

D. Babson.
Feeder for Printing Press.
Nº 15639. Patented Sept. 2. 1850

Fig. 1.

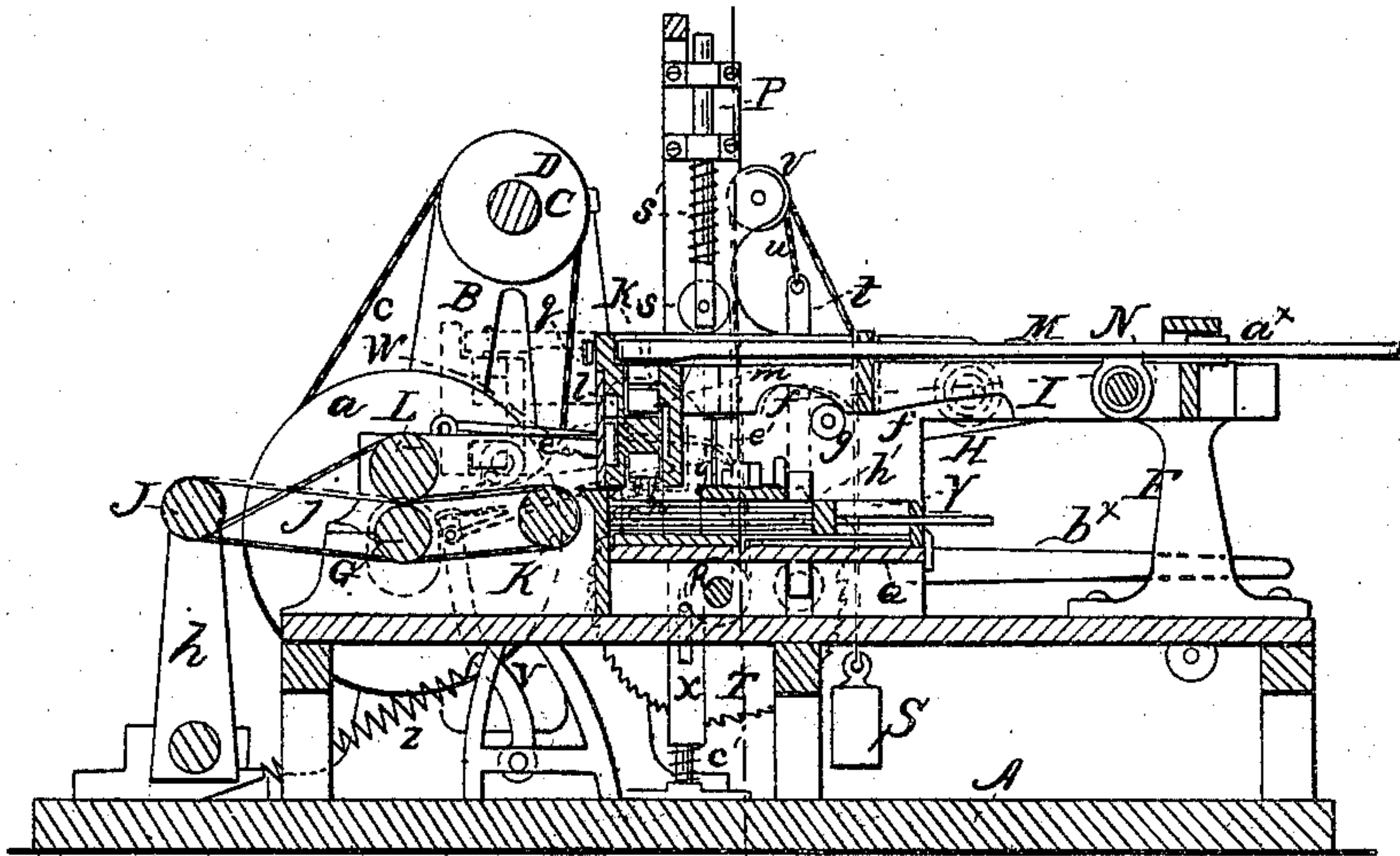


Fig. 2.

