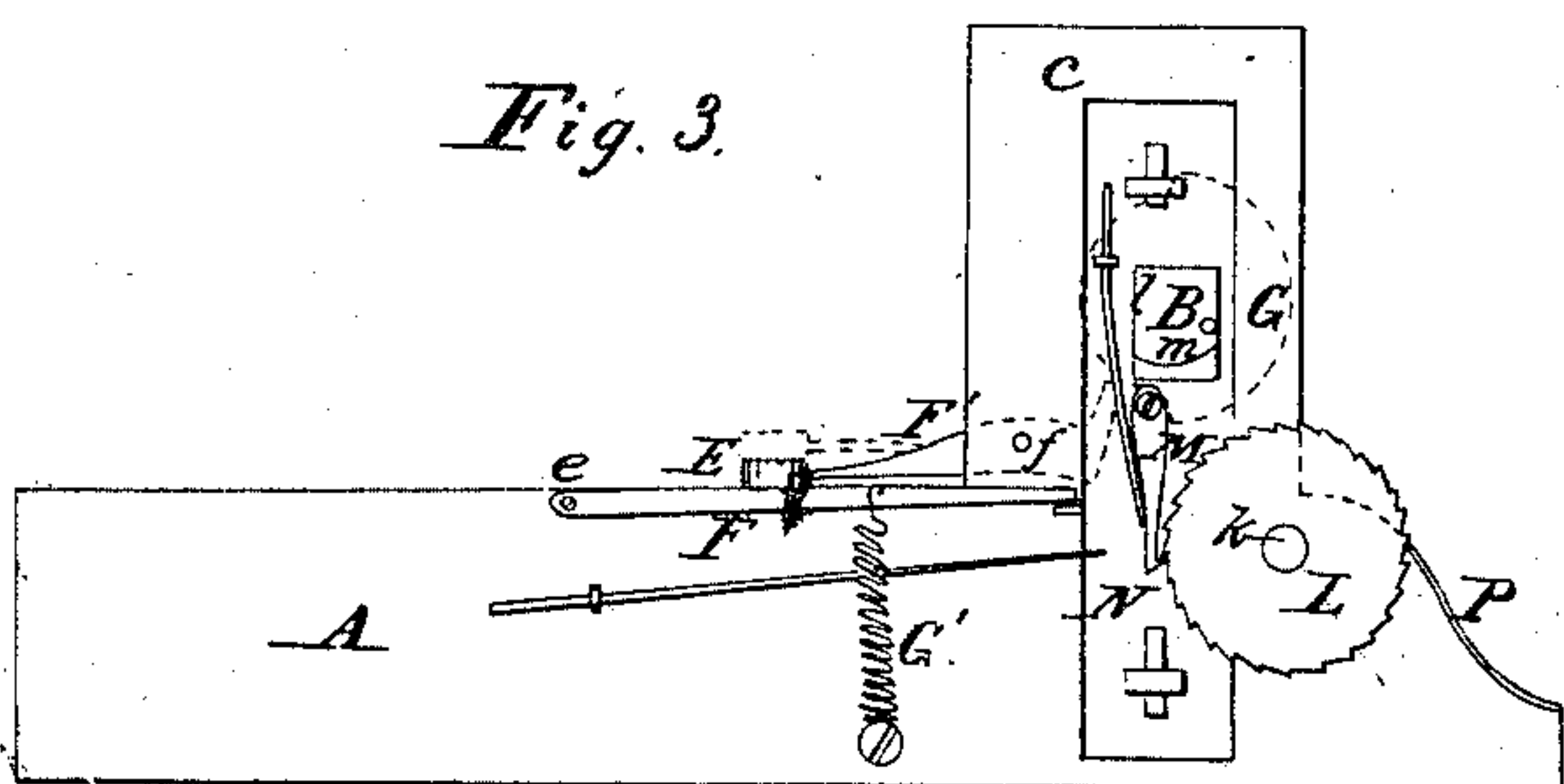
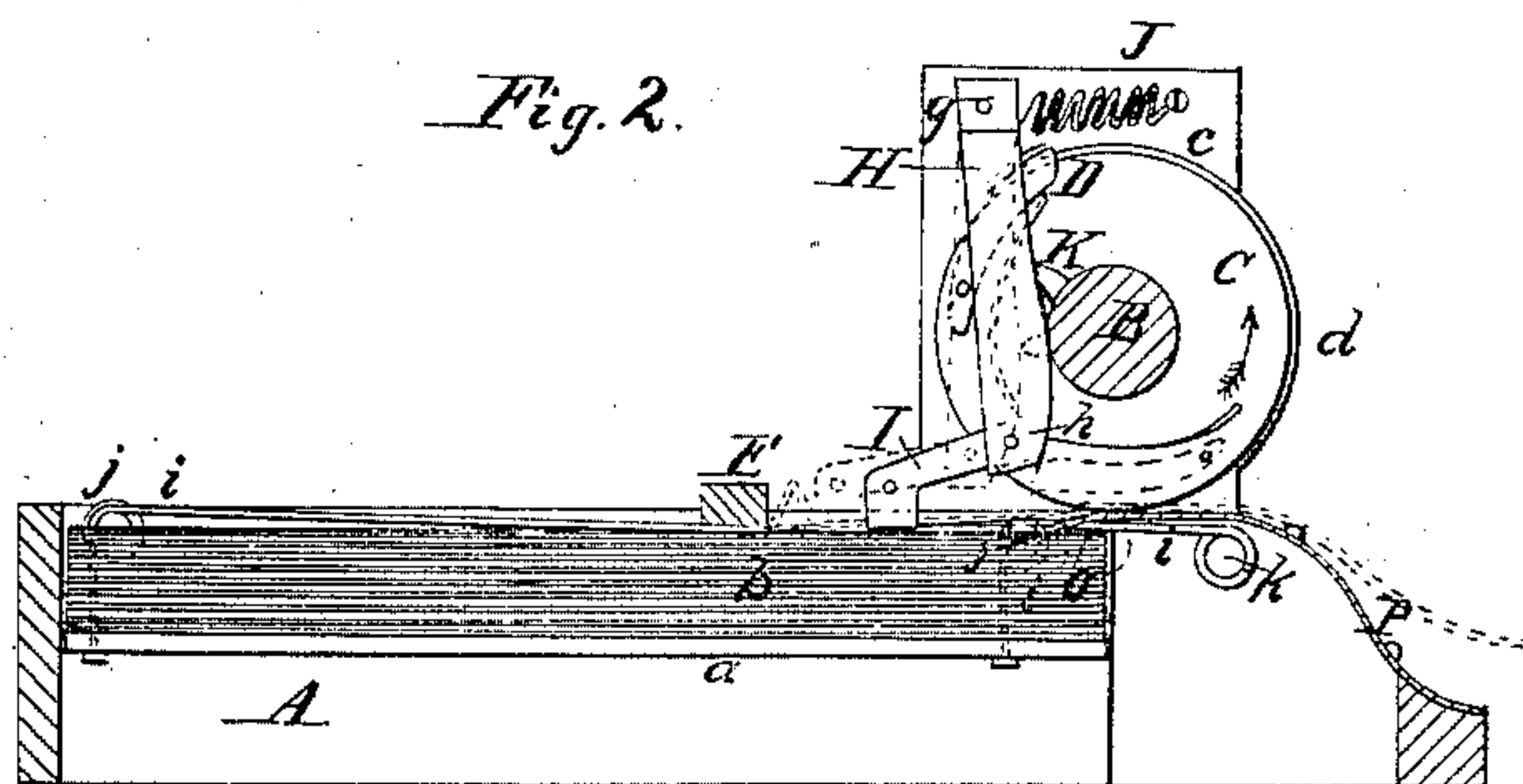
