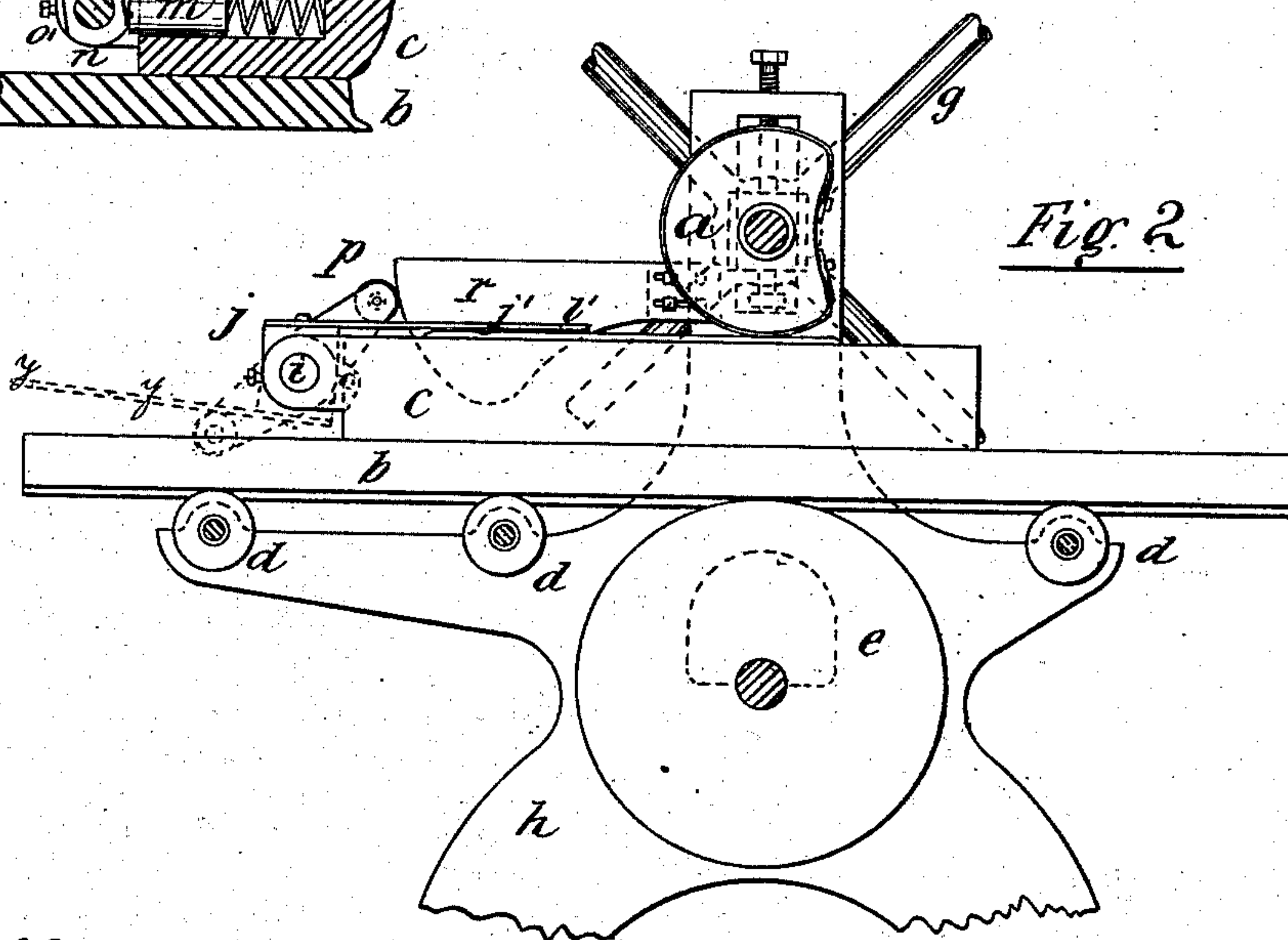