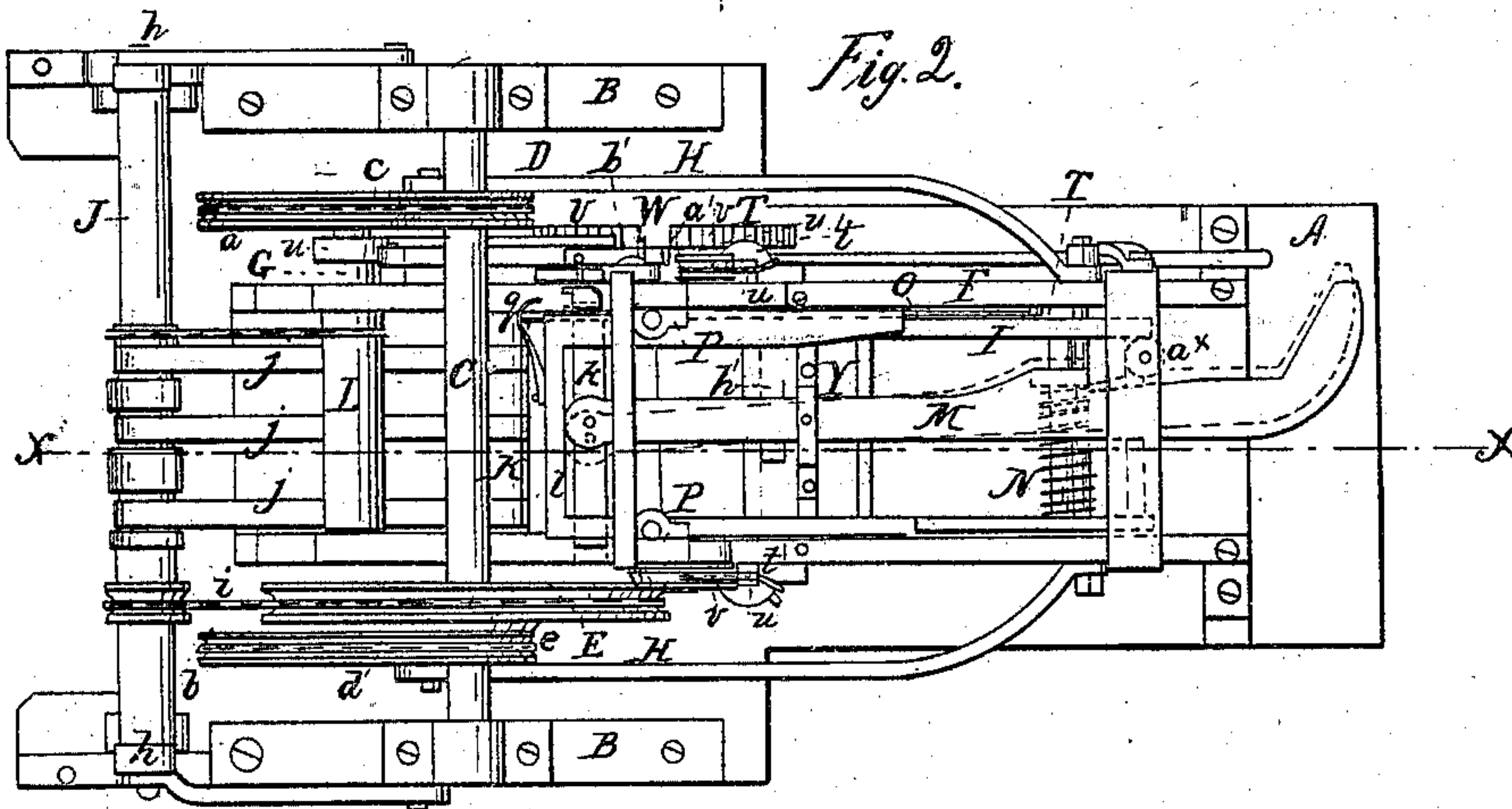


Fig. 3.

