(No Model.) 2 Sheets—Sheet 1.

C. W. DICKINSON.

CHROMATIC PRINTING MACHINE.

No. 448,807. Patented Mar. 24, 1891.

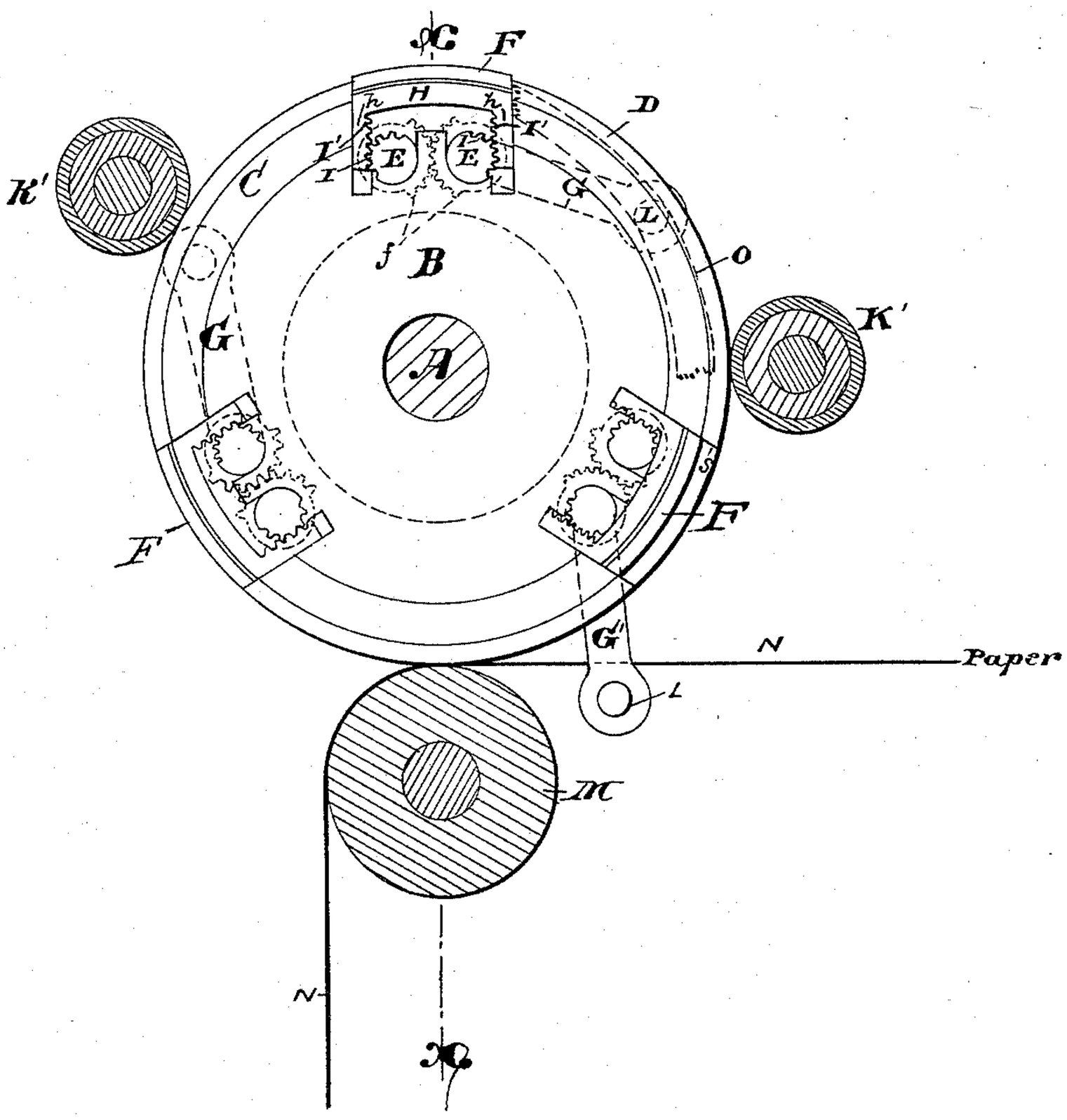

Fig. 1.

