1</sup> G<sup>2</sup>. These changes only applying to the arrangements of parts for connecting my apparatus with the press, do not affect my invention, which relates to the mode of effecting the distribution of colors upon the distributing belts G G<sup>1</sup> G<sup>2</sup>, and the transfer thereof from the belts to the composition rollers, and is not intended to be confined to any particular mode of transferring the colors to the type, the arrangement for which must depend upon the particular construction of the press to which the inking apparatus is to be applied. Where the apparatus is applied to a platen press the belts will have a continuous revolution in one direction; this will require a modification of the screws for actuating the distributing rollers longitudinally. For such cases I would cut a double thread, right and left, on the journal, and obtain the reciprocating motion from the crescent-formed bearing in common use for that purpose.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The use in an inking apparatus of one or more inking belts for conveying the ink, whether applied automatically from a fountain or by hand.
2. The combination of a fountain from which the ink is transferred to the inking belts, the inking belts and the distributing rollers.
3. The combination of one or more inking belts and the composition rollers from which the ink is transferred to the type.
4. The combination of the driving roller I, the inking belts and distributing rollers turning upon their axes, and also having a longitudinal reciprocating motion.
5. The arrangement of the distributing rollers and inking belts so that the former shall have a revolution upon their axes and at the same time an alternately reciprocating motion in opposite directions longitudinally in contact with the face of the belt.
6. The combination of the adjustable fountains, the soft rollers attached to an oscillating frame, and adjustable rollers around which the inking belts are carried.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEO. W. WOOD.

Witnesses:

JOHN S. HOLLINGSHEAD,

JOHN D. BLOOR.