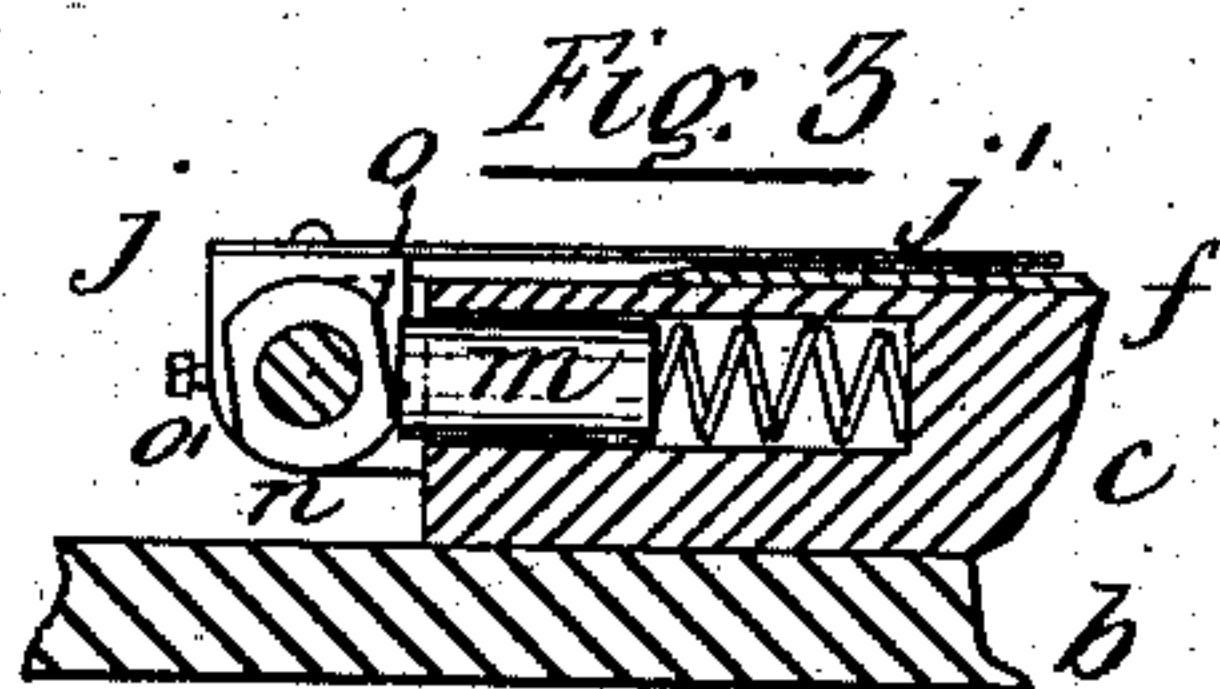
