

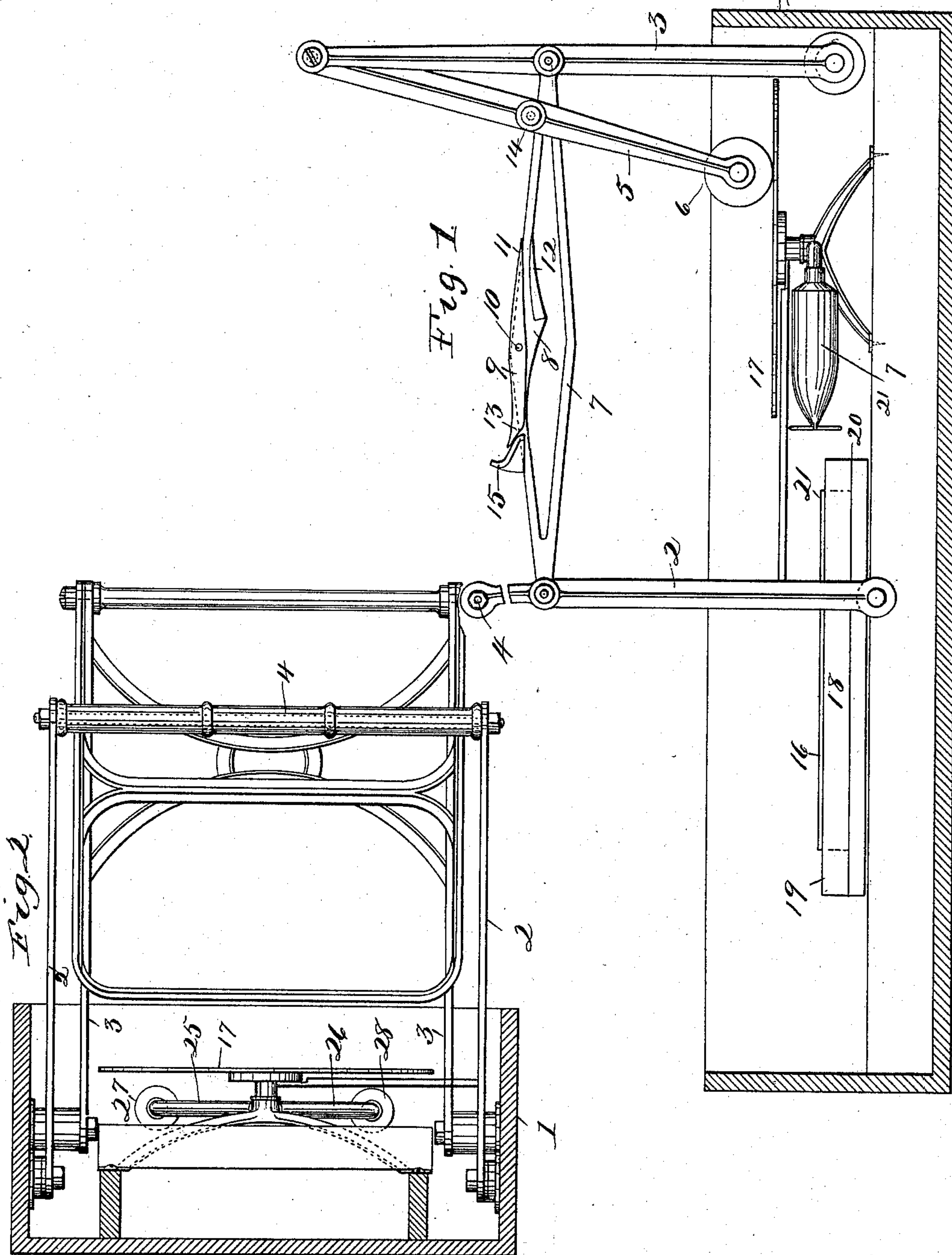
(No Model.)

2 Sheets—Sheet 1.

G. H. DAVIS.  
AUTOMATIC DUPLICATING APPARATUS.

No. 584,756.

Patented June 15, 1897.



Witnesses:

*J. M. Fowler Jr.*  
*Wallace M. Muddock*

Inventor.

*G. Howlett Davis*  
*By Davis & Co.*  
Attorney.