WITNESSES:

Oscar A. Michel.

L. W. Scott.

INVENTOR.

Charles W. Dickinson,

BY Drake & Co ATTY'S.

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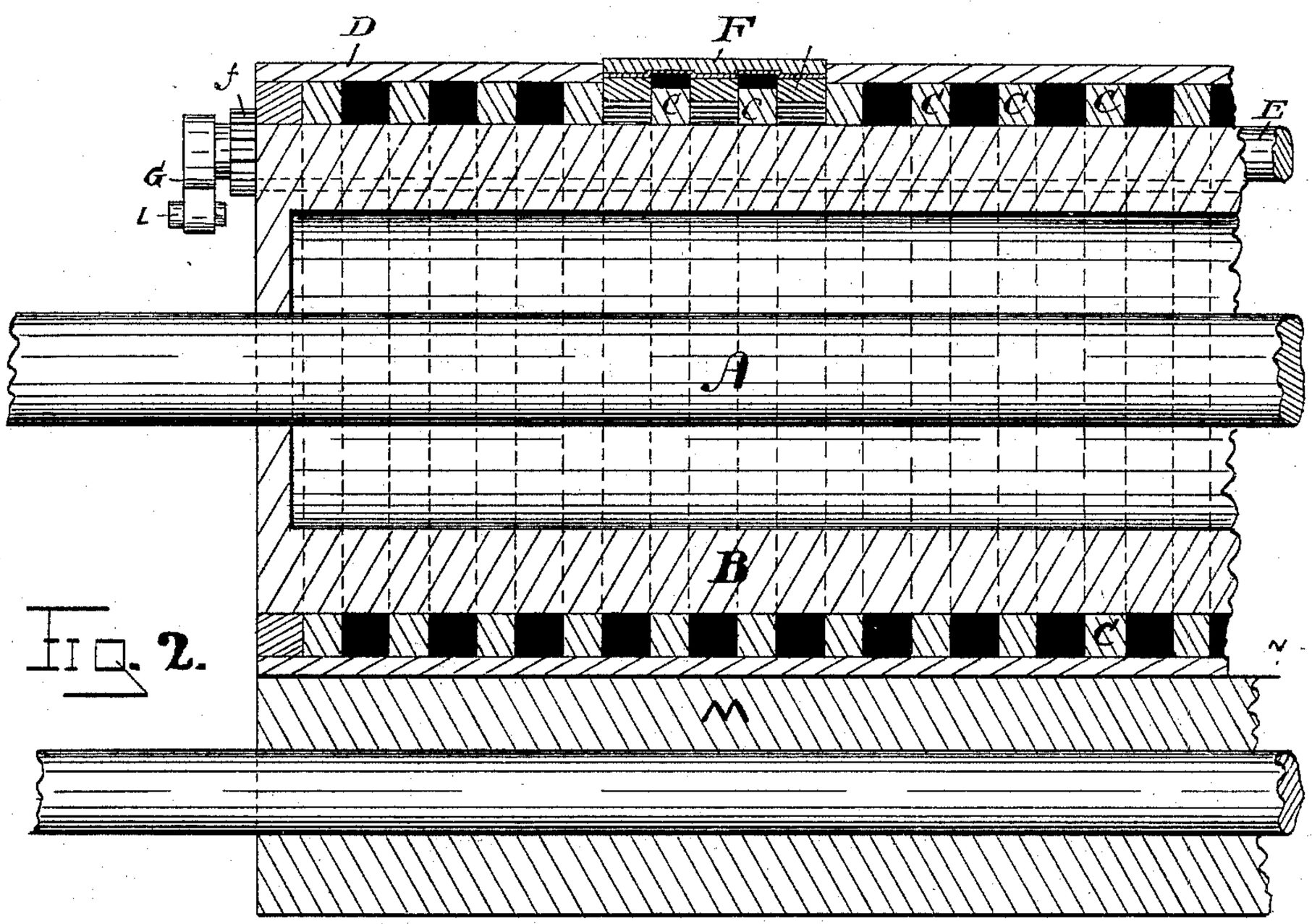

FIG. 2.