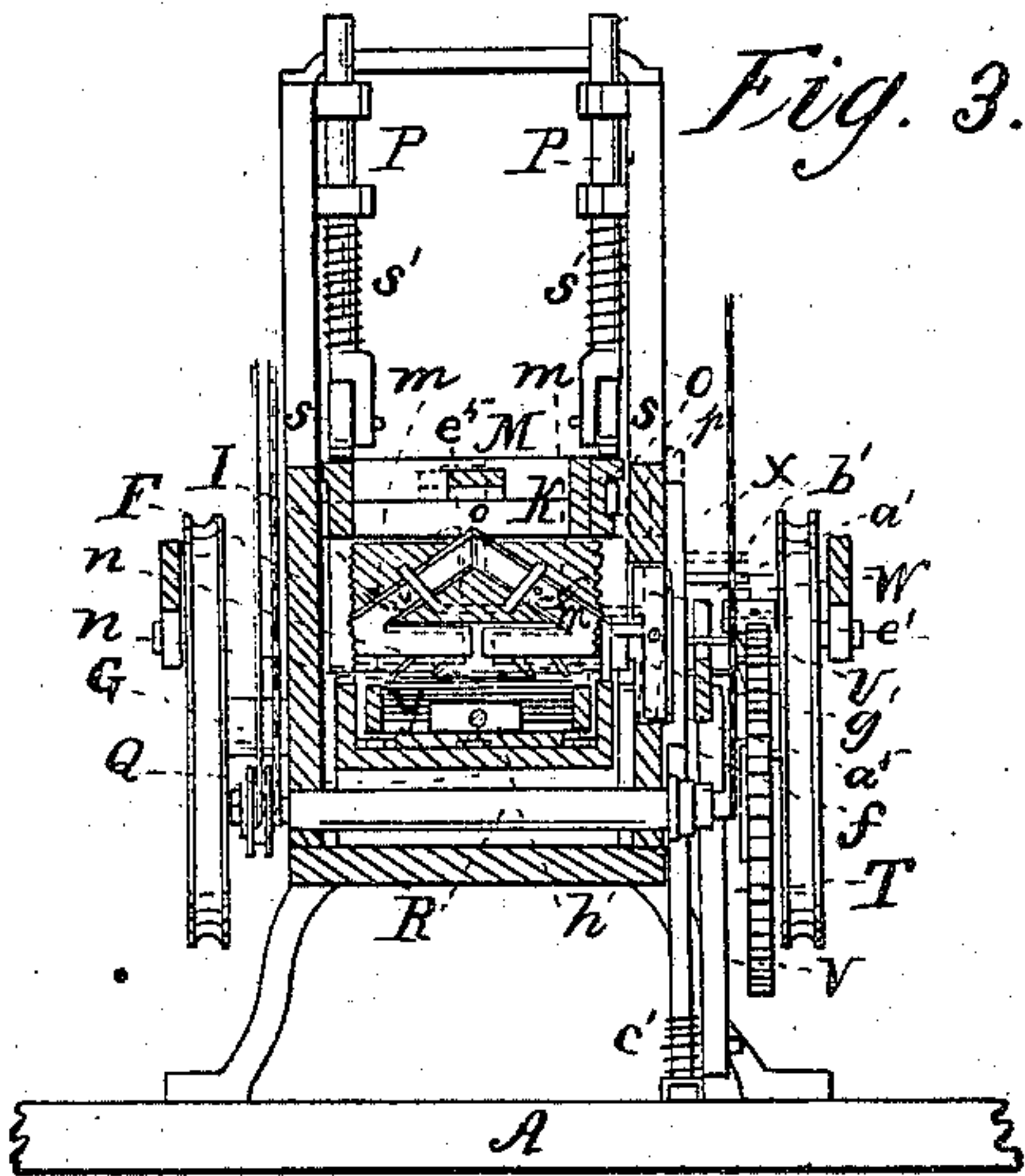
