

(No Model.)

T. B. BOYD.

COPYING PRESS.

No. 336,086.

Patented Feb. 16, 1886.

Fig. 1.

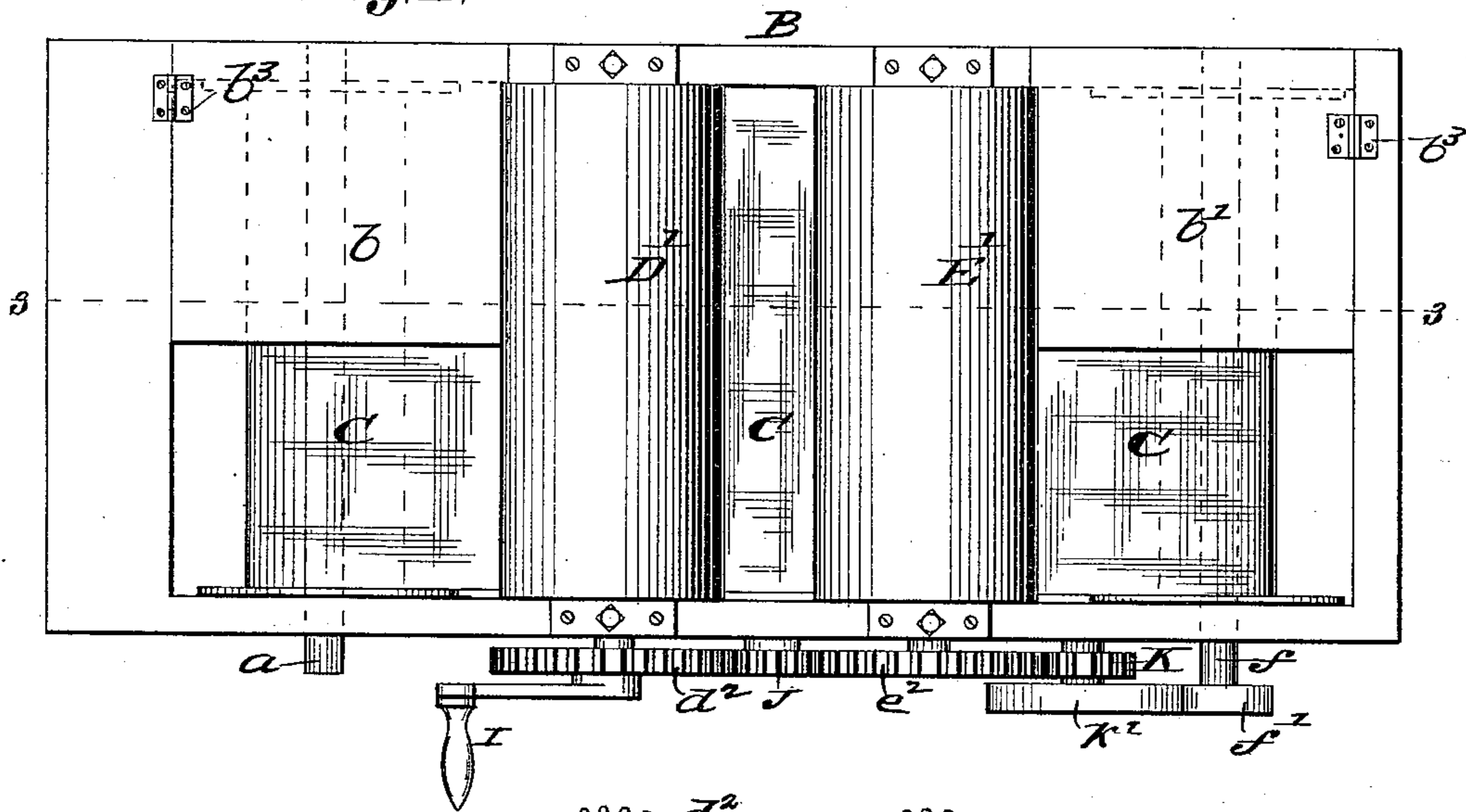


Fig. 2.

