

(No Model.)

P. J. CAIRNS.
COPYING MACHINE.

No. 363,799.

Patented May 31, 1887.

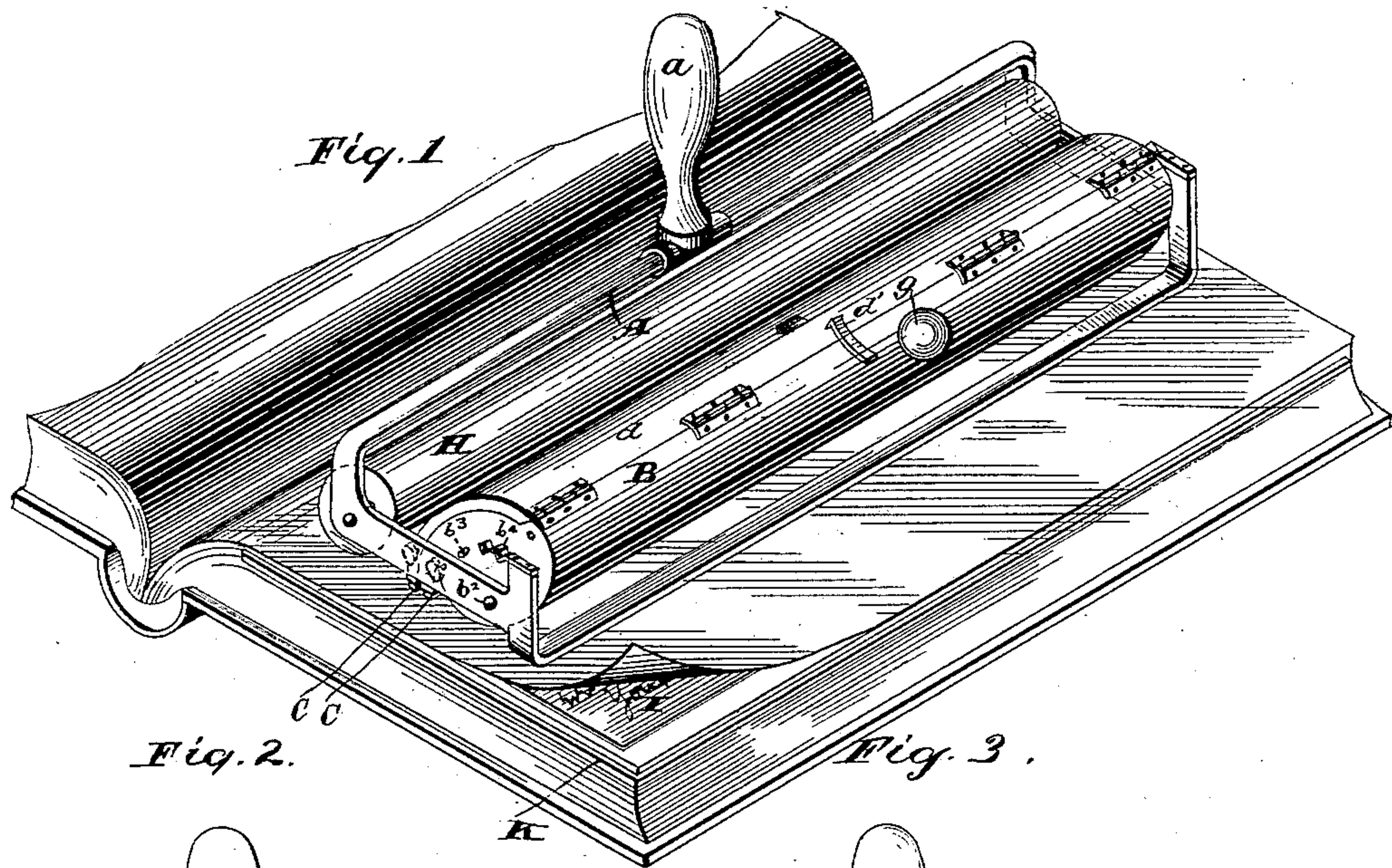


Fig. 2.

Fig. 3.