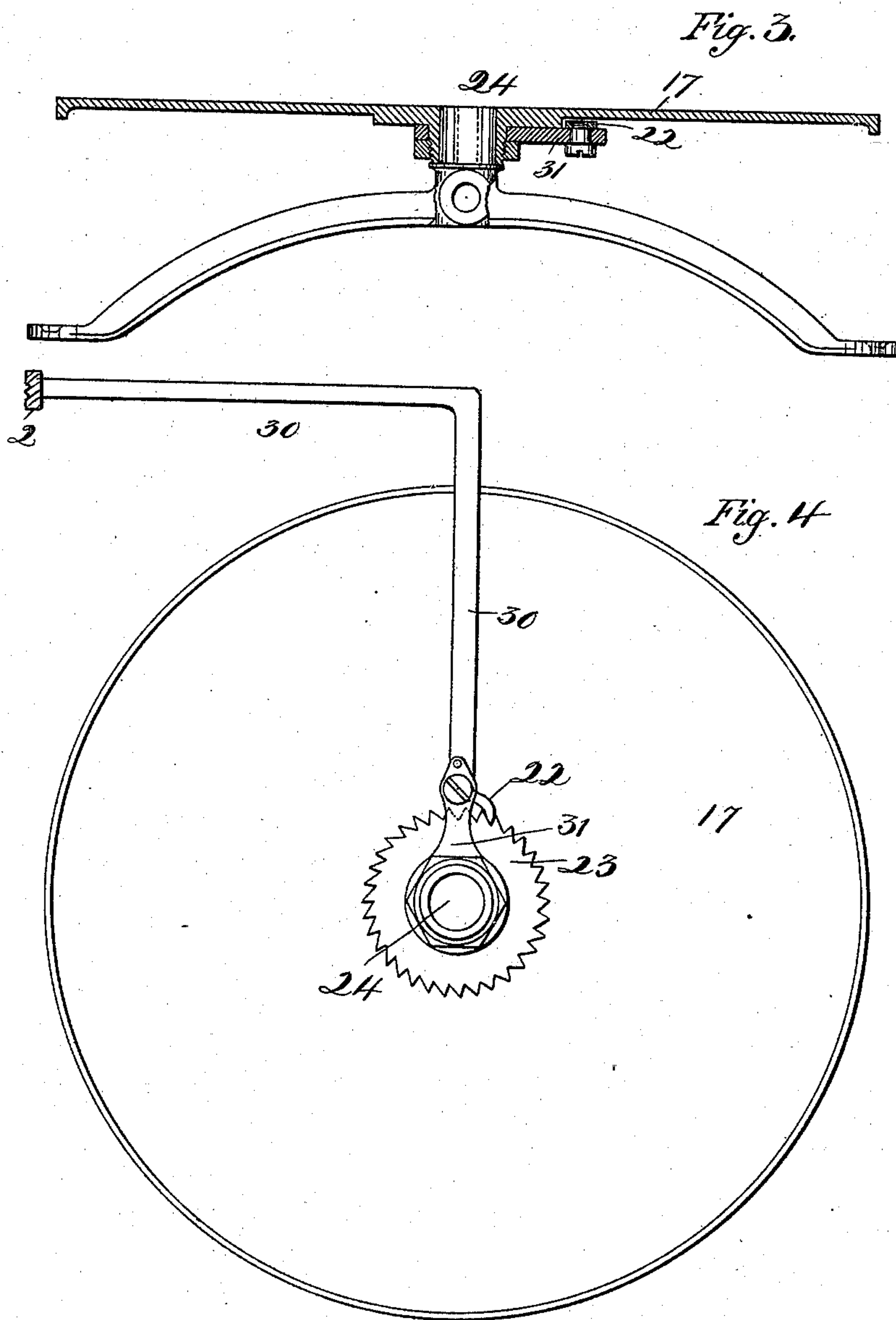
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*J. M. Fowler Jr.*  
*Malcolm Murdoch.*

Inventor:  
*G. Harlett Davis.*  
By *Davis & Co.*  
Attorney:



# UNITED STATES PATENT OFFICE.

GEORGE HOWLETT DAVIS, OF NEW YORK, N. Y., ASSIGNOR TO THE A. B. DICK COMPANY, OF CHICAGO, ILLINOIS.

## AUTOMATIC DUPLICATING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 584,756, dated June 15, 1897.

Application filed September 9, 1895. Renewed March 27, 1897. Serial No. 629,574. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE HOWLETT DAVIS, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented a certain new, useful, and valuable Improvement in Automatic Duplicating Apparatus, of which the following is a full, clear, and exact description.

My present invention relates to automatic duplicating apparatus, and has for its object to provide the combination and arrangement of parts substantially as herein shown and described.

In the accompanying drawings, Figure 1 is a part sectional and side elevation of my improved apparatus. Fig. 2 is a part sectional and end elevation of my apparatus with the side of containing-box removed. Fig. 3 is a transverse sectional view of the inking device, and Fig. 4 is a view of the under side of the ink-plate.

Similar numerals of reference indicate corresponding parts throughout the several views.