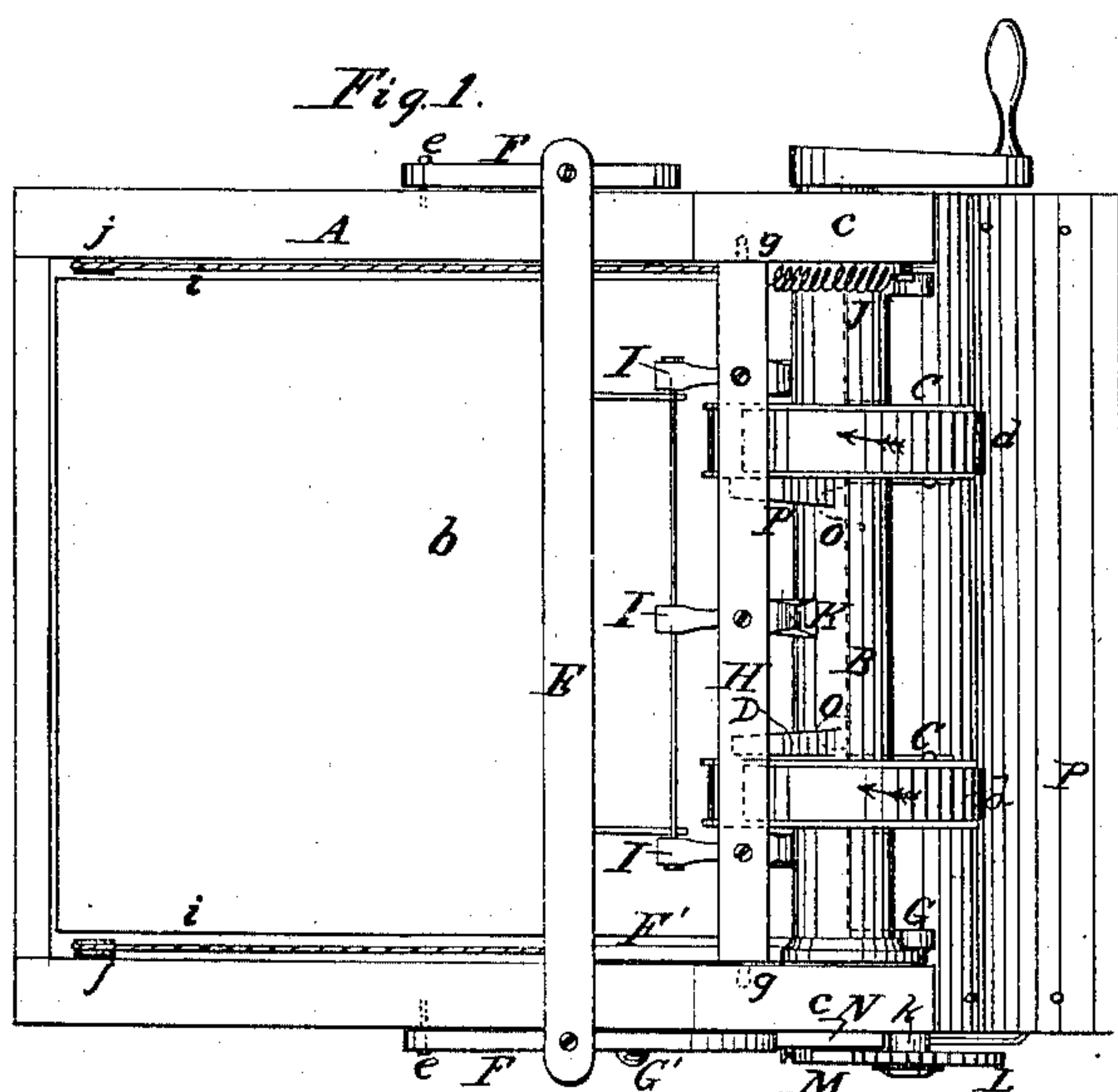