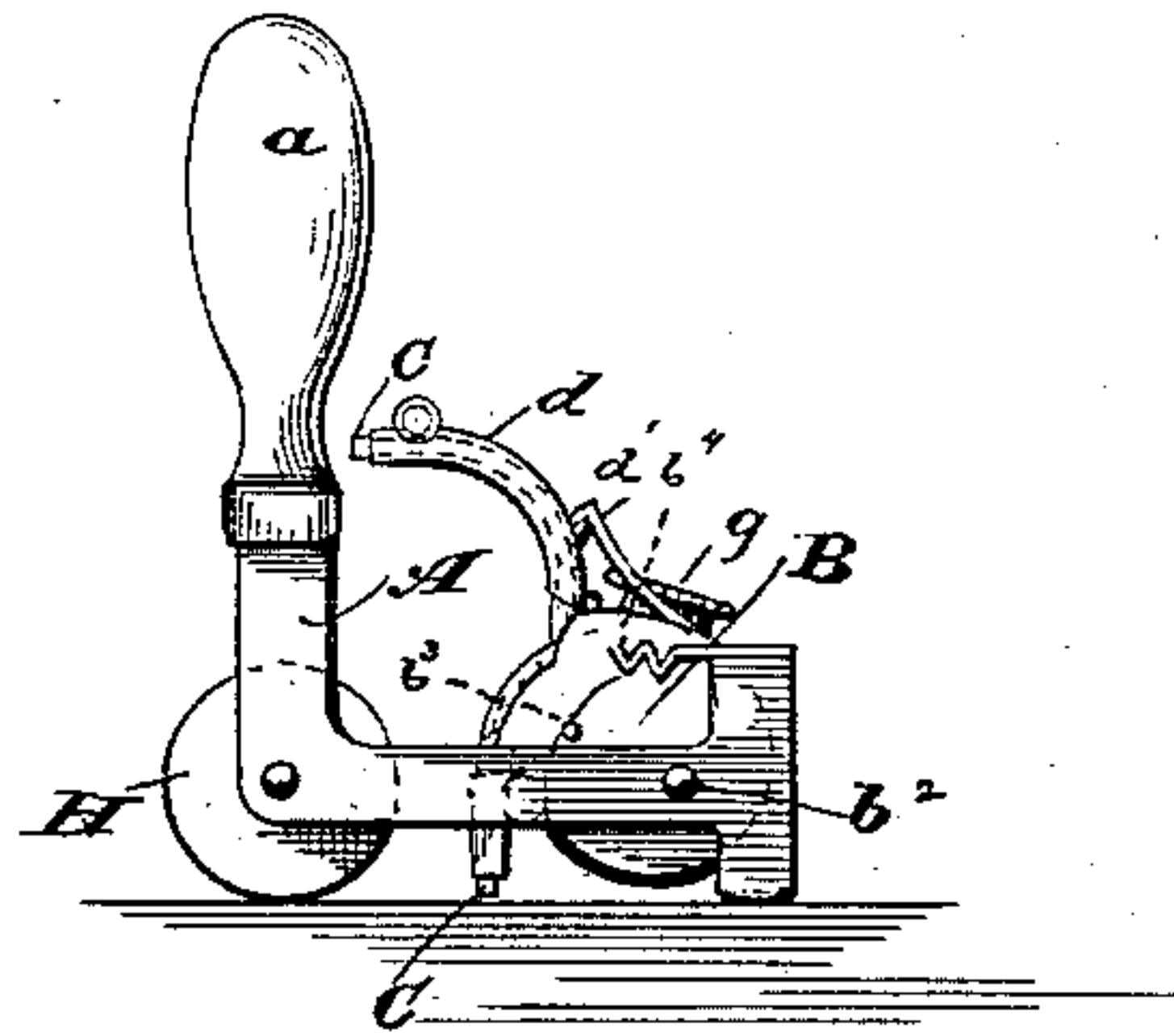