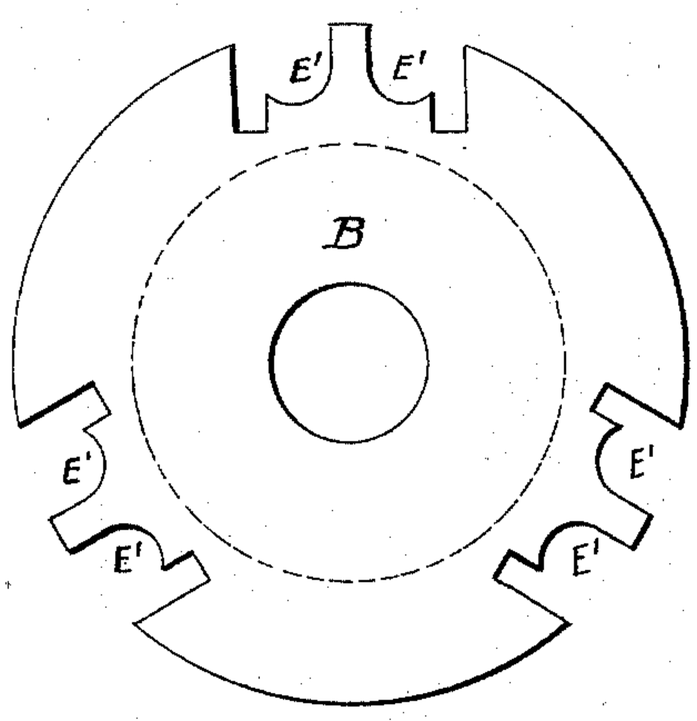

FIG. 3.

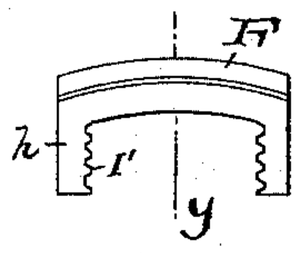

FIG. 4.

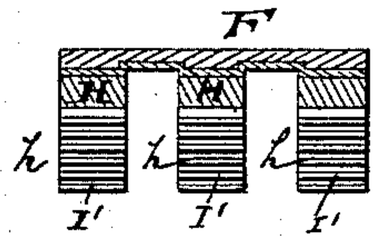

FIG. 5.

WITNESSES:

Oscar A. Michel.

L. J. Scott.

INVENTOR:

CHARLES W. DICKINSON,

BY Drake & Co. ATTY'S.

UNITED STATES PATENT OFFICE.

CHARLES W. DICKINSON, OF BELLEVILLE, NEW JERSEY.

CHROMATIC-PRINTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 448,807, dated March 24, 1891.

Application filed May 16, 1890. Serial No. 352,034. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. DICKINSON, a citizen of the United States, residing at Belleville, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Chromatic-Printing Machines; and I do hereby 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 of reference marked thereon, which form a part of this specification.

This invention relates more particularly to that class of printing-presses which is employed in newspaper-printing, although said presses may be employed more generally in connection with other lines of work.

The object of the invention is to print in different colors at one impression, to provide a machine which is simple in construction and yet durable and effective, and convenient and easy of adjustment.

The invention consists in the improved printing-press herein described, having the arrangements and combinations of parts, substantially as will be hereinafter fully set forth and finally embodied in the clauses of the claim.

Referring to the accompanying drawings, in which like letters indicate corresponding parts in each of the several views, Figure 1 is an end view of a portion of a printing-press, showing my improvements in connection therewith. Fig. 2 is a section of the same, taken on line *x*. Fig. 3 is a detail end view of a certain cylindrical part. Fig. 4 is an enlarged detail plan of a certain riser or lifter; and Fig. 5 is a section of the same, taken on line *y*.

