2 Sheets—Sheet 1.

J. B. BROWN.

PRINTING PRESS.

No. 103,422 Patented May 24, 1870.

Fig. 1

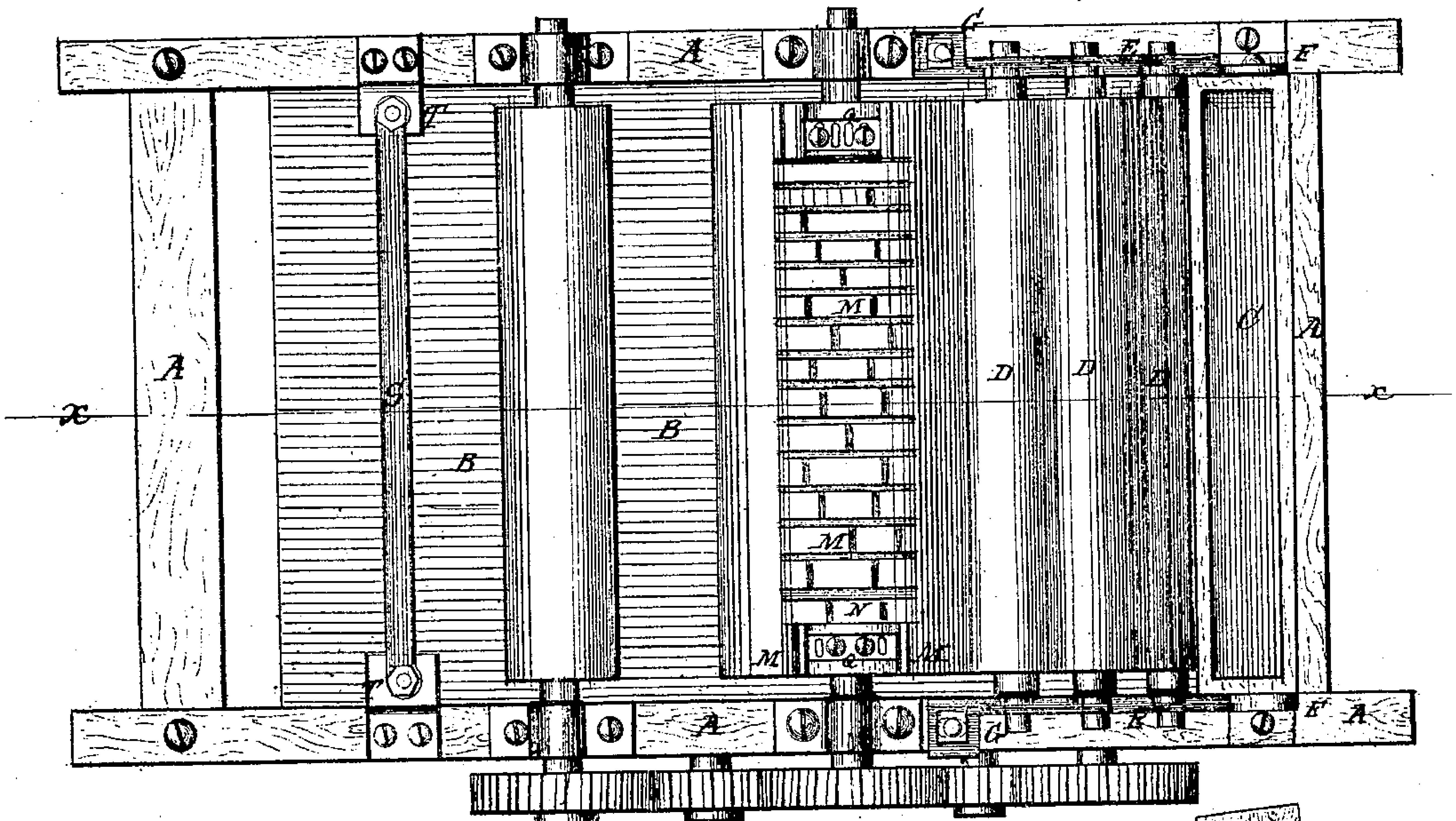
