

G. H. & S. Ferguson
Feeding Paper to Printing Presses.

Nº 24861.

Patented Jul 26. 1859.

Fig. 1.

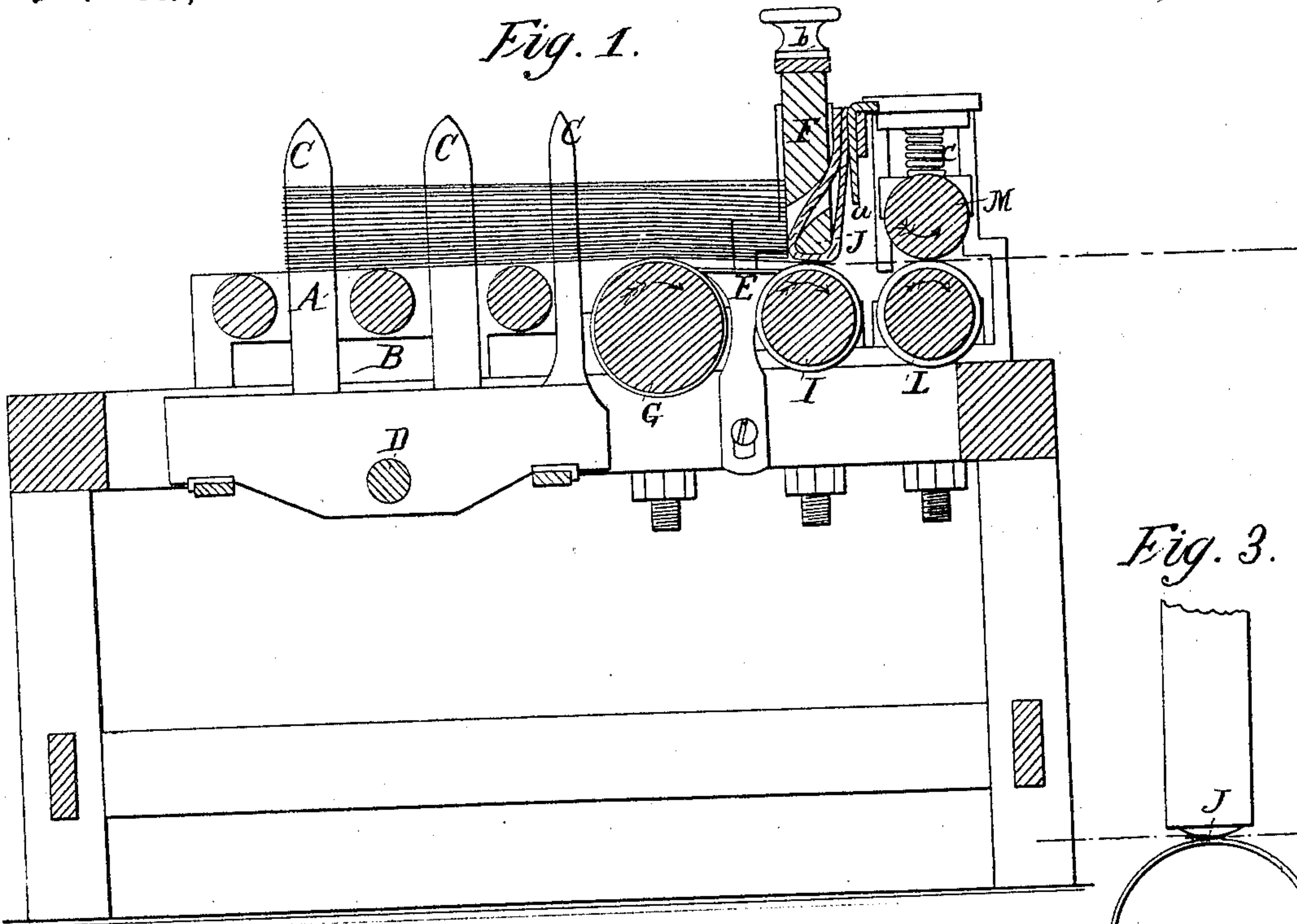


Fig. 3.