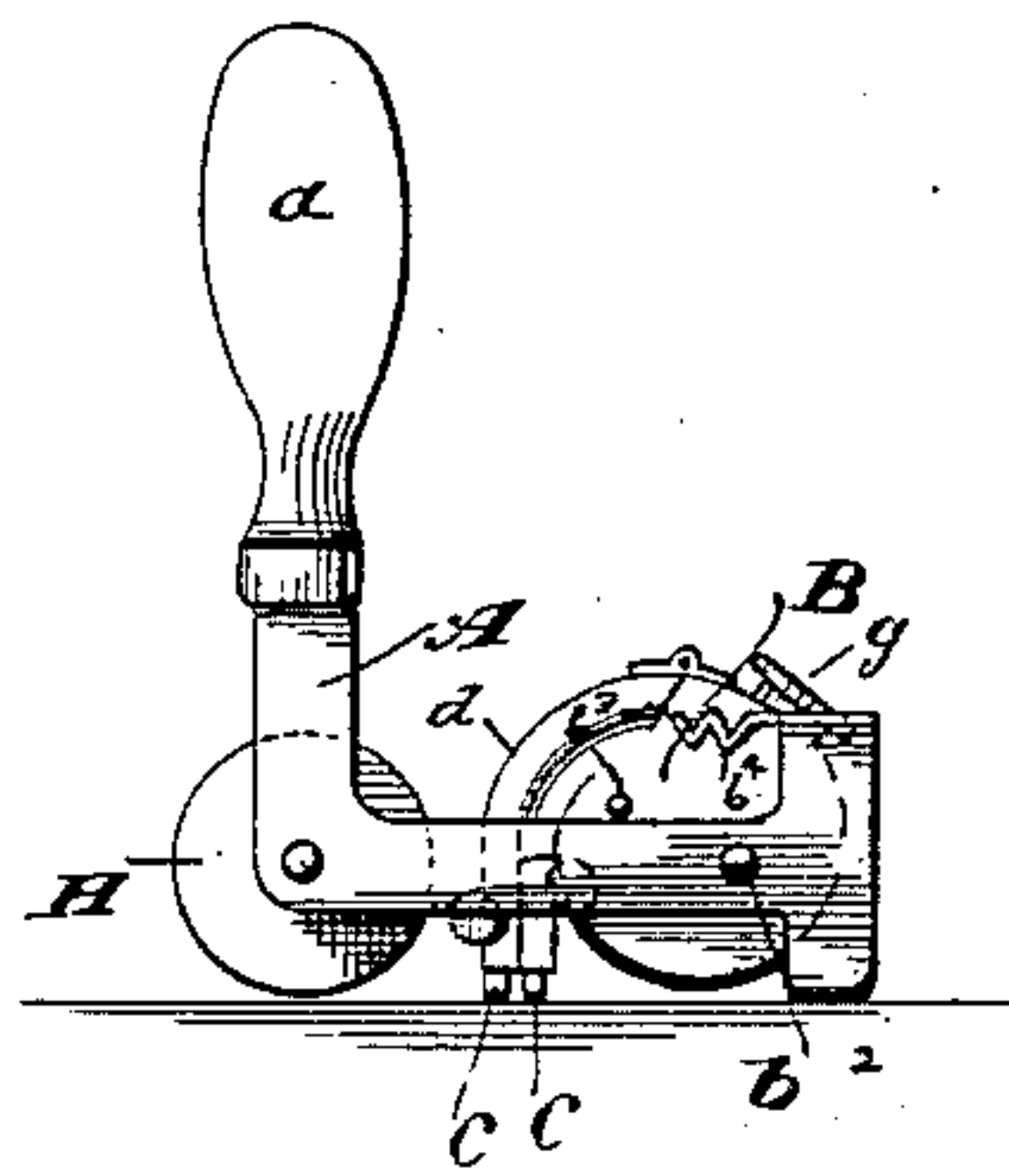