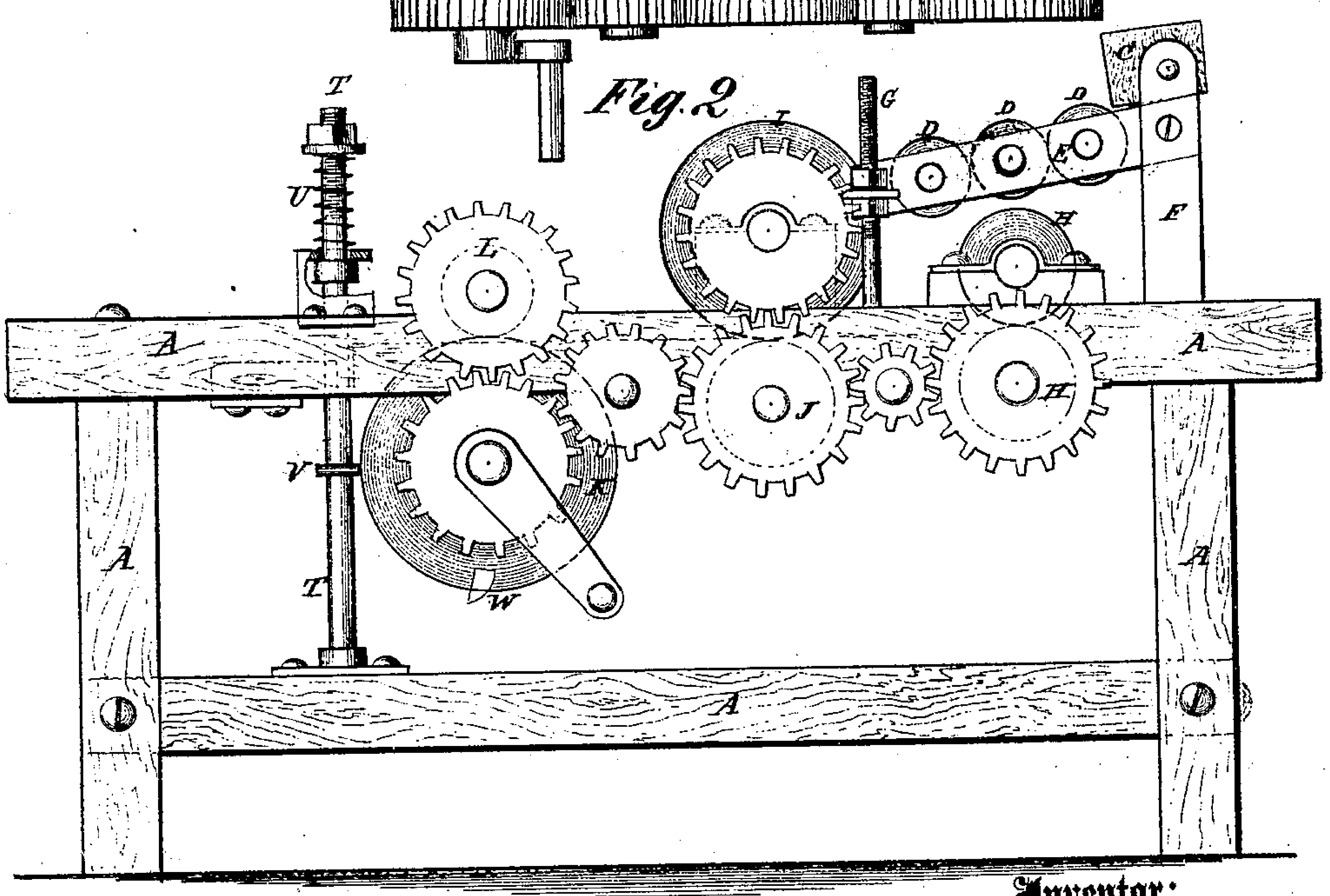


Fig. 2



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2 Sheets—Sheet 2.