H. CLARK.
MODE OF FEEDING SINGLE SHEETS OF PAPER TO PRINTING PRESSES
AND OTHER MACHINES.

No. 10,824.

Patented Apr. 25, 1854.



UNITED STATES PATENT OFFICE.

HENRY CLARK, OF NEW ORLEANS, LOUISIANA.

MACHINE FOR FEEDING SHEETS OF PAPER TO PRINTING-PRESSES.

Specification of Letters Patent No. 10,824, dated April 25, 1854.

To all whom it may concern:

Be it known that I, HENRY CLARK, of New Orleans, in the parish of Orleans and State of Louisiana, have invented a new and useful improvement in devices or machines for feeding sheets of paper singly or one at a time to printing-presses, paper-ruling machines, and all other machines requiring the feed of a single sheet of paper at a time; 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 plan or top view of a disk or machine constructed according to my improved plan. Fig. 2, is a longitudinal vertical section of ditto, the plane of section being through the center. Fig. 3, is a side view of ditto.

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

The nature of my invention consists in detaching or loosening the sheet of paper that is to be fed to the press or other machine from the sheets underneath it by giving said sheet a backward and forward motion previously to its being operated upon by feed or pressure rollers or other device that conveys it to the press or other machine, and thereby preventing the possibility of two or more sheets being fed to the press or other machine at the same time.