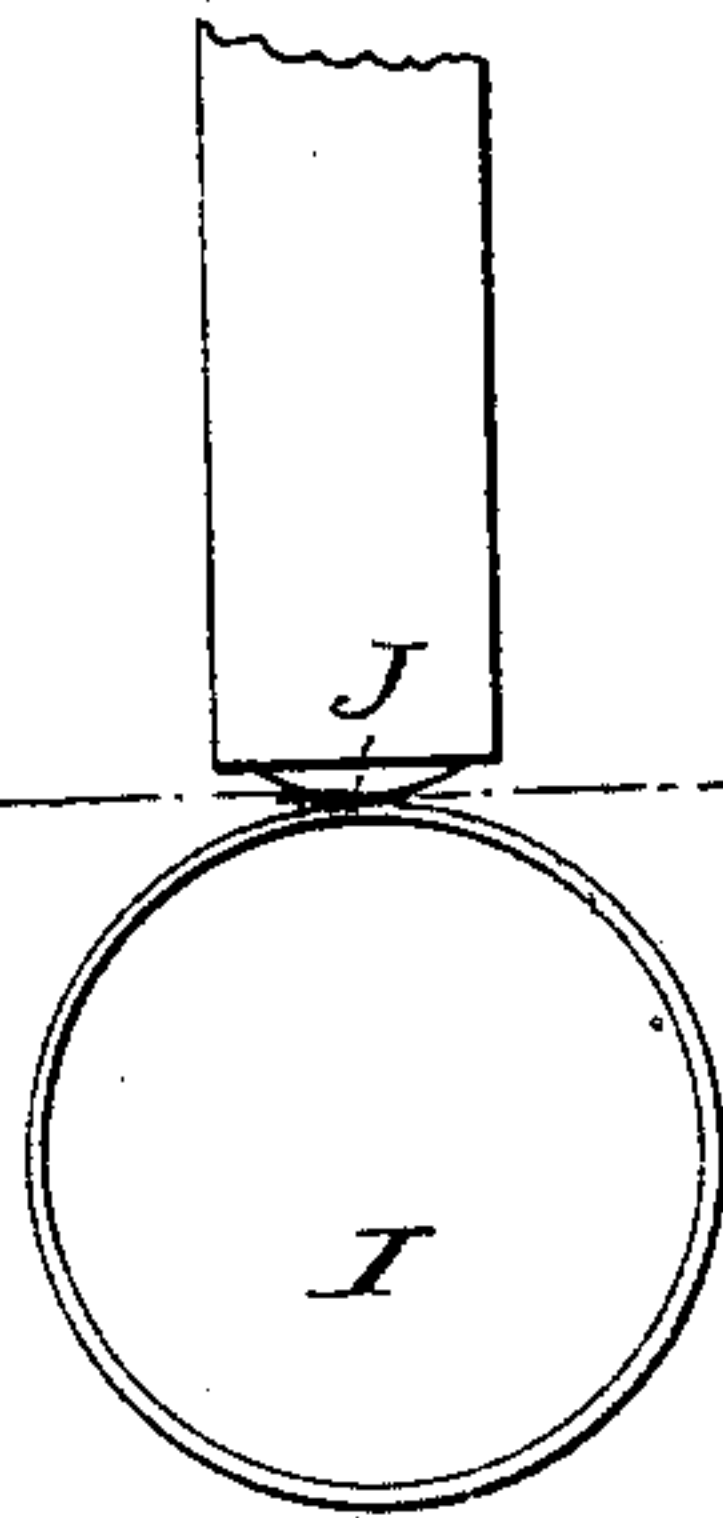