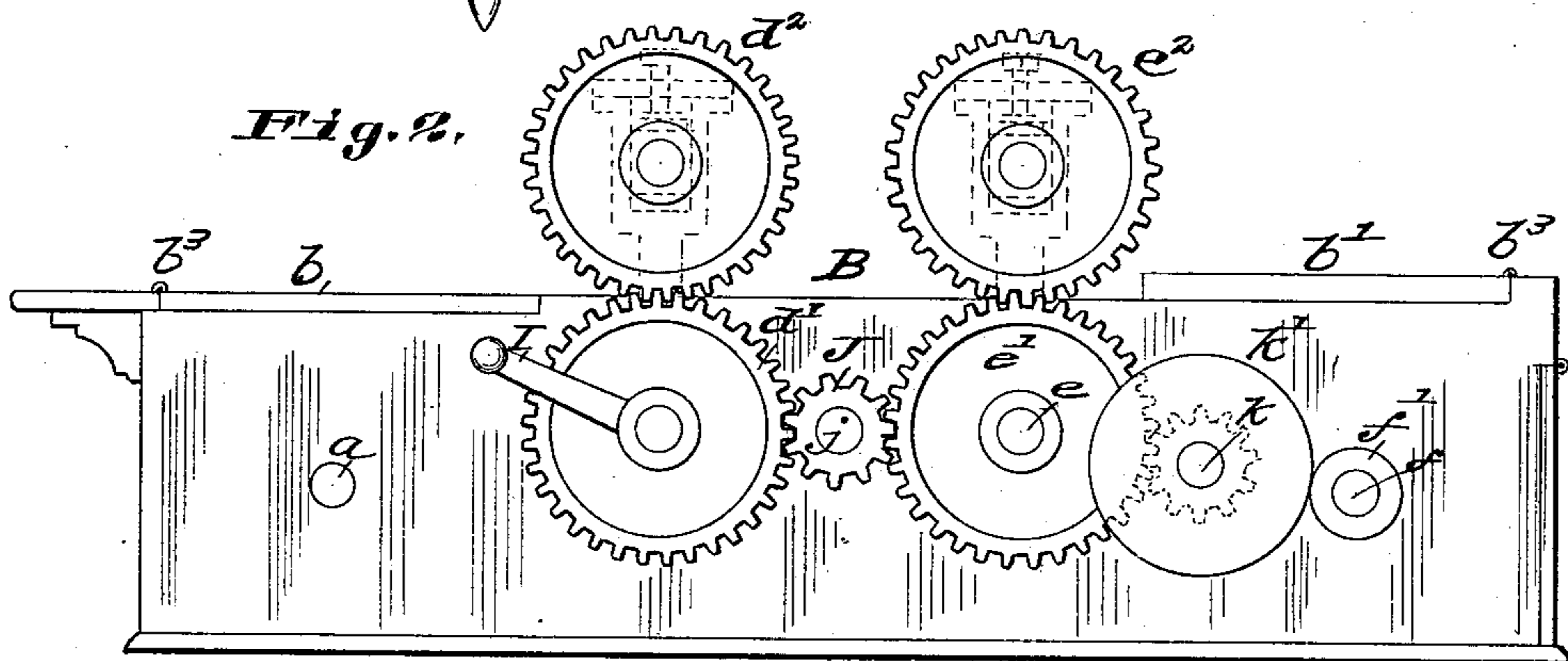
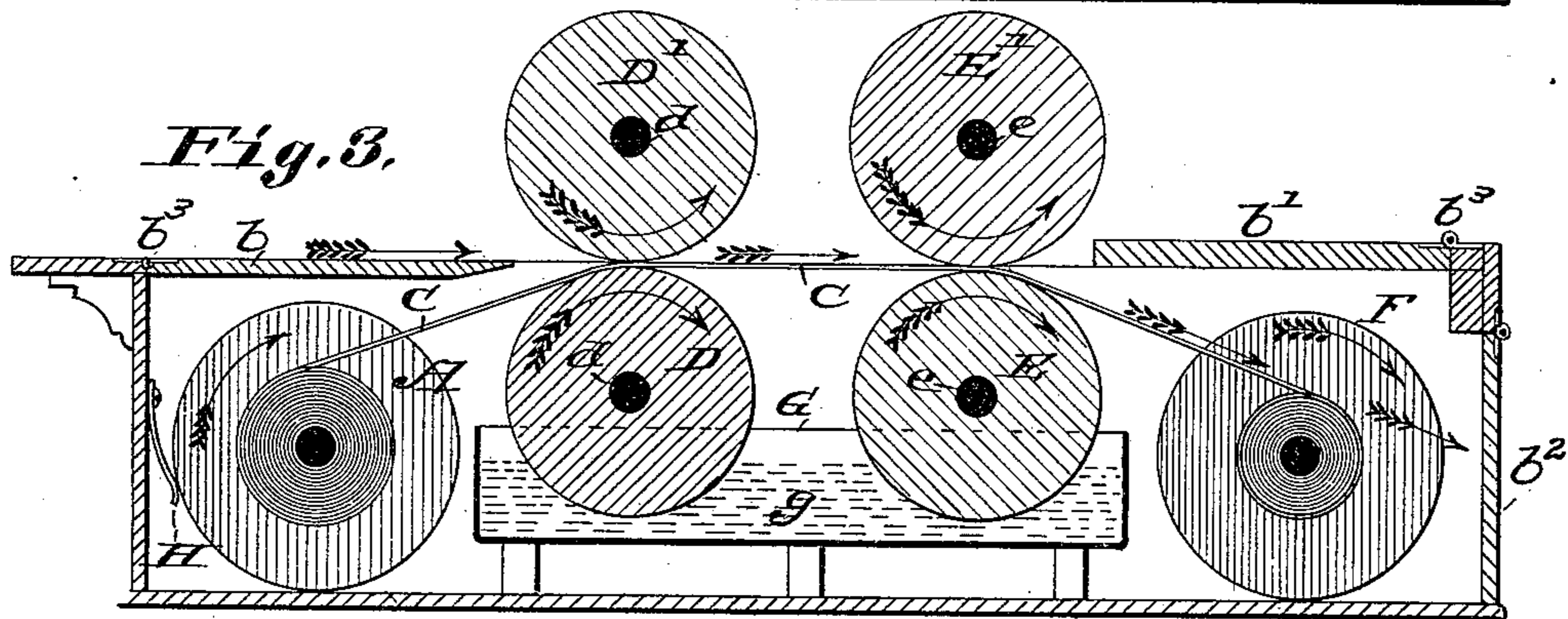


