A. H. Rowand
Paper Feeding Mach.

No. 13183. Patented Jul. 3. 1855.

Fig. 1

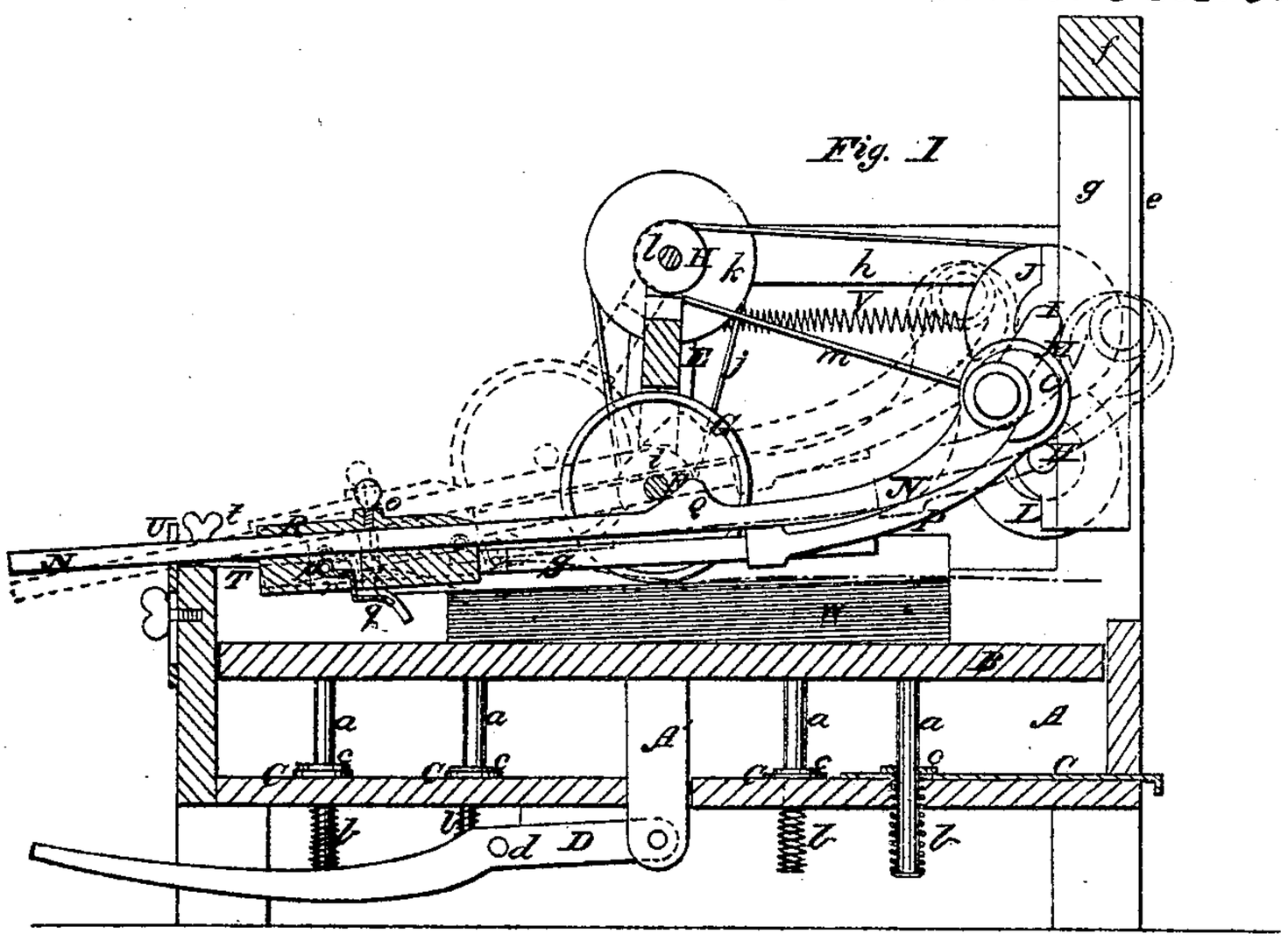


Fig. 2.