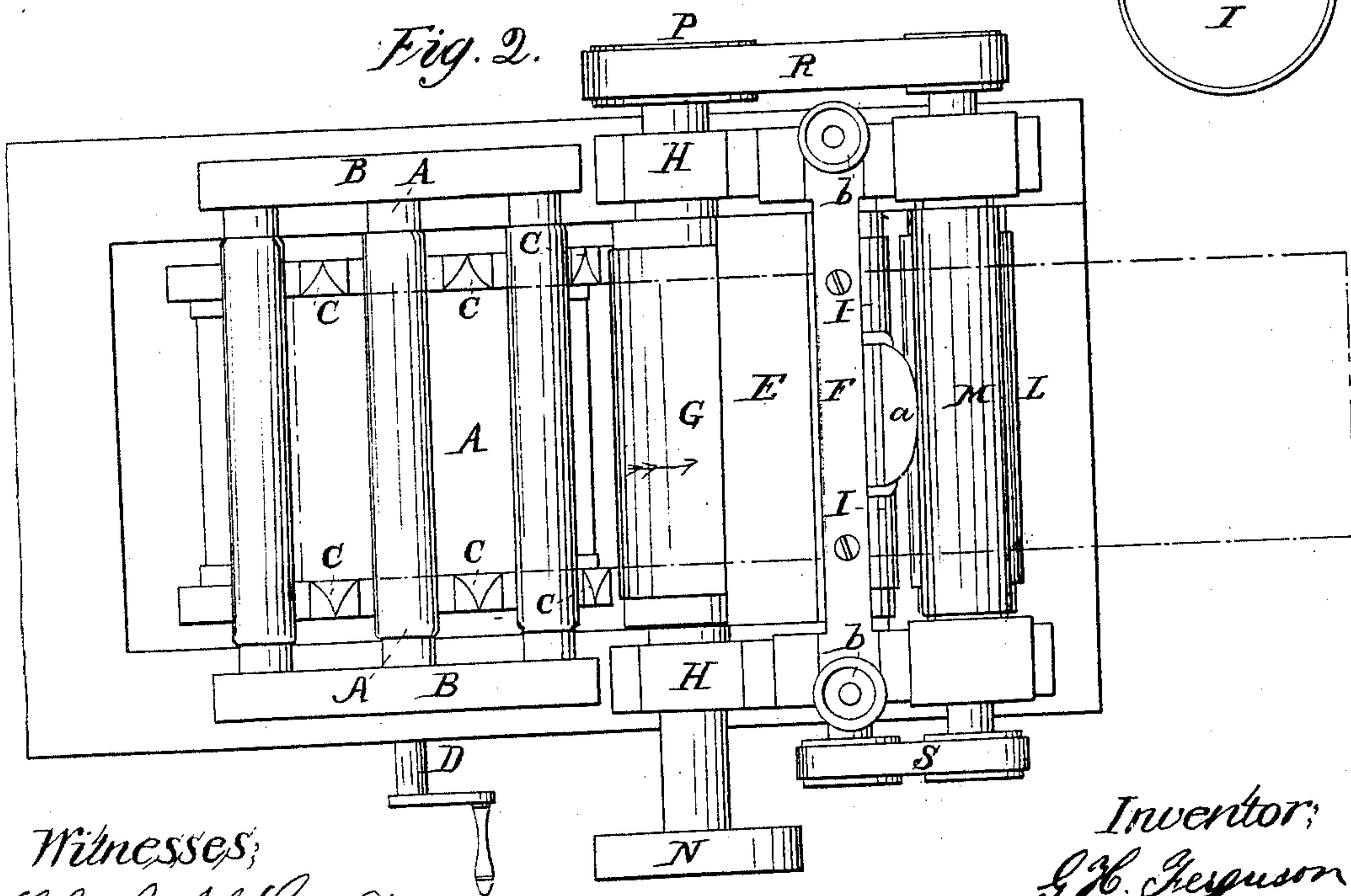