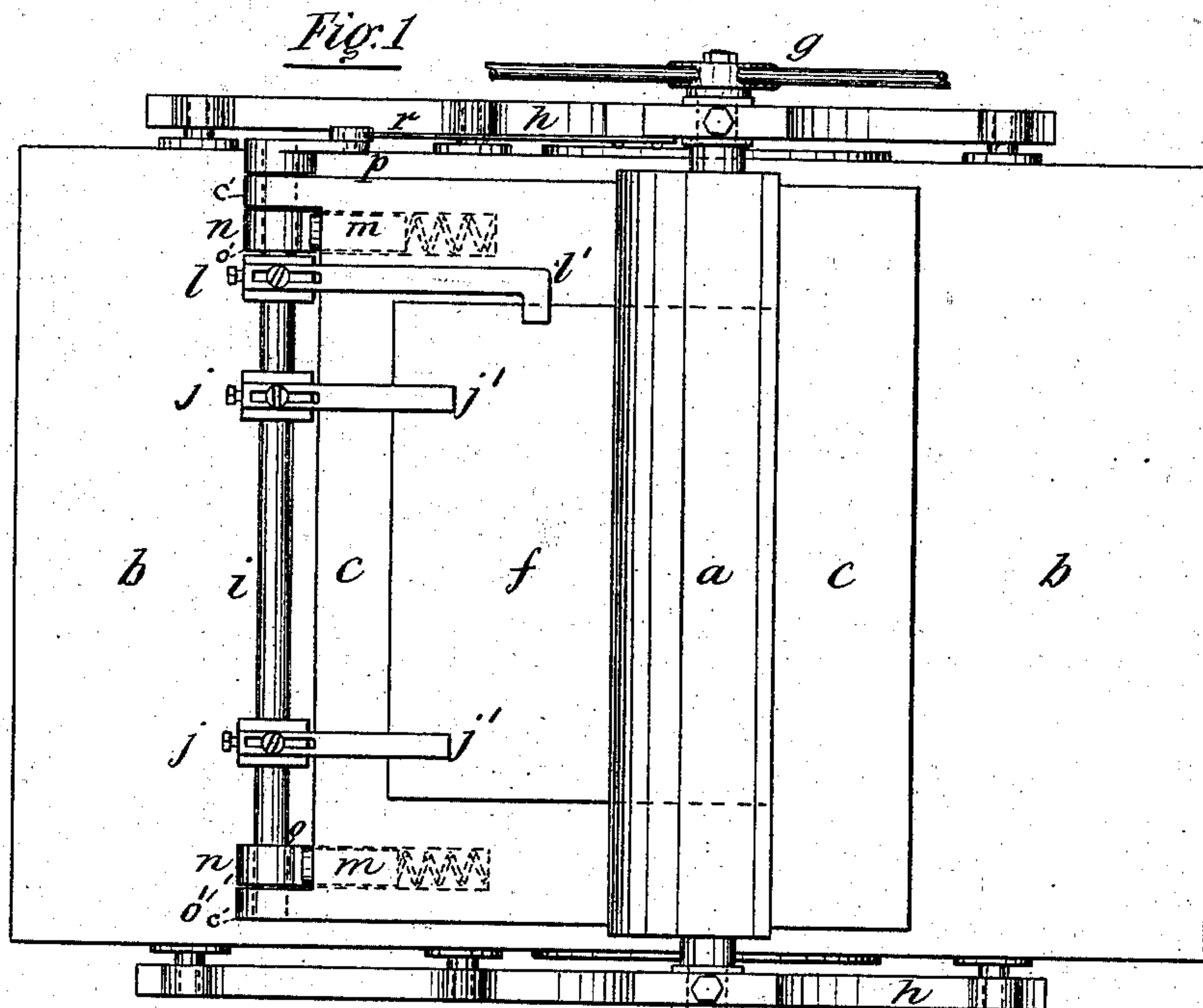


