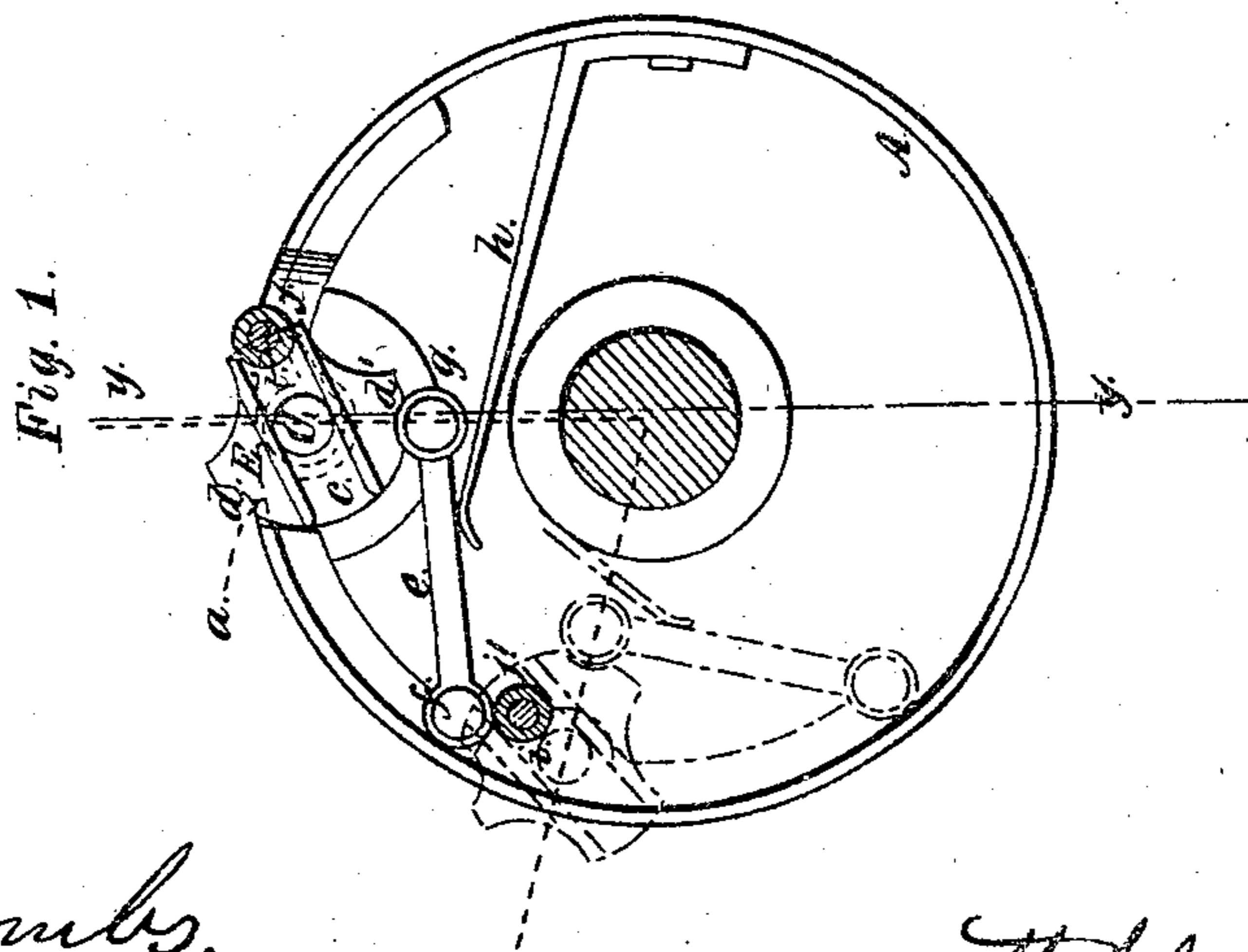