Fig. 2.



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MACHINE FOR FEEDING PAPER TO PRINTING-PRESSES.

Specification forming part of Letters Patent No. 24,861, dated July 26, 1859; Reissued September 25, 1860, No. 1046.

To all whom it may concern:

Be it known that we, GEORGE H. FERGUSON and SYLVESTER FERGUSON, both of Malden Bridge, in the county of Columbia and State of New York, have invented a new and useful Improvement in Machines for Feeding Paper to Printing-Presses, Ruling-Machines, &c.; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, of which—

Figure 1, represents a longitudinal vertical section taken centrally through the machine, showing the several parts in their respective positions for feeding the paper. Fig. 2, shows a plan view of the machine. Fig. 3, is a detached and enlarged, view of the feed wheel and friction rubber showing the operation of feeding the paper between the same.

Our invention consists in an arrangement and combination of a series of feed and friction rollers with an adjustable friction stop, or rubber whereby the sheets of paper of any size, texture or thickness, either wet, or dry, will be regularly and speedily fed from the pile singly, or one at a time as hereinafter described and represented.

The blank paper which is to be passed through the machine in single sheets is placed upon the table A, as represented by red lines Fig. 1, which consists of a number of horizontal rollers having their bearings in two longitudinal bars B, B, so that the sheets of paper will pass over them with very little friction. Between these rollers are vertical fingers C, made laterally adjustable by a right and left screw D, which serve to keep the paper in position upon the table so that it will be presented properly to the feeders. The pile of paper is laid upon this table with the front edges resting upon a metal guard or guide plate E, and fitting closely against the adjustable frame F.

In front of the table above described is a feed roller G, having its bearings in adjustable journal boxes H, H, and rotated in the direction of the arrow (of Fig. 1). The surface of this feed roller is covered with india-rubber or other suitable material for creating sufficient friction upon the under sheet of the pile of paper to carry it for-

ward between a smaller roller I, covered in like manner, and a friction stop J, which may also be made of india-rubber. This friction stop is fixed to a vertically adjustable frame F; the arrangement shown by the drawings consists of a sheet of rubber passed from one side of the frame F, through a mortise, and under the frame, and held in its position by a key or wedge *a*. This rubber or friction stop J, is adjusted by set screws *b, b*, to the periphery of the roller I, so that it will slightly bear upon its surface and create sufficient friction to prevent two sheets of paper passing through, but at the same time allow the edges of two sheets to pass between the rubber and roller.

The lowest sheet from the pile of paper having been fed up on the roller I, by feed roller G, seen in Fig. 3, it momentarily stops, on account of the fixed rubber J, until the next lowest sheet is fed up between the rubber and lowermost sheet. This upper sheet then passes between the lower sheet and rubber J, and forms a smooth surface for the lower sheet to pass under as the friction roller I, impels it forward. On the instant this sheet leaves the roller I, the next succeeding sheet is acted upon by the roller and impelled forward, while the one above it is checked by the rubber I, and destroys the friction of its surface upon the lower sheet; and soon the same operation is repeated until the pile of paper has been fed through the rollers a single sheet at a time.

As each sheet of paper passes between the feed rollers above described they are caught between rollers L, M; and delivered from the machine. The lower roller L, is a covered or friction roller, while the upper one M, has a smooth surface and is held down upon the surface of roller L, by springs *c*, pressing upon its journal boxes.

This machine may be driven at any ordinary speed, depending upon the nature of the machine to which the papers are fed, or for the purposes to which it is applied. The motive power is communicated to a pulley N, on the shaft of feed roller G, and from this transmitted to rollers L, L, by a large pulley P, on the opposite end over which passes a belt R, which is carried to a pulley on the shaft of roller L; this roller gives motion to roller I, by a belt S. Thus the rollers all have a uniform speed.

The several parts above described are supported upon a suitable frame, and are adjustable to the different sizes and thicknesses of paper to be fed through the machine and to suit the various circumstances attending the feeding of the paper.

What we claim as our invention and desire to secure by Letters Patent, is,

Feeding sheets of paper singly to a printing press, paper ruling, or other machine requiring the feed of a single sheet at a time, by means of feed roller G, feed roller I, and adjustable friction stop J, or the equivalents

thereof, when arranged essentially as hereinabove specified.

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