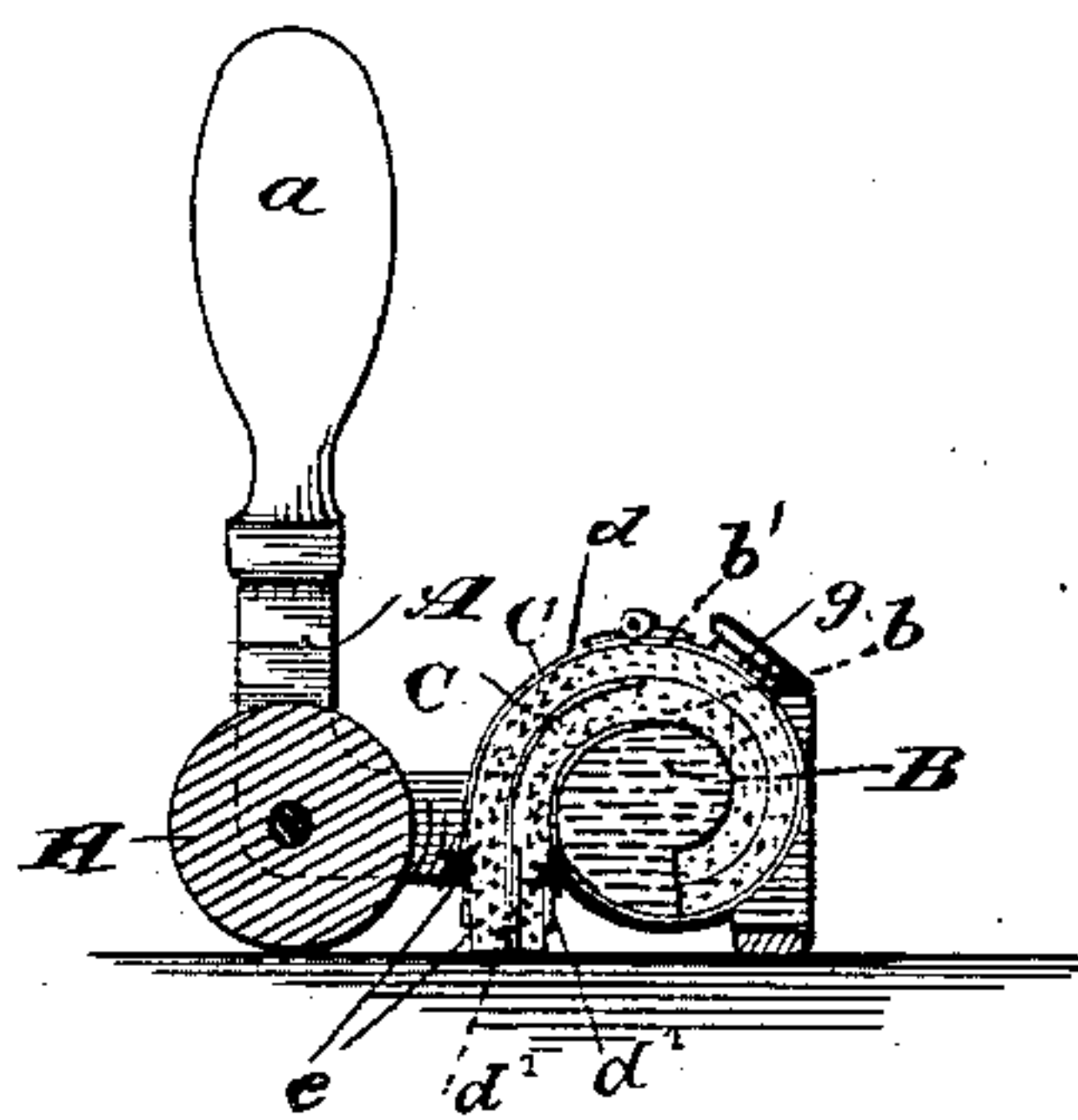