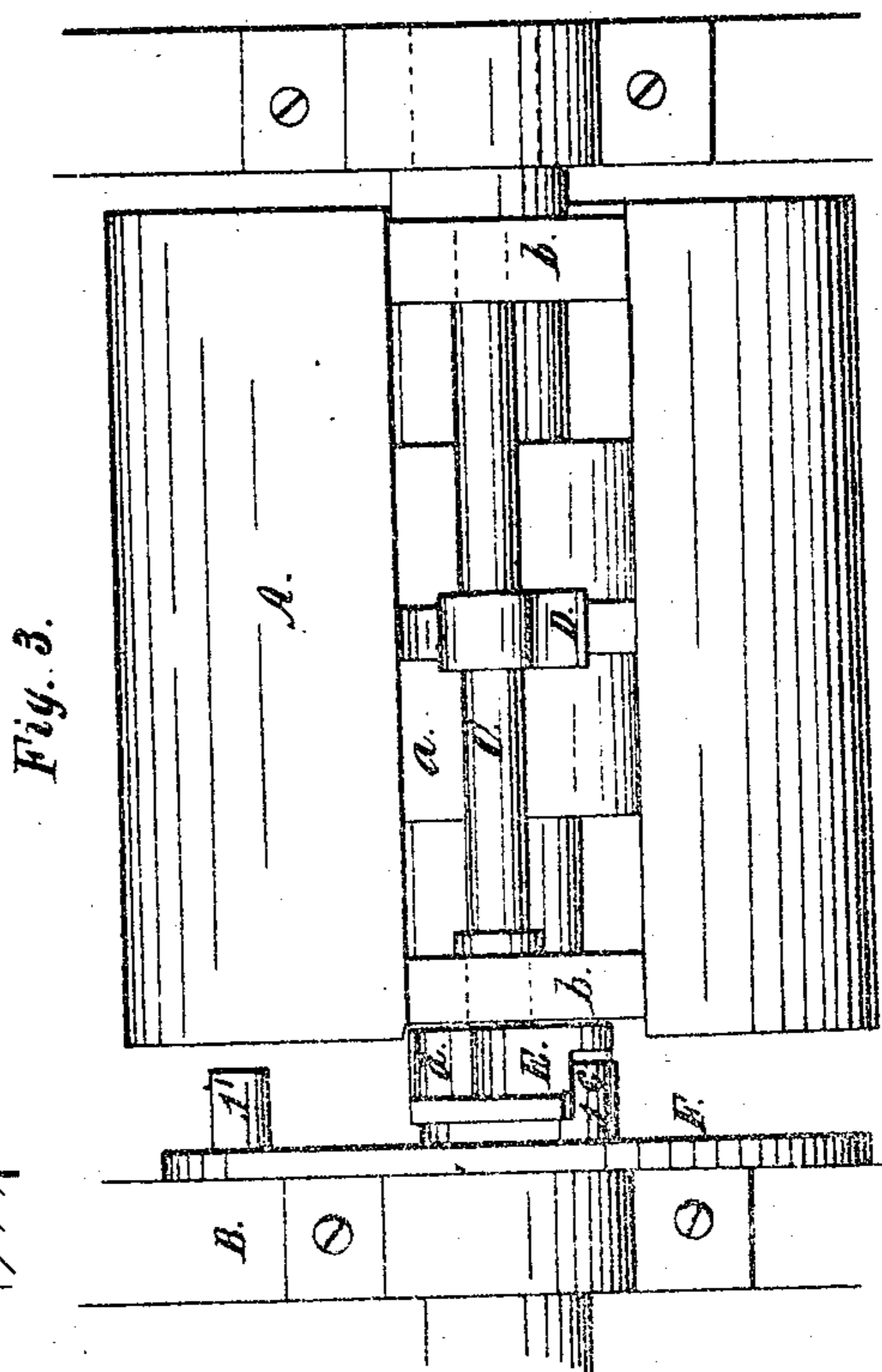