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PRINTING PRESS.

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Fig. 3

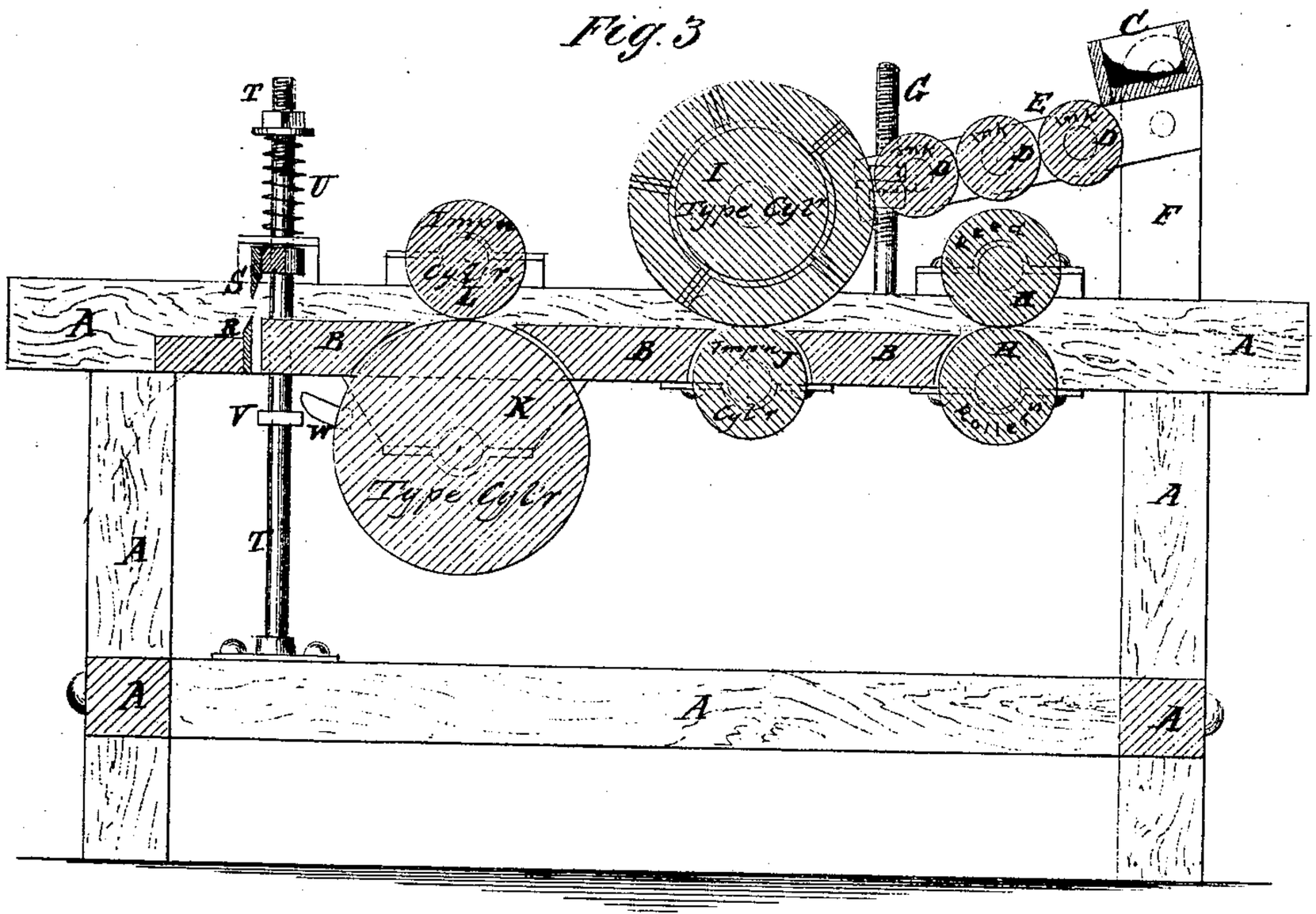

Fig. 4.