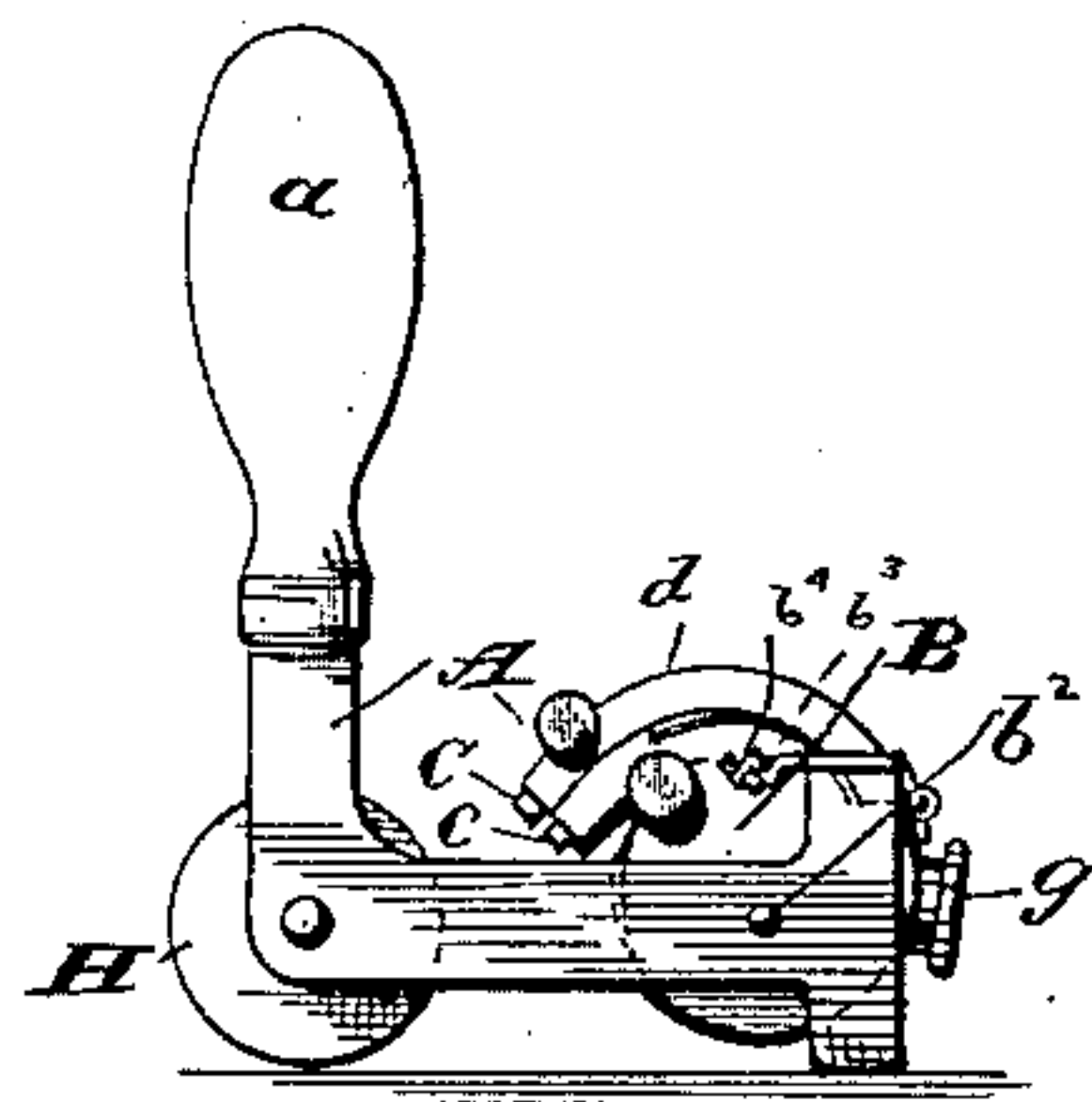