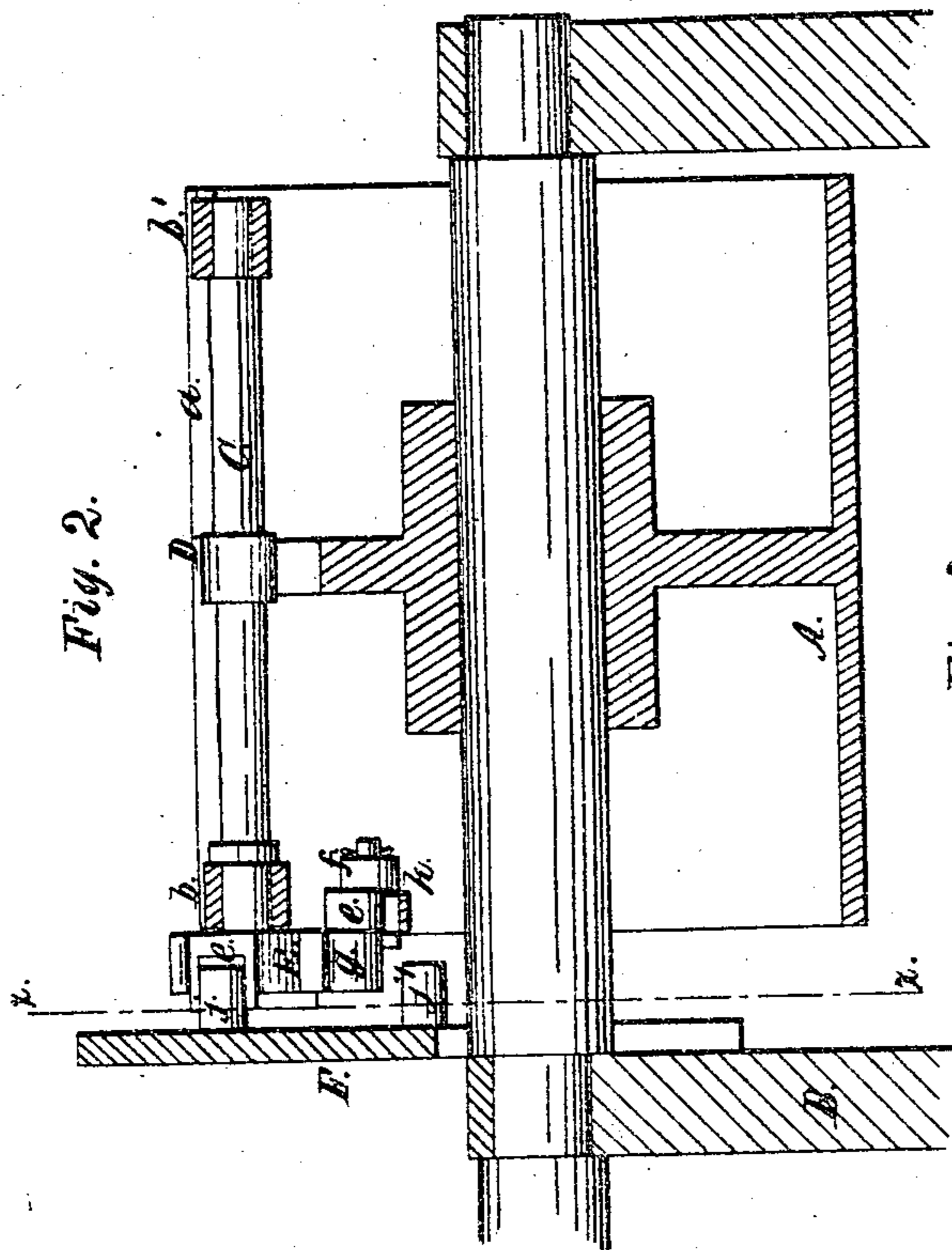