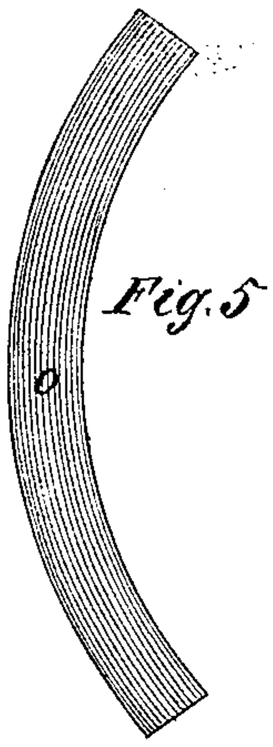

Fig. 5

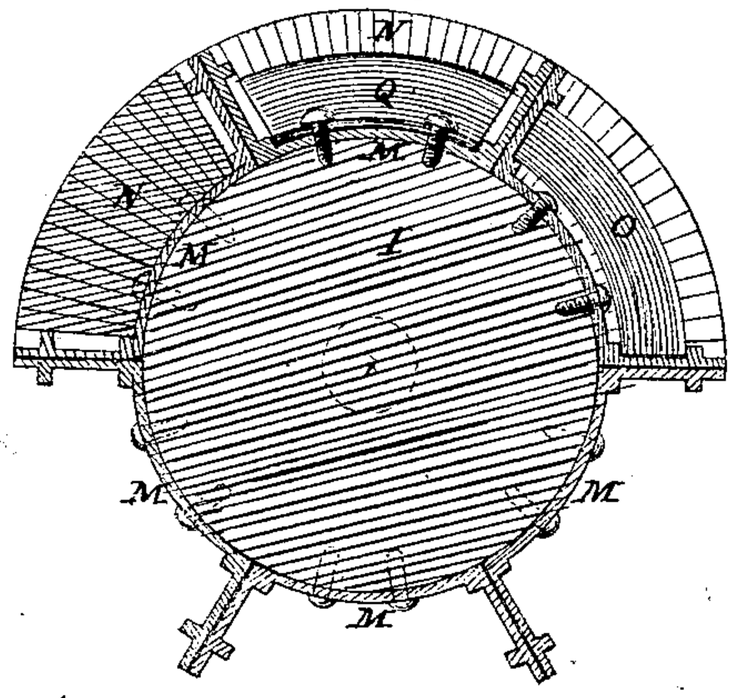

Fig. 6

Fig. 7

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JESSE BAILEY BROWN, OF NASHVILLE, TENNESSEE.

Letters Patent No. 103,422, *dated May* 24, 1870.

IMPROVEMENT IN PRINTING-PRESSES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JESSE BAILEY BROWN, of Nashville, in the county of Davidson and State of Tennessee, have invented a new and useful Improvement in Rotary Printing-Press; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings forming part of this specification, in which—

Figure 1, Sheet I, is a top view of my improved press.

Figure 2, Sheet I, is a side view of the same.

Figure 3, Sheet II, is a vertical longitudinal section of the same, taken through the line *x x*, fig. 1.

Figure 4, Sheet II, is a detail vertical cross-section of one of the type-rollers.

Figure 5, Sheet II, is a detail view of one of the key-plates.

Figure 6, Sheet II, is a detail view of one of the leads.

Figure 7, Sheet II, is a side and edge view of one of the types.

My invention relates to improvements in rotary printing-presses, and consists in the combination and arrangement of certain parts as hereinafter specified.

A is the frame of the press, to which the horizontal table B is attached, along which the paper moves while passing through the press.

C is the ink-fount, from which the ink is conveyed to the type-rollers D, the journals of which revolve in bearings in the bars E, the rear ends of which are pivoted to the standards F, the lower ends of which are attached to the frame A, and by which the ink-fount C is also supported.