In said drawings, A indicates a central bearing-shaft, on which a cylinder B is arranged, the said cylinder being of iron or other appropriate material, and being longitudinally grooved to receive certain rock shafts or bars E E, the grooves E′ extending from end to end of the cylinder and being disposed in pairs, as shown in detail, Fig. 3. The cylinder may contain any desired number of pairs of grooves. Within the said grooves are arranged the rock shafts or bars E E in pairs corresponding with the grooves. They are provided on the outer or opposite sides with cogs or teeth I I, which take up or occupy about one-third of the periphery or circumference and as much of the length of said shafts or bars as may be desired. Around said cylinder and holding said shafts or bars in the grooves are arranged a series of rings C C, which serve to support the large stereotype-plate D. These are held in proper relation thereto in any desired manner and act as guides and bearings for the small color or supplemental plates. At the point in or part of the cylinder where it is desired to print in a color different from that composing the body of the print the stereotype is cut away or is open, as indicated in Fig. 2, and within the same is a movable supplemental stereotype F, adapted to be raised to a point above the surface of the body stereotype to receive an ink differing from the ink of the said body stereotype and to be lowered below the surface of said body stereotype while the latter is being inked, and to lie flush with said body stereotype when at the point of contact with the paper, so that the body and supplemental plate will simultaneously engage the paper and the imprint will be in two colors, as will be understood. To effect this result, the supplemental stereotype-plate is properly secured on a lifter or riser H, which provides suitable bearings for the supplemental stereotype, and is provided with prongs or legs *h h*, which are provided with cogs or teeth I′. Said toothed or cogged prongs are engaged by the cogged or toothed shafts E, so that as said shafts oscillate or rock in their respective sockets the said riser or lifter is moved toward or from the periphery of the cylinder, carrying the said supplemental stereotype to the three desired positions—to wit, below the flush line of the body stereotype, above the same, and flush with the same—in any desired order, so that the body stereotype may be inked at one time, the supplemental stereotype be inked at another time, and the two said stereotypes be brought into contact with the surface to be printed upon simultaneously to secure a diversified print, as will be understood. The shafts E E in each pair turn in unison, each in opposite directions,

and these movements are secured by connectional gearing *f f* at the end or ends of the shaft, as indicated in dotted outline in Fig. 1. The said gearing is given movement by a lever G, having at the end thereof a trundle-roller L, which engages a suitably-grooved cam arranged adjacent thereto, whereby as the cylinder and its attachments revolve the said lever and gearing are affected and the shafts caused to rock and the lifter or riser moved to bring the printing-surfaces into the relative positions heretofore referred to. The location of the groove in the cam is indicated in dotted outline O. Engaging the outside or periphery of the stereotype are arranged inking-rollers K′ K′. Any number may be employed in accordance with the variety of colors to be employed in printing. These inking-rollers may be driven in any ordinary manner.

A pressure-roller M is mounted on a shaft or bearing in any suitable manner to hold the paper N or surface to be printed on firmly against the printing-surfaces on the cylinder.

The openings in the large stereotype can be as numerous as desired and the supplemental stereotype-plate may be of any desired size.

Instead of a stereotype any other suitable printing-surface, for the body and supplemental plates may be employed.

In removing the body-plate from the rings the supplemental plate may be lowered below the level of the said body-plate. This action may be effected by removing the roller of the lever from the cam-slot and turning the lever abnormally, as indicated by the position of the lever G′.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a stereotype-printing press, the combination of a support for a small independent color stereotype-plate, gear-shafts connected to said support, and a lever adapted to turn said shafts to raise and depress said supports, as described, and for the purposes set forth.

2. In a printing-machine, the combination, with the main stereotype-cylinder and small stereotype-plate, of a lever and a grooved cam adapted to operate said lever, a shaft E, and a connection between said shaft and plate, as described, and for the purposes set forth.

3. In a printing-machine, the combination of a body-printing surface and a supplemental surface, a lifter having toothed prongs, rock-shafts with teeth to engage said prongs and geared together to move in unison, and means for operating said rock-shaft, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 19th day of February, 1890.

CHARLES W. DICKINSON.

Witnesses:
OLIVER DRAKE,
OSCAR A. MICHEL.