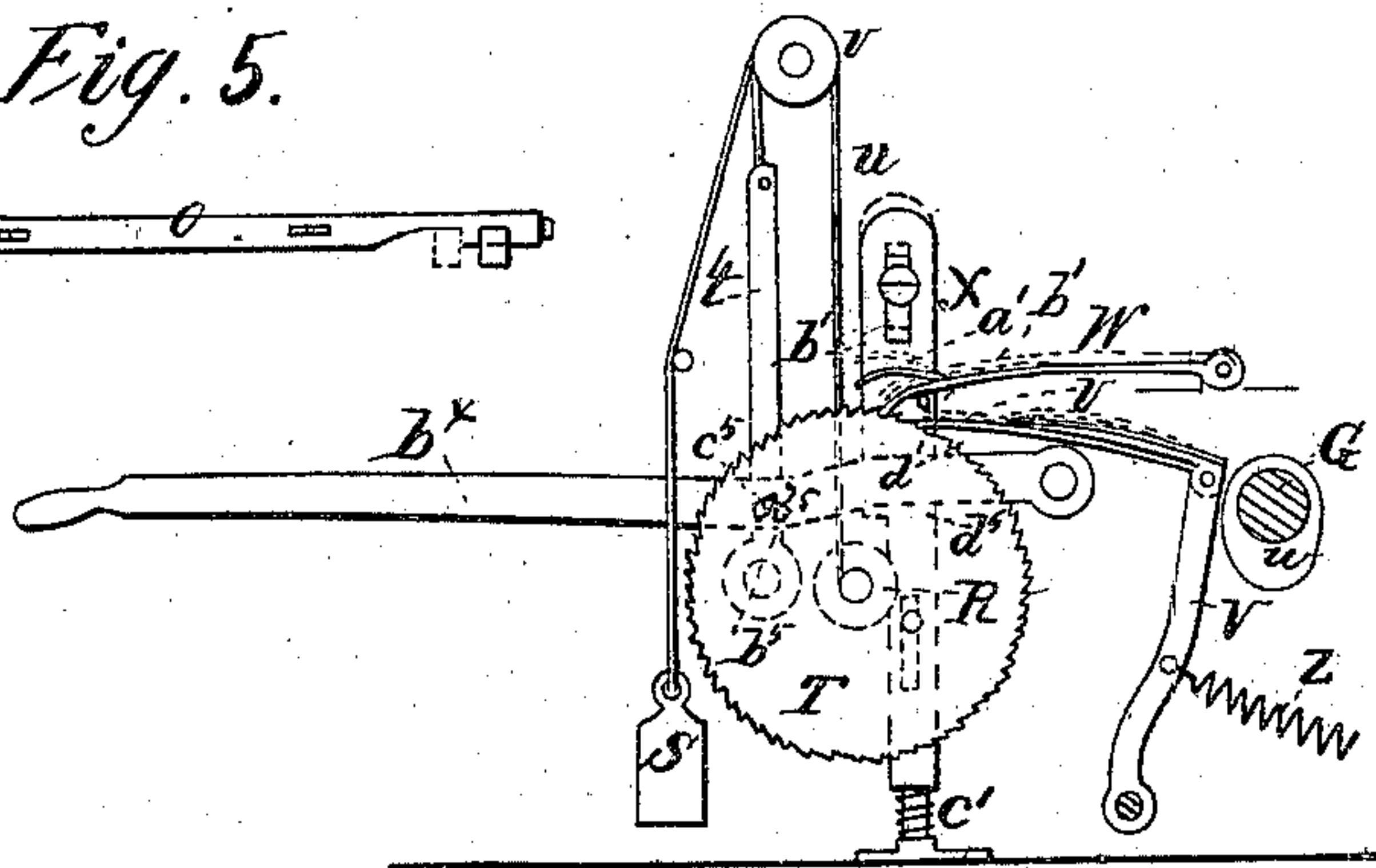