The accompanying drawings represent a containing-box 1, preferably mounted upon legs to resemble a table, and within this box and preferably to the side thereof are pivoted the lower ends of the swinging arms 2 2 3 3, the upper ends of the former being connected by the cross-bar or handle 4, and on the upper ends of the latter, 3 3, are pivotally secured the depending arms 5 5, supporting the revolving composition roller 6 at their lower ends. Between the arms 2 2 and 3 3 are the connecting-arms 7 7, having the guideways 8 8 provided on their inner sides. The gravity-levers 9 9, pivoted at the points 10 10, normally bear down at their rear ends 11 11 upon the stop-guides 12 12 and keeping their opposite or front ends 13 13 raised, so that whenever the arms 5 5 are advanced by drawing the handle 4 forward the lugs 14 14 upon said arms 5 5 pass over the gravity-levers 9 9 until they reach their forward ends 13 13, when the weight upon the latter causes them to be depressed until the lugs 14 14 pass beyond their points and are stopped by the stop-guides 15 15, when the said gravity-levers resume their normal position. In returning

the lugs 14 14 travel under the gravity-levers 9 9 instead of over them, as before, when instead of the roller 6 riding over the platen 16, as it does in its forward movement, it drops thereon as soon as the lugs are free of the points 13 13, and continues in contact with said platen until the lugs reach the guides 12 12, which lift the roller onto the revolving ink-plate 17.

The duplicating apparatus or frame 18, of which the platen 16 forms a part, may be of any suitable construction, but preferably like the apparatus known as the "Edison mimeograph," in which the upper part of the frame 19 is hinged at the point 20 and carries the wax stencil-sheet 21, between which and the upper surface of the platen 16 is placed the blank paper to be printed, and when the ink-roller 6 passes over the said stencil and platen in its return movement only, the ink from said roller passes through the perforations made in said stencil 21 onto the blank paper underneath, but, as before stated, the duplicating apparatus itself, 18, forms no part of my present invention. It consists, essentially, of the roller-holding frame, shown as described, and the gravity-lever and guiding mechanism 9 to 15.

My invention also contemplates means for supplying the revolving ink-plate 17 with ink, said ink-plate being revolved by any well-known form of pawl 22 and ratchet 23, as shown in Fig. 4, my ink-supplying mechanism consisting of a tube or passage 24, extending up through the center of the ink-plate 17, said tube connecting with two or more branch tubes 25 26, which latter are provided at their extreme ends with any suitable form of ink-reservoir, such as the collapsible tubes 27 28, which reservoirs may contain inks of different colors, and as the ink is required it is only necessary to collapse the tubes, which will force the fluid ink through the tubes 25 26 out upon the ink-plate.

In order that the ink-plate may be revolved, so as to equally distribute the ink thereon, I have provided an arm 30, which is secured to or made a part of the loosely-journaled plate 31, Figs. 3 and 4, which carries the pawl 22. The arm 30 is connected in any suitable manner to one of the swinging arms 2 of the



swinging frame, so that by the ordinary movement of said frame the arm 30 will be moved to and fro, which will accordingly cause the pawl 22 to act upon the ratchet 23, thereby imparting a partial revolution to the ink-plate each time the frame is moved forward.

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

10 1. In a printing apparatus the combination with a swinging roller-frame having lugs on its roller-arms of a guideway and gravity-lever upon and under which the said lugs ride and serve to raise the printing-roller above the printing-platen on its forward movement and drop upon the printing-platen on its backward movement substantially as shown and described.

20 2. In a printing apparatus, the combination with a swinging roller-frame having lugs on its roller-arms, of a guideway along which said lugs ride when the roller-frame is traveling in one direction, and a rocking lever pivoted above said guideway and over which the lugs ride when the roller-frame is traveling in the reverse direction, substantially as described.

25 3. In a printing apparatus, the combination with the upright pivoted arms, of the rods connecting said arms, a swinging roller-frame carried by said pivoted arms, lugs on said

roller-frame, guideways on the connecting-arms with which said lugs engage when the roller-frame is traveling in one direction, rocking levers pivoted to the connecting-arms above the guideways and over which the lugs ride when the roller-frame is traveling in the reverse direction, and an ink-plate over which the roller-frame travels, substantially as described.

40 4. In a printing apparatus, the combination with the upright pivoted arms, of the rods connecting said arms, a swinging roller-frame carried by said pivoted arms, lugs on said roller-frame, guideways on the connecting-arms with which said lugs engage when the roller-frame is traveling in one direction, rocking levers pivoted to the connecting-arms above said guideways and over which the lugs ride to raise the roller-frame when traveling in the reverse direction, stop-guides secured to the connecting-arms near the ends of the rocking levers, and an inking-plate over which the roller-frame travels, substantially as described.

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

GEORGE HOWLETT DAVIS.

Witnesses:

JOHN MACCOLGAN,  
JOSEPH F. STEFFENS.