The forward ends of the bars E move up and down upon the screws G, so that, by turning a nut upon the said screws, the inking-rollers may be raised and lowered at will, to regulate the application of the ink to the type-cylinder.

H are the feed-rollers, which are pivoted to the rear part of the machine, the one directly above the other, in such a position that the line of contact between their faces may be in the horizontal plane of the upper surface of the table B.

I is the rear type-cylinder, which is pivoted to bearings attached to the frame A, directly above the rear printing-roller J, so that their line of contact may be in the horizontal plane of the upper surface of the table B.

K is the forward type-cylinder, and L is the forward printing-roller, which are pivoted to the frame A, the one above the other, in such positions that their line of contact may be in the horizontal plane of the upper surface of the table B. The type-cylinders I and K are placed the one above and the other below the table B, so that one side of the paper may be printed by the one cylinder and the other side by the other cylinder, as the paper is passing through the press.

M are the frames in which the types of each column are secured. The frames M are made of the width of the column. The bottom of the frames M, upon which the feet of the type rest, is made convex upon its upper side and concave upon its under side, to fit upon the surface of the type-cylinders, and their sides are made upon the radial lines of said cylinders, as shown in figs. 3 and 4.

N are the types, the sides of which are inclined, as shown in figs. 4 and 7, so that the sides of the type, when set, may be upon the radial lines of the type-cylinders. By this construction the types will exactly fill up the space between the sides of the frames M.

The types N are grooved upon one of their edges, as shown in fig. 7, to receive the key-plates O, which are made upon the arc of a circle, and the ends of which enter grooves in the sides of the frame M. By this construction the lower shoulders of the types N bear against the lower or concave edges of the keys O, which thus secure them in place, and hold them down upon the bottom of the frames M.

P are the leads, the ends of which have tenons formed upon them to fit into the grooves of the sides of the frames M, as shown in fig. 6. The middle part of some of the leads P may project upward, to serve as dashes. By cutting off the upper shoulders of the types N the leads P may serve as keys for securing the types in place.

The types are locked in the frames M by the curved angular plates Q, which are secured to the frames M, as shown in figs. 1 and 4, the types having been first pressed together by screw-clamps or other convenient means.

The types are set and secured in the frames M in the compositors' room, and the plates and types are secured to the cylinders I K by screws, as shown in figs. 1 and 4. When stereotype-plates are used they may be secured directly to the surface of the type-cylinders.

As the printed paper passes out of the machine, it is cut off into sheets by the knives R S. The knife R is stationary, being attached to the bed or table B.

The ends of the upper knife S, or of the bar to which said knife is attached, are attached to the rods T, which pass down through guides attached to the frame A, and are held up to keep the knife S out of the way of the paper by the coiled springs U, placed upon the upper parts of the said rods. The upper ends of the coiled springs U rest against nuts placed upon the upper ends of the said rods, and their lower ends rest upon the frame A or upon supports attached to said frame.

Upon the middle part of the rods T are formed

collars V, against which strike projections W, formed upon or attached to the ends of the forward type-cylinder, so that at each revolution of the cylinder the upper or movable knife may be drawn down to cut off the sheets.

The roll of paper which is to be printed is pivoted to the rear part of the machine, or to other suitable supports placed at the rear of said machine.

The press may be driven by any convenient power, and the cylinders and rollers are connected by a train of gearing so arranged that all the moving surfaces that come in contact with the paper passing through the machine may move with exactly the same speed, so that there may be no strain upon the paper.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

1. The combination of the keys Q with the frames M, when the latter are grooved on each side and otherwise constructed as shown and described.

2. The combination of the stationary knife R, movable knife S, sliding rods T, coiled springs U, collars V, and projections W, with the horizontal table B, type-cylinders K I, printing-rollers L J, feed-rollers H, and frame A, substantially as herein shown and described and for the purpose set forth.

3. The combination of the curved angular lock-plates Q with the curved frames M, radial and shouldered types N, and keys O, and leads P, either or both, substantially as herein shown and described and for the purpose set forth.

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Witnesses:

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