Fig. 4.

Fig. 5.



Witnesses.
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UNITED STATES PATENT OFFICE.

PETER JAMES CAIRNS, OF CLEVELAND, OHIO.

COPYING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 363,799, dated May 31, 1887.

Application filed May 6, 1886. Serial No. 201,225. (No model.)

To all whom it may concern:

Be it known that I, PETER JAMES CAIRNS, a citizen of the United States, residing at Cleveland, county of Cuyahoga, and State of Ohio, have invented a certain new and useful Improvement in Copying-Machines; and I do hereby declare the following to be a description of the same, and of the manner of constructing and using the invention, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it appertains to construct and use the same, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to improvements in copying-machines; and the object is to produce a machine which will take the place of the ordinary copying-press and its appurtenances and simplify and cheapen the method of copying letters and other papers, whether written by hand or by type-writer.

To this end the invention consists in a suitably-formed water-reservoir provided with wicks of absorbent material, the ends of which extend outside the reservoir and are adapted to moisten paper over which they pass, with a roller to follow after the wicks and do the pressing, the whole being mounted in a suitable frame and provided with a handle for controlling the machine.

In the accompanying drawings, Figure 1 is a perspective view of my improved machine shown in operating position on a copying-book. Fig. 2 is an end elevation showing both the wicks down in operating position. Fig. 3 is a similar elevation showing one wick caught up out of use. Fig. 4 shows the water-reservoir swung back to raise both wicks, and Fig. 5 is a cross section of the machine as shown in Fig. 2.

A represents the frame of the machine, shaped, preferably, as shown, made rigid, and provided with a handle, *a*.

B is the water-reservoir, of substantially cylindrical outline and slightly convolute in cross-section, as shown by the location of its respective inner and outer edges, *b b'*, the object being to provide for a limited rotation of the reservoir without danger of discharging the fluid therefrom, as well as to furnish a passage and supports for the wicks C C.

The wicks C C are designed to be of a length

equal to the interior of the reservoir and of such width that when one edge is immersed in the fluid the other edge will rest in a plane with the roller and the bottom of the frame, as shown in Fig. 5.

The reservoir is further provided with pivots *b²* at its ends, which are arranged off its geometric center on the side opposite the extension of the wicks outside the reservoir, thus throwing the greater weight on the side where the wicks project when they are turned down for use, and insuring their action, but substantially balancing the reservoir when turned back out of use, as shown in Fig. 4. A stop, *b³*, coming in contact with the side of the frame, prevents the reservoir from turning down on its pivots beyond a fixed point, and a spring-catch, *b⁴*, on the frame engages the stop when the reservoir is raised.

In case the machine is used to copy only ordinary manuscript, a sufficient amount of moisture may be supplied by a single wick, in which case the outer wick, designed for use when copying matter written by a type-writer, which requires more moisture, may be turned back, as shown in Fig. 3. This wick is therefore furnished with a suitably-curved sheath or case, *d*, hinged to the reservoir, a catch, *d'*, attached to the reservoir at any suitable point, serving to hold it back out of working position. The inner wick passes between two parallel plates, *d² d²*, soldered to the back of the reservoir, and of course turning with it. The wicks are controlled in respect to feed by a series of spur-wheels, *e*, mounted on rods extending through the holders of the wicks thus formed, in the same manner as the wicks of ordinary lamps.

The reservoir is filled, preferably, through an opening in its side, covered by a water-tight cap, *g*.

The roller H is journaled in the rear of the frame, and, the paper being moistened by the wicks, it makes the impressions by being borne upon by the hand.

A blotter or other sheet of stiff material is usually placed under the paper to be copied to insure a perfect copy, as shown in Fig. 1, where I represents the letter and K the blotter.

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

1. In a copying-machine, a supporting-frame, a roller, and a fluid-reservoir pivoted in the frame in advance of the roller and having a wick fed by the reservoir for moistening
5 the paper, substantially as set forth.

2. In a copying-machine, a supporting-frame, a water-reservoir provided with wicks and constructed to oscillate within fixed limits in said frame, and a roller, substantially as
10 set forth.

3. In a copying-machine, a reservoir constructed substantially as shown and described and having inner and outer edges, as *b b'*, and wicks of absorbent material passing between
15 said edges, with a roller behind the reservoir, and a supporting-frame, substantially as set forth.

4. In a copying-machine, a supporting-frame and a roller mounted in the frame, in

combination with a fluid-reservoir pivoted eccentrically in said frame and carrying wicks, substantially as set forth. 20

5. In a copying-machine, a fluid-reservoir carrying wicks, one of which is provided with a hinged holder adapted to be held out of use, 25 in combination with a roller and a supporting-frame, substantially as set forth.

6. In a copying-machine, a supporting-frame and a roller mounted therein, in combination with a fluid-reservoir pivoted in the 30 frame before the roller, absorbent wicks adjustable in said reservoir, and stops for limiting its rotary movement, substantially as set forth.

PETER JAMES CAIRNS.

Witnesses:

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