Fig. 5.



Fig. 4.



UNITED STATES PATENT OFFICE.

DAVID BABSON, OF GROTON, CONNECTICUT.

MACHINE FOR FEEDING SHEETS OF PAPER TO PRINTING-PRESSES.

Specification of Letters Patent No. 15,639, dated September 2, 1856.

To all whom it may concern:

Be it known that I, DAVID BABSON, of Groton, in the county of New London and State of Connecticut, have invented a new and Improved Machine for Feeding Sheets of Paper to Printing-Presses, Paper-Ruling, and 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 longitudinal vertical section of my improvement, *x, x*, Fig. 2 showing the plane of section. Fig. 2 is a plan or top view of same. Fig. 3, is a transverse vertical section of ditto, *y, y*, Fig. 1, showing the plane of section. Fig. 4, is a detached side view of the mechanism by which the sheets of paper are fed upward to the points which convey them to the endless bands. Fig. 5, is a detached view of the sliding bolt which regulates the movement of the points which pick up the sheets of paper.

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

My invention consists in the peculiar means employed for picking up the sheets of paper, one at a time, and conveying them to endless bands.

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

A, represents a bed plate on which two upright frames B, B, are placed, one at each side, said frames having a shaft C, fitted in their upper parts, the shaft C being the driving shaft and having two pulleys D, E, upon it.

F represents a rectangular framing placed on the bed plate A, and G, is a shaft which passes through its front end, said shaft having pulleys *a, b*, one at each end, and belts *c, d*, pass around the pulleys *a, b*, one belt, *c*, passing around the pulley D, on the shaft C, and the other belt *d*, passing around a small pulley *e*, attached to one side of the pulley E, on shaft C.

The pulleys *a, b*, have one end of pitmen H, H, attached to them, one to each, and the opposite ends of the pitmen are attached to a rectangular frame I, which is fitted in the upper part of the framing F. The under surfaces of the side pieces of the

frame I, are made of irregular or undulating form as shown at *f*, Fig. 1, and the side pieces rest or work on rollers, *g*— attached one to each inner side of the upper part of the framing F.

A shaft J is placed or fitted in the upper end of uprights *h*, at one end of the bed plate A. This shaft is driven by a belt *i*, from the pulley E, and has a series of endless bands *j*, passing around it, the bands also passing around a shaft K placed transversely in the framing F, said bands being side by side, as shown in Fig. 2. A shaft L, is also placed in the framing F, directly over the shaft G, see Fig. 1.

On the frame I, a lever M, is pivoted. One end of this lever is curved or bent as shown in Fig. 2, and the opposite end is attached to a sliding bar *k*, which is fitted in one end of the frame I. The lever M, has a spring N, bearing against it, as shown in Fig. 2. In the inner side of the inner cross piece *l*, of the frame I, there are fitted two triangular or V-shaped stocks *m, m*, in the lower horizontal part of which points *n, n*, are secured, the points being in oblique positions, the lower ends of the points of both stocks projecting outward, as shown clearly in Fig. 3. A semi-elliptical spring *e*⁵, which is connected with the two stocks withdraws the points *n*, from the sheet.

The bar *k* works directly over the upper ends of the stocks and has a recess *o*, made in it. One end of the bar *k*, has a notch *p*, made in it, and a sliding bolt O, which is attached to one side of the frame I, works through this notch, one end of the bolt having a spring *q*, bearing against it, and the opposite end being actuated by a pin *r*, on the framing E, see Figs. 2 and 3.

P, P, are upright rods which are fitted in proper guides, one at each side of the framing F. The lower ends of these uprights have rollers *s*, in them which rollers are made to bear upon the frame I, by means of spiral springs *s'* placed around the rods P, P.

A bed Q, is fitted within the framing F, said framing having an upright *t*, one at each side of it. These uprights have cords or chains *u*, attached to their upper ends, the cords or chains passing over pulleys *v*, and the ends attached to a shaft R, placed underneath the bed Q. Weights S, are also attached to the cords or chains *u*.

To one end of the shaft R, a ratchet wheel

T is attached, and U, is a pawl which turns the ratchet T, the said pawl being actuated by a cam *w*, at one end of the shaft G. The pawl U, is attached to the upper end of a lever V, which has a spring *z*, attached to it.

W, is a retaining pawl which catches into the ratchet T. This pawl has a spring *a'*, attached to its end, and the end of the pawl and also the spring *a'*, are fitted between two pins *b' b'* on a vertical sliding bar X, see Fig. 4; the use of this will be presently shown.