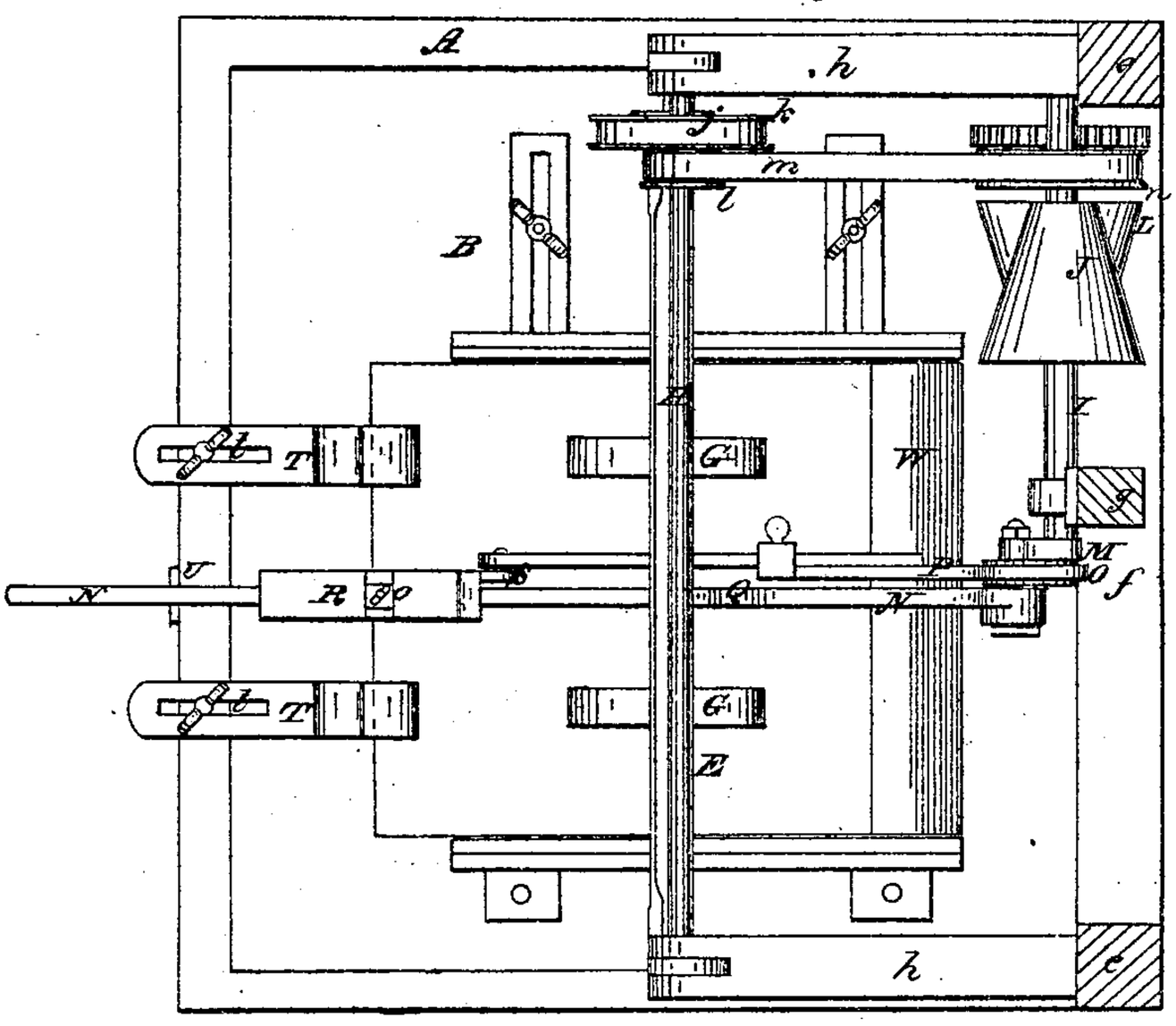
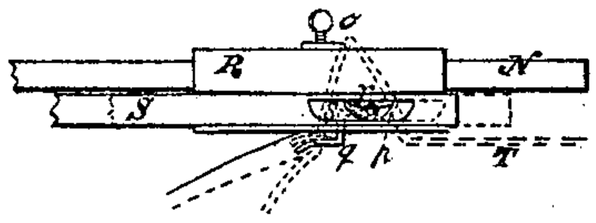


Fig. 3.



UNITED STATES PATENT OFFICE.

A. H. ROWAND, OF ALLEGHENY, PENNSYLVANIA.

MACHINE FOR FEEDING SHEETS OF PAPER TO PRINTING-PRESSES.

Specification of Letters Patent No. 13,183, dated July 3, 1855.

To all whom it may concern:

Be it known that I, A. H. ROWAND, of Allegheny city, in the county of Allegheny and State of Pennsylvania, have invented a new and Improved Machine for Feeding Sheets of Paper to Printing-Presses; 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, the plane of section being through the center. Fig. 2, is a plan or top view of ditto. Fig. 3, is a detached side view of the clamp which grasps the detached sheet of paper and moves it forward from the pile of sheets.