S. D. Tucker
Operating Fingers of Printing Presses.
Nº 25356. Patented Sept. 6. 1859.



Witnesses.

J. N. Coombs.
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STEPHEN D. TUCKER, OF NEW YORK, N. Y., ASSIGNOR TO R. M. HOE, R. HOE, AND P. S. HOE, OF SAME PLACE.

MODE OF OPERATING FINGERS OF PRINTING-PRESSES.

Specification of Letters Patent No. 25,356, dated September 6, 1859.

To all whom it may concern:

Be it known that I, STEPHEN D. TUCKER, of the city, county, and State of New York, have invented a new and Improved Mode of Operating the Fingers of Printing-Machines; 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 a part of this specification, in which—

Figure 1 is a transverse vertical section of a portion of a printing press with my invention applied to it, *x, x*, Fig. 2, indicates the plane of section. Fig. 2 is a longitudinal section of ditto taken in the line *y, y*, Fig. 1. Fig. 3 is a plan or top view of ditto.

Similar letters of reference indicate corresponding parts in the several figures.

This invention consists in operating the fingers of printing machines, that is to say, opening and closing them so that they may, as the printing cylinder rotates, clutch and liberate the sheets of paper at the proper time, by means of grooved disks attached to the finger shaft and used in connection with stationary studs or friction rollers placed in such relation with the grooved disk or with the path of its rotation that the grooved disk will as it rotates embrace the studs or friction rollers, and in connection with the finger shaft and fingers be operated thereby, the disk being prevented from casually moving, and the fingers consequently retained in an open and closed state by means of a proper stop.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A, is a cylinder of a printing press, B, is the frame in which it is mounted. The cylinder A, has a slot *a*, made in its periphery and running its whole length parallel with its axis. In the slot *a*, a finger shaft C, is placed, the journals of which are fitted in bearings *b, b'*, attached to the ends of the cylinder.

On the shaft C, a series of fingers D, are placed, any proper number of fingers may be used, although only one is shown in the drawing. These fingers are of the usual form and therefore do not require a minute description.

At one end of the shaft C, and at the outer side of the bearing *b*, a disk E, is

placed.—This disk has a groove *c*, made in its outer surface and passing directly through its center in a right line as shown clearly in Fig. 1. In the periphery of the disk E, two notches *d, d'*, are made at opposite sides of the groove *c*, as shown plainly in Fig. 1, and to the inner side of the cylinder A, an arm *e*, is attached by a joint *f*, said arm having a roller *g*, at its outer end.—Against the arm *e*, a spring *h*, bears, as shown clearly in Fig. 1, said spring being attached to the inner side of the cylinder.

F, is a plate which is attached to the frame B, at the side opposite the disk E. This plate has two horizontal studs *i, i*, projecting from its inner side and friction rollers *j, j'*, are placed on these studs and allowed to rotate freely thereon. The roller *j*, is placed a little at the outer side of the plane of rotation of the finger shaft C, and the roller *j'*, is a little at the inner side, this will be understood by referring to Fig. 1.

The operation is as follows:—As the cylinder A, rotates the groove *c*, of the disk E, embraces successively the rollers *j, j'*. When the fingers D, are open the disk E, will be in the position shown in black in Fig. 1, and the front end of groove *c*, will catch the roller *j'*, which as the cylinder rotates will turn the disk E, such a distance that it will occupy a reverse position at the opposite side of a radial line passing from the center of the cylinder A, through the center of finger shaft C,—see dotted lines Fig. 1. This movement of the disk E, and shaft, C, closes the fingers D, so that they may grasp the sheet, and as the cylinder A, moves on, the groove *c*, will be in a position to embrace the roller *j*, which in connection with the movement of the cylinder A, will turn the shaft so that the fingers will be opened or thrown back to liberate the sheet. The disk E, is held in proper place at each position of the fingers by means of the roller *g*, which passes alternately into the recesses *d, d'*, by the action of the spring *h*.

It will be seen that the positions of the rollers *j, j'*, are such as to suit the position of the ends of the groove *c*, so that the latter may embrace respectively the rollers *j, j'*, as described.

It is not essential that the groove *c*, extend entirely across the disk E, it may only extend innerward a certain distance from opposite edges of the disk, the central por-

tion of the frame of the disk being solid. The groove *c*, also may be varied or modified in various ways it may for instance extend entirely through the disk laterally, forming
5 notches or recesses to embrace the projections or rollers *j, j'*,—the operation however would be precisely the same in either case.

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

Operating the finger shaft C, by means of

a grooved disk E, attached thereto, and the rollers *j, j'*, attached to a plate or proper support, so as to be respectively within and without the path of rotation of the finger
15 shaft substantially as and for the purpose set forth.

STEPHEN D. TUCKER.

Witnesses:

J. W. COOMBS,

W. HAUFF.