(No Model.)

J. CARSON.
Registering Apparatus for Plate Printing Presses.
No. 240,885.

Patented May 3, 1881.



Witnesses.
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Inventor.
per Alfred Theobald atty

UNITED STATES PATENT OFFICE.

JOHN CARSON, OF BROOKLYN, NEW YORK.

REGISTERING APPARATUS FOR PLATE-PRINTING PRESSES.

SPECIFICATION forming part of Letters Patent No. 240,885, dated May 3, 1881.

Application filed August 9, 1880. (No model.)

To all whom it may concern:

Be it known that I, JOHN CARSON, of Brooklyn, county of Kings, State of New York, have invented a certain new and useful Improvement in Registering Apparatus for Plate-Printing Presses, of which the following is a specification.

This invention has for its object to facilitate printing from engraved plates, and improve the registration of such work by providing a guide or registering attachment for plate-printing presses; and it consists of adjustable fingers carried on a shaft fitted in bearings on the front end of the plate-block or raised portion of the bed on which the engraved plate is secured, the ends of said fingers bearing on the plate to act as guides, against which two edges of the sheets of paper to receive the impression are fed. The said edges are the top and the left-hand-side edges, which are the same edges of the sheet of paper used to register by in the ordinary reciprocating platen printing-press; and as my improved guide-fingers on the plate-press can be adjusted so that the two edges of the sheet of paper come in contact with them at the exact parts that come in contact with the guide-stops of the reciprocating platen-press, a perfect interchangeable register on the two classes of presses is obtained, thus enabling some of the impressions to be made on the reciprocating platen-press—as, for instance, the various colors of the designs—and some on the plate-press, from the engraved plate, which brace the outline and finishing characteristics of the design. The guide-fingers are so constructed and arranged that as soon as the rear end of the sheet of paper is gripped between the impression-cylinder or “D-cylinder” and the plate sufficiently to prevent the paper changing its position on the plate while the impression is being taken, the guide-fingers are thrown off the plate over onto the front end of the bed by means of a crank-pin secured to one end of the shaft carrying the fingers coming in contact with an arm fixed to the side frame of the press, leaving the engraved plate with the paper free to pass under the D-cylinder, said fingers remaining off the plate until the impression is taken and the bed and the plate have moved back into their original position. The printed sheet is then removed from the plate, a fresh supply

of ink applied thereto, and the plate wiped off and polished in the ordinary manner, ready for another impression to be taken. The fingers are now moved over onto the plate so as to assume the registering position they before occupied by turning the crank-pin on the end of the shaft by hand, and a fresh sheet fed against the guide-fingers. A perfect register of all the sheets of paper and a considerable saving of time over the old method of adjusting the sheet on the plate by eye are had by this application of guides to plate-presses. The fingers are held in both their positions by means of suitable springs, all of which will be readily and fully understood by the following description of the accompanying drawings forming part of this specification, in which—

Figure 1 is a plan view of a plate-printing press with my improved registering-guide attachment. Fig. 2 is a side elevation of the same with the near-side frame removed; and Fig. 3 is a sectional view of a portion of the bed, showing the device for retaining the fingers in both of the positions assumed by them.

The plate-press shown in the drawings is constructed in the ordinary manner, and consists of the impression or D cylinder *a*, the bed *b*, with the raised portion or plate-block *c*, supporting-rollers *d d*, and bearing-cylinder *e*, between which and the D-cylinder *a* the bed, with the engraved plate *f*, attached to the plate-block *c* or raised portion of the bed, is pressed when the impression-cylinder *a* is caused to rotate by operating the hand-wheel or radial arms *g*, secured to one end of the shaft of the cylinder and shown broken away in the drawings. The cylinders *a* and *e* and rollers *d d* are supported in the frame *h*. When the cylindrical portion of the D-cylinder has passed over the plate *f* its flat portion comes opposite the bed and allows the bed to be moved back into its original or starting position by means of springs or a weight. (Not shown in the drawings.) The device for carrying the bed forward, to enable it to be gripped between the cylinder *a* and *e*, is also left out in the drawings, these devices being well understood; and, to make my improvements clear, I have shown only so much of a plate-press as will conduce to this result.

In lugs *c' c'* on the front end of the plate-block *c* is fitted the shaft *i*, the axis of which

is at right angles to the direction of motion of the bed *b*, and on which are secured by set-screws the three finger-carriers *j j* and *l*. To the carriers *j j* are fastened the two fingers *j'* 5 *j'* by means of screws passing through slots formed in them, so that their free ends may be set in the right position on the plate *f* to adjust vertically the sheet of paper in relation to the design on the plate, the top edge of the 10 sheet of paper coming in contact with them, and they are adjusted sidewise to adapt them to different-sized sheets of paper by shifting their carriers *j j* longitudinally along the shaft *i*. The carrier *l* holds the finger *l'*, which is 15 slotted to allow of adjustment. It lies along the side of the plate *f*, and its end is bent at right angles to bear on the surface of the plate. It is also adjustable sidewise to the plate by longitudinal movement of its carrier *l* on the 20 shaft *i*, and its end forms the side guide or stop for the left-hand side of the paper. These guide-fingers *j' j'* and *l'* are made of thin metal, somewhat flexible, and are caused to be pressed firmly against the plate *f* by means of spring- 25 bolts *m m*, let into the body of the plate-block *c*, and pressing against flat sides *o o*, formed on the collars *n n* on the shaft *i*, or rather against the lower edges of these flat sides *o o*, as shown in Fig. 3, to allow for wear, and to 30 insure the fingers keeping against the plate *f*.