Fig. 3.



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COPYING-PRESS.

SPECIFICATION forming part of Letters Patent No. 336,086, dated February 16, 1886.

Application filed May 13, 1884. Serial No. 131,333. (No model.)

To all whom it may concern:

Be it known that I, TRUSTIN B. BOYD, of St. Louis, Missouri, have made a new and useful Improvement in Copying-Presses, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is a plan of the improvement; Fig. 2, a side elevation, and Fig. 3 a vertical longitudinal section on the line 3 3 of Fig. 1.

The same letters of reference denote the same parts.

A represents a reel attached to the shaft *a* in the frame B, which is preferably made in the form of a case to inclose the lower portion of the mechanism of the device. A web, C, of paper suitable for taking impressions is wound upon the reel A, and is led thence through a pair of pressure-rolls, D D', and thence through a second similar pair of pressure-rolls, E E', and thence to a reel, F. The various rolls, and also the reel F, are attached to the shafts *d e f*, respectively. The lower pressure-rolls, D E, are adapted to be rotated in a tank, G, which holds water *g*. The rotation of the rolls D E therefore causes the water to be distributed upon the rolls and to be applied to the paper C. The letter, bill, or whatever writing it is desired to take a copy of is fed from the table *b* between the pressure-rolls D D' and above the web C. This causes an impression of the writing to be taken on the web C. The web and writing move together between a second set, E E', of the pressure-rolls. By causing the writing to be pressed a second time against the web by passing it through the second set, E E', of pressure-rolls a more distinct impression is obtained. From the pressure-rolls E E' the web passes to the reel F, upon which it is wound, as shown in Figs. 1, 3. The writing after passing the rolls E E' may be detached from the web. To this end the lid *b'* may be lifted or turned back on its hinges *b³ b³*, so that the operator can reach the writing from above at that point, or by opening the door *b²* the writing may drop outward from the case B. The table *b* is also preferably made the top of the case B at that end thereof, and it is also hinged at *b³* to enable it

to be turned back when it is desired to reach the reel A. A spring, H, Fig. 3, may be employed to produce the proper tension upon the reel A.

The device is operated by means, say, of the crank I, which is applied to the shaft *d* of the roll D. The roll D is provided with a gear, *d'*. This gear engages with a similar gear, *d²*, upon the roll D'. The gear *d'* also engages with a pinion, J, upon a shaft, *j*. The pinion is used to transmit the motion of the gear *d'* to a gear, *e'*, upon the roll E. This last-named gear *e'* also engages with a gear, *e²*, upon the roll E'. In this manner the desired motion is imparted to all of the pressure-rolls. The action of the pressure-rolls upon the web C causes the web to be unwound from the reel A.

The receiving-reel F is operated, preferably, as follows: The gear *e'* is made to engage with a pinion, K, upon a shaft, *k*. This last-named shaft *k* is also supplied with a friction-pulley, *k'*, whose face bears against the face of a smooth pulley, *f'*, upon the shaft *f*. In this manner the proper motion is imparted to the receiving-reel F. This enables the reel F to be rotated at various speeds to suit the unwinding of the web from the reel A and the winding of the web onto the reel F. The second set, E E', of pressure-rolls is used more especially when duplicate or triplicate impressions are to be taken. When but a single impression is needed, a single pair, D D', of pressure-rolls suffices.

I claim—

1. The herein-described copying-press, the same consisting of the frame B, the reel A, the pressure-rolls D D', the tank G, and the reel F.

2. The combination of the frame B, the reels A F, the pressure-rolls D D' E E', and the tank G, as described.

3. The combination, as described, of the frame B, the reels A F, the rolls D D' E E', the gears *d' d²*, the pinion J, the gears *e' e²*, the pinion K, and the pulleys *k' f'*.

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Witnesses:

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