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

A, represents a rectangular box provided with an adjustable bottom, (a), on which the sheets of paper, (b) to be fed to the printing press, or other machine, are placed; see Fig. 2. At the front part of the box are two uprights, (c), (c), in which are the bearings of a transverse shaft, B, having upon it two feed or pressure rollers, C, C. About one-half of the peripheries of the pressure rollers are covered with india rubber strips, (d), (d), or any other elastic substance, see Figs. 1 and 2. The rollers, C, C, are also each provided, at their edges, with a spring segment, D, more particularly shown in Fig. 2, which act upon the sheets of paper previously to the elastic strips, (d), (d), as will be hereafter more fully described.

E, is a transverse pressure bar, the ends

of which are secured to levers, F, F, one on each side of the box, A, see Fig. 1. The fulcra of these levers are at (e).

F', is a lever having its fulcrum at (f), see Fig. 3. One end of this lever rests underneath the pressure bar, E, and its opposite end bears against a cam, G, at one end of the shaft, B, see Fig. 1 and dotted lines in Fig. 2.

G', is a spring attached to one of the levers, F, and to the side of the box, A, as shown in Fig. 3.

H, is a vibrating or reciprocating frame, suspended at its upper part by pivots, (g), (g), to uprights, (c), (c), see Figs. 1 and 2. To the lower part of this frame are attached by pivots, (h), pressure blocks, I, the outer ends resting upon the paper, (b), as shown in Fig. 2.

J, is a spring, one end of which is attached to the frame, H, and the opposite end to one of the uprights, (c), see Figs. 1 and 2.

K, Figs. 1 and 2, is a wiper or projection, which acts against the frame, H, as the shaft, B, rotates, as will be presently described.

The adjustable bottom, (a) of the box, A, is attached to cords, (i), which pass over pulleys, (j), and are secured to a shaft, (k), which passes through the front of the box. This shaft has upon one end a ratchet wheel, L, see Figs. 1 and 3, into which a pawl, M, attached to a slide, N, on one of the uprights, (c), catches, see Fig. 3. The slide, N, has a slot, (l), through it, in which a pin, (m), on the end of the shaft, B, fits.

O, O, are lips at the end of a curved metal strip, P, at the front of the box, A. These lips fit over the front edges of the paper, (b), as shown clearly in Fig. 2.

Operation: The paper, (b), being laid in the box, A, and its front edges placed under the lips, O, O, motion is communicated to the shaft, B, and the wiper, K, acts against the frame, H, and the pressure blocks, I, forces backward the front part of the top sheet of paper from underneath the lips, O, O, the pressure bar, E, bearing firmly upon the paper, owing to the spring, G', and causing the upper sheet to be bent upward angularly between the pressure bar and pressure blocks, as shown by the red lines in Fig. 2. When the frame is freed from the wiper, K, it moves back to its original position by means of the spring, J, and the

pressure blocks, in their return motion, bring the top sheet of paper forward over the lips, O, O. The cam, G, then raises the pressure bar, E, and the spring segments, D, D, then
5 bear upon the paper and force it forward a short distance, and then the elastic strips, (d), (d), bear upon the paper and move it along the required distance until it is received by the cylinder of the printing press
10 or other machine to which the device is attached. The bottom, (a), on which the paper, (b), is placed, is forced upward as the sheets are taken off of it, by means of the pin, (m), at the end of the shaft B. This
15 pin, (m), raises the slide, N, a certain distance at every revolution of the shaft, in consequence of fitting in the slot, (l), and the pawl, M, turns the ratchet, L, and the shaft, (k), and the cords, (i), are moved around
20 the shaft, (k), and the bottom, (a), consequently raised.

The great difficulty attending devices hitherto invented for feeding single sheets of paper to machines has been the occasional
25 feeding of two sheets at a time, owing to the liability of the sheets adhering together. By giving the top sheet the backward and forward motion, as herein shown, previously to its being moved by the pressure or feed

rollers, that difficulty is overcome. Any 30 person may be convinced of this by experimenting with several layers or sheets of paper with the fingers of one hand, the other hand resting upon the sheets to serve the office of the pressure bar and cause the 35 top sheet to bend.

I do not confine myself to the precise mechanical device herein described, for that may be modified or varied in many particulars, but 40

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

Loosening or detaching the top sheet of a layer of papers, from those underneath it, by giving a part of said sheet, a backward 45 and forward motion, as herein shown, previously to its being operated upon by the pressure rollers, or other device, for conveying it to the printing press, or other machine, to which the sheet of paper is fed, 50 for the purpose of insuring the feed of only a single sheet of paper at a time, as set forth.

HENRY CLARK.

Witnesses:

O. D. MUNN,

JNO. W. HAMILTON.