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

This invention relates to a new and improved machine for feeding sheets of paper to printing presses, and consists in the employment of a swinging frame provided with rollers, and a vibrating arm and clamp arranged and operating as will be presently shown and described.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A, represents a rectangular box of suitable dimensions in which a bed B, is fitted, said bed having vertical rods (*a*) attached to its under surface, on which rods spiral springs (*b*) are fitted. The spiral springs are attached at their upper ends to buttons (*c*) on the rods (*a*) and these buttons are held or sustained at proper points by slides C, see Fig. 1. To the under side of the bed B, there is also attached a rod A′, which passes through the bottom of the box and has a lever D, attached to its lower end, said lever having its fulcrum at (*d*) see Fig. 1. The rods (*a*) and springs (*b*) also pass through the bottom of the box, the slides C, resting on the bottom of the box.

To the front side of the box A, there are attached two uprights (*e*) (*e*) one at each corner or side of the box, and the upper ends of these uprights are connected by a cross piece (*f*) which has a pendent (*g*) attached to its center. To each upright (*e*) there is attached a horizontal bar (*h*) the bars being attached to the inner sides of the uprights. To the ends of these arms there is attached a swinging frame E, having a shaft F, at its lower end, which shaft extends entirely across the bed B. On the shaft F, there are placed two rollers G, G, and at one end there is a pulley (*i*) around which a belt (*j*) passes, said belt also passing around a pulley (*k*) on a shaft H, at the upper part of the frame E. There is also a pulley (*l*) on the shaft H, adjoining the pulley (*k*) and around this pulley (*l*) a belt (*m*) passes, said belt also passing around a pulley (*n*) on a shaft I, which has a cone J, upon it. Directly underneath the shaft I, there is a shaft K, which is the driving shaft. The shaft K, has also a cone L, upon it, and by means of the cones J, L, the proper speed is given the machine, a belt or band of course passes around the cones.

To one end of the shaft I, there is a crank M, to which an arm N, is connected. And there is also placed on the crank an eccentric O, to which a bar P, is connected. The arm N, has a projection or prominence Q, on its upper edge and a small bar R, is fitted on the arm near its outer end and secured thereto by a set screw (*o*). Transversely in the bar R, there is placed a small pin or shaft (*p*) which has a lip (*q*) attached to it, said lip extending below the under surface of the bar R, and at one end of the pin or shaft (*p*) there is attached a small segment (*r*) see Fig. 3. This segment (*r*) is fitted in a slot (*s*) the ends of which are curved. The slot (*s*) is made in a bar S, which is connected to the bar P, the bar S, slides in a groove at the side of the bar R. To the back part of the box A, there are attached two guides T, T, which are rendered adjustable by set screws (*t*). The outer end of the arm N, works in a guide U, attached to the back part of the box A.

V, V, are spiral springs which are attached to the swinging frame E, and to the uprights (*e*) (*e*).

The sheets of paper represented by W, to be fed to the press are placed in a pile upon the bed B, and the springs (*b*) force or press the paper up against the rollers G, G, on the shaft F, of the swinging frame E. Motion is then given the driving shaft K, in any proper manner. The rollers G, G, first move the uppermost sheet of paper backward against the guides T, T, as shown in Fig. 2, and by a red line in Fig. 1, and the projection or prominence Q, on the arm N, then strikes against the shaft F, on the swinging frame E, and raises it, and conse-

quently the rollers G, G, are freed from the uppermost sheet of paper, and arm P, is also moved back and the lip (q) is depressed or forced downward in consequence of the bar S, being operated by the eccentric O, the slot (s) moving the segment (r) at the proper time. The arm N, and bar P, is now moved forward and the lip (q) catches the back edge of the uppermost sheet which was previously moved backward, and the lip closes and grasps the edge of the sheet which is shoved forward as shown in blue Fig. 1, and caught by nipper or other devices by which it is passed to the form on the printing press. The swinging frame is brought back to its original position by the springs V, upon the return motion of the arm N.

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

The employment of the swinging frame E, provided with the rollers G, G, in combination with the vibrating arm N, and clamp or lip (q) operated by the slotted bar S, the above parts being arranged as herein shown and operating in the manner and for the purpose as set forth.

A. H. ROWAND.

Witnesses:

E. JOHNSON,

AND. MCMASTER.