On one end of the shaft *i*, projecting beyond the plate-block *c*, is secured the crank *p*, so set thereon that when the **D**-cylinder *a* has gripped the sheet of paper on the plate *f*, as shown in 35 the drawings, its pin comes in contact with the arm *r*, secured to the frame *h*, and as the bed continues to move under the **D**-cylinder *a* the shaft *i* is rotated, and the fingers are thereby moved off the plate *f* and into the position 40 shown by the dotted lines *y y* in Fig. 2, (their planes of rotation being in line with the direction of motion of the bed *b* admit of the side guide-finger, *l'*, being placed as far as desired down the side of the paper, and all the fingers 45 have plenty of time to avoid the impression-cylinder as the bed moves under it and as the fingers swing off the plate into position on the front end of the bed,) in which position they are held by the spring-bolts *m m* bearing against 50 the flat sides *o' o'* of the collars *n n*, which are about diametrically opposite the flat sides *o o*. The fingers are again thrown over onto the plate by hand by means of the crank *p* after the bed has moved back into its original position, 55 (which is somewhat to the left of its position as shown,) the printed sheet removed from the plate, and the plate inked and polished.

The arm *r* is constructed to be adjusted on the frame *h*, to cause the fingers to be moved 60 off the plate at the right time to accommodate various sizes of engraved plates and sheets of paper; and when the variation of the size of paper is greater than the adjustment of the fingers *j' j' l'* on their carriers *j j* and *l* will accommodate, separate sets of fingers of varying 65 lengths will be used.

My invention can be equally well applied to a press where the bed is stationary and the cylinder is made to roll over it.

Having now described my invention, I wish 70 it understood that I do not confine myself to the particular arrangement and construction of the devices shown constituting a stop-guide attachment for plate-presses, as it is evident they may be considerably modified without de- 75 parting from the nature of my invention; but

What I claim, and desire to secure by Letters Patent, is—

1. The combination, with a plate-printing press, of fingers constructed and operated to 80 bear on the plate-block or engraved plate to act as guides, against which the top and one of the side edges of the sheet of paper are fed, and to be moved automatically from the block or plate when the bed is passing under the im- 85 pression-cylinder, substantially as and for the purpose hereinbefore set forth.

2. In a plate-printing press, the combination of guides or registering-fingers adapted to 90 bear on the engraved plate or plate-block and to act as stops, against which the top and one of the side edges of the sheet of paper are fed and carried by a shaft fitted in bearings on the bed at right angles to the line of motion of the bed, with an adjustable device for actuating 95 said shaft to throw the fingers off the plate over onto the front end of the bed as the bed is passing under the impression-cylinder, substantially as hereinbefore set forth.

3. In a registering-guide attachment for 100 plate-printing presses, in combination, fingers carried by a shaft fitted to turn in bearings on the bed of the machine at right angles to the line of motion of the bed, an adjustable arm 105 secured to the frame of the press, in combination with a crank-arm on the end of the finger-shaft and a spring-acting device constructed to hold the fingers down on the plate or plate-block, and also in position when thrown off the 110 same, substantially as hereinbefore set forth.

4. In combination, the rotating impression-cylinder *a*, the longitudinally-moving bed-block 115 *c*, the shaft *i*, fitted in lugs *c'* on the plate-block *c* at right angles to its direction of motion, the adjustable registering-fingers *j' j'* and *l'*, carried by the shaft *i*, the crank *p*, secured to the end of the shaft *i*, and the adjustable arm *r*, secured to the side frame of the press, substantially as and for the purpose hereinbefore set 120 forth.

5. The shaft *i*, adjustable fingers *j' j'* and *l'*, flat-sided collars *n n*, spring-bolts *m m*, crank 125 *p*, and adjustable arm *r*, combined and constructed substantially as and for the purpose hereinbefore set forth.

In testimony whereof I have hereunto set my hand this 7th day of August, A. D. 1880.

JNO. CARSON.

Witnesses:

H. D. WILLIAMS,
EDWARD G. COMMERFORD.