In one side of the framing F, a lever or bar *e'*, is pivoted, as shown in Fig. 3. The lower end of this lever or bar catches over a projection *f'*, on the inner side of the sliding box X and keeps said bar depressed. The upper part of the lever or bar *e'*, is made beveled or inclined and a projecting hook *g'*, is attached to one side of the bed Q.

Y is a box in which the sheets of paper to be fed to the press or other machine are placed. This box has adjustable sides and is also provided with a follower *h'*, so that the box may be enlarged or contracted to suit different sized sheets.

The operation is as follows: The sheets of paper, shown in red, are moistened and placed within the box Y, a weight or follower resting upon the sheets, and the box is placed upon the bed Q. Motion is then given the shaft C, in any proper manner, and the pitmen H give a reciprocating motion to the frame I, the inner end of said frame rising as it passes backward and descending as it reaches the end of its backward stroke and again rising as it moves forward and descending as it reaches the termination of its forward stroke. This rising and falling of the frame is produced by the undulations or recesses *f*, in the lower edges of the side pieces of the frame I, and the pressure rollers *s*. As the frame I is moved back and forth, the bar *k* is operated by the lever M, said lever being actuated by the spring N, and the curved end of the lever which bears at intervals against a friction roller *a^x*, on the frame I. The movement of the bar *k*, allows the stocks *m, m*, to expand and contract, the stocks expanding when the frame I, reaches the end of its backward stroke, so that as the frame is depressed, the points *n, n*, will pass obliquely underneath the uppermost sheet of paper, and as the frame is elevated and passes forward, the points convey the sheet to the endless bands *j'*, and as the frame is depressed, the stocks are contracted or allowed to approach each other, and the points *n*, in consequence of the spring *e^s* are withdrawn from the sheet which passes between the shafts G, L, and upon the bands

j', which convey it to the spot where it is caught by the nippers or other device attached to the machine for which the sheet is intended. The stocks *m, m*, are allowed to contract when the recess *o*, in the bar *k*, is over the upper ends of the stocks *m, m* and they are expanded when the recess is free from the upper ends of the stocks. The bar *k*, is held in position by the bolt O, which is moved at the termination of the backward stroke of the frame I, by the pin *r*, so that the bar *k* may be liberated from the bolt O, and operated at the proper time by the lever M. At each stroke of the frame I, the pawl U, moves the ratchet wheel T, the distance of one tooth and the cords or chains *u, u*, are consequently wound upon the shaft R, and the bed Q will be raised a certain distance at each stroke or vibration of the frame I, the distance corresponding with the thickness of the sheets of paper. By this means the sheets of paper are always kept at the requisite height, the bed Q gradually rising as the sheets are fed off from the pile in the box Y. When the bed Q, reaches a certain height, and all the sheets are fed out from the box Y, the projecting hook *g'*, will strike against the upper or inclined part of the lever or bar *e'*, and will throw the lower end of said bar free from the shoulder *f'*, on the slide X, and the spring *c'* will throw up the lever X, and the pawls W, U, will be thrown out of gear with the ratchet T, by the pins *b', d'*, and the bed Q will fall. The box Y, is then refilled with fresh sheets and the implement is again ready for operation. The slide X, is depressed so that its shoulder *f'*, will catch under the lever or bar *e'*, by means of a lever *b^x*. There is a pin *a^s* in the side of the bed Q, just below the hook *g*. This pin, when the bed is depressed, strikes the lower end of lever or bar *e'*, and throws it into the shoulder *f'*, on the slide X, when said slide is depressed. The lever *b^x*, has a slot *b^s*, made in it opposite the upright *t*, and a pin *c^s*, attached to the upright *t*, works in the slot to depress the bed. There is also a pin *d^s*, under the lever *b^x*, said pin being attached to the sliding bar X. This pin causes the bar X, to be brought down as the lever *b^x* is depressed, see Fig. 4.

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

The stocks *m, m*, with points *n, n* attached, said stocks being placed in a reciprocating frame, operating as shown and described, for the purpose set forth.

DAVID BABSON.

Witnesses:

JOHN B. MINER,
JOHN W. MORILL.