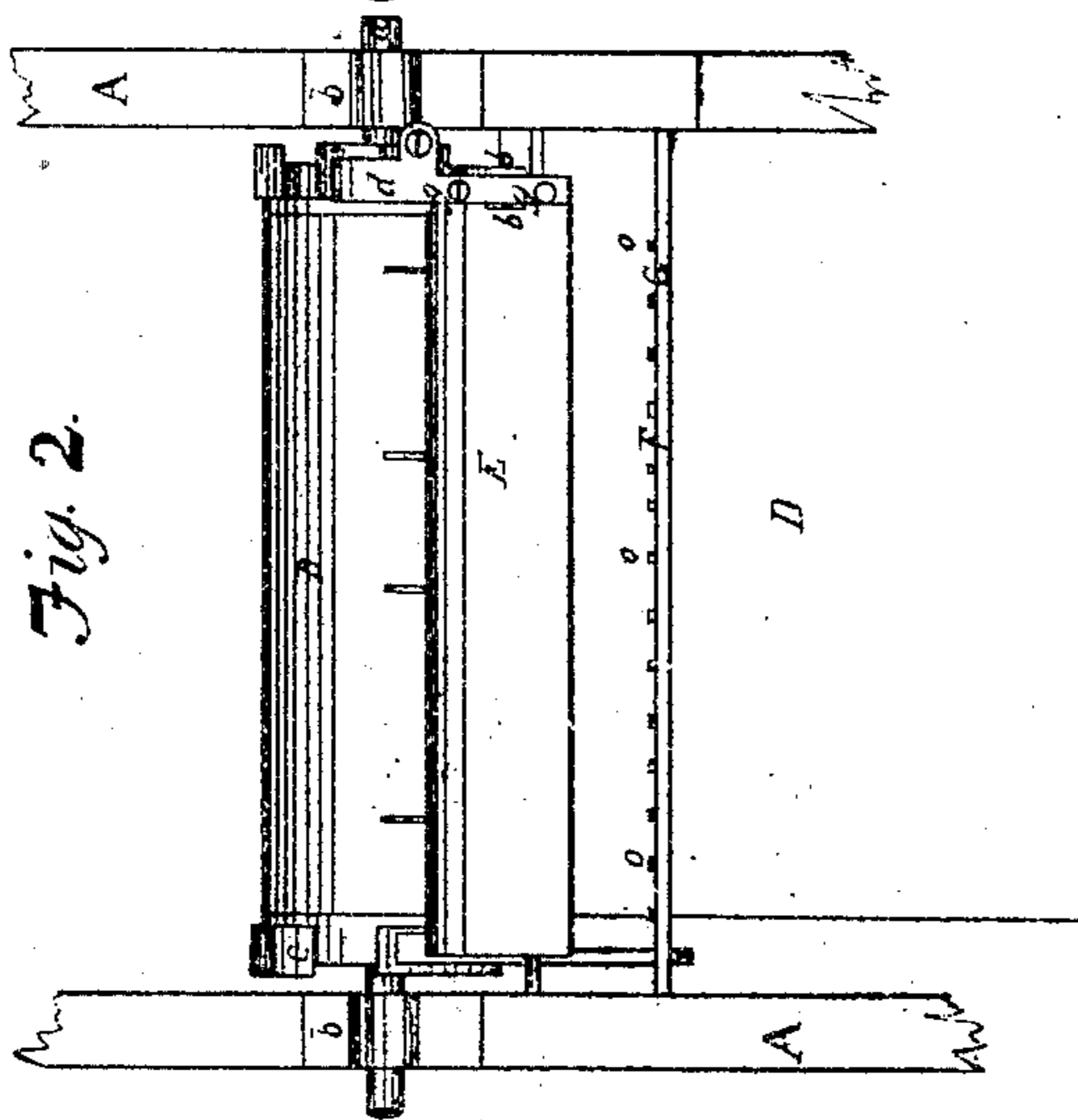
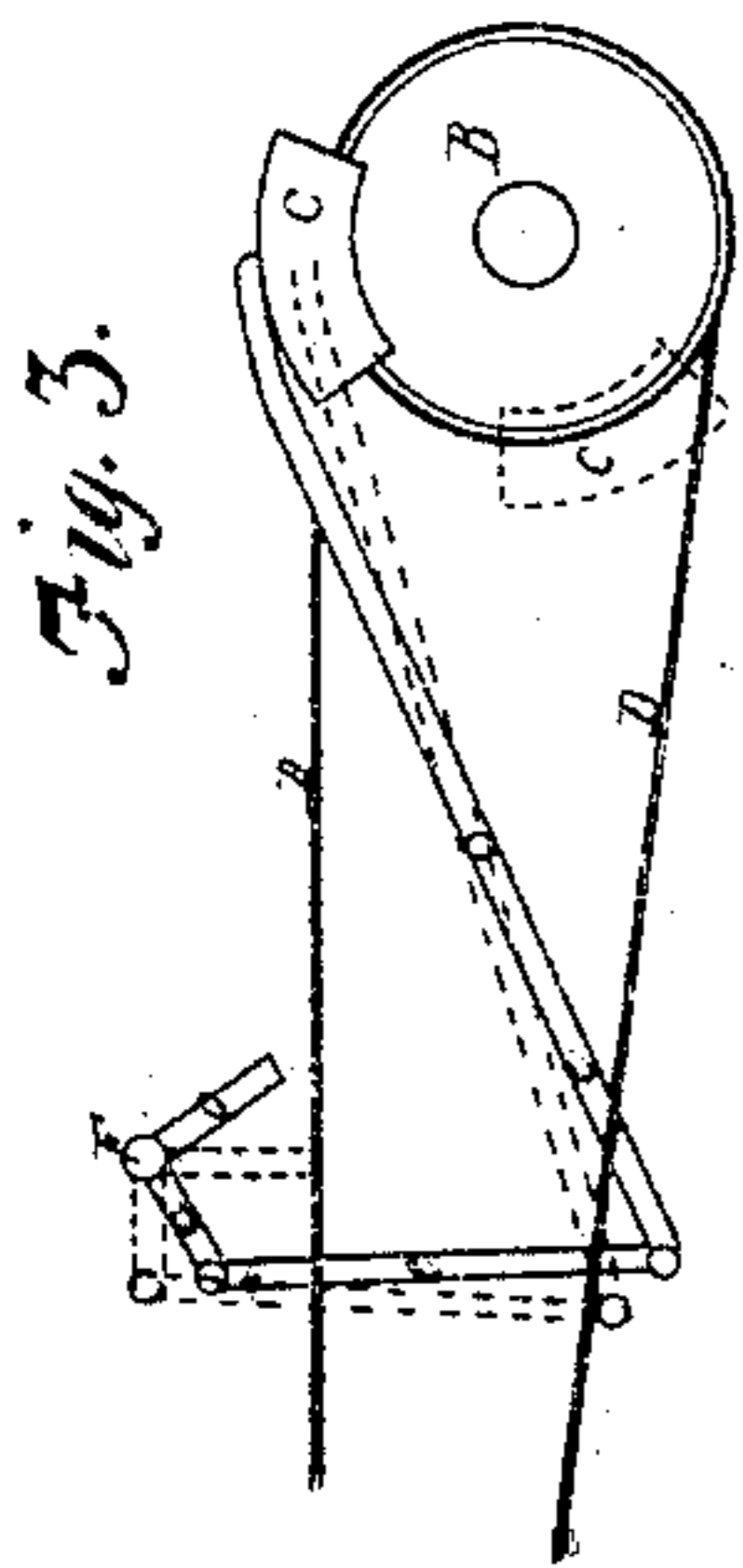
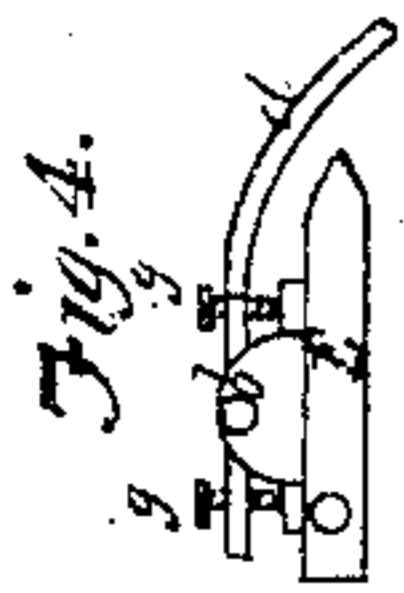
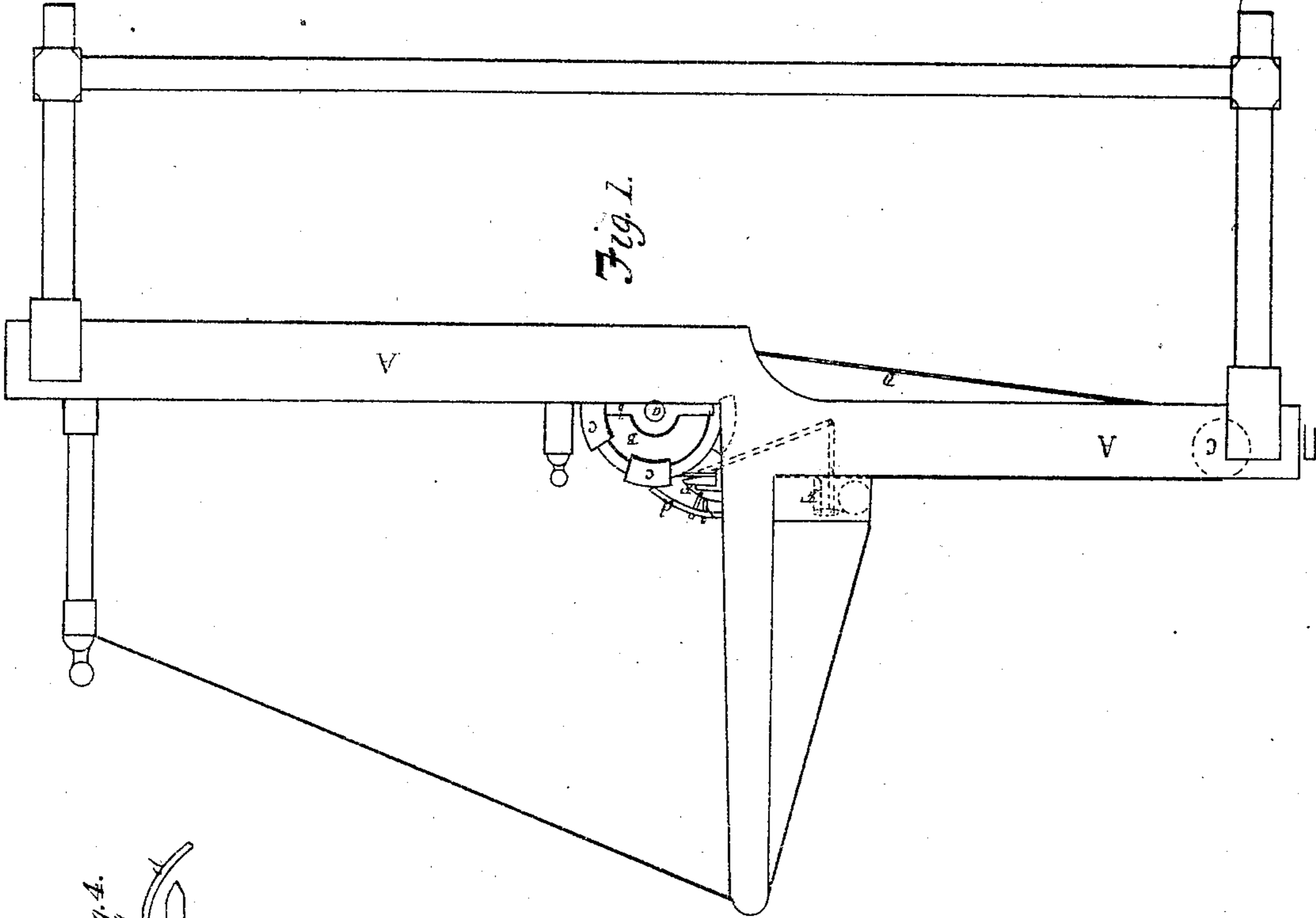


J. F. Tapley.
Ruling-Machine.

N^o 73669

Patented Jan. 21, 1868.



Witnesses:
J. R. Smith
Reynolds. Farber

Inventor:
J. F. Taffey
by his attys
Gardner & Hodge

United States Patent Office.

J. F. TAPLEY, OF SPRINGFIELD, MASSACHUSETTS.

Letters Patent No. 73,669, dated January 21, 1868.

IMPROVEMENT IN RULING-MACHINES.

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, J. F. TAPLEY, of Springfield, Hampden county, Commonwealth of Massachusetts, have invented a new and useful Improved Ruling-Machine; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon. In these drawings—

Figure 1 is a side view of a ruling-machine with my improvements.

Figure 2 a plan view of these improvements, and

Figures 3 and 4 detail views of parts of the same.

My invention consists in arranging adjustable cam-stops upon the drum-cylinder of a ruling-machine, in connection with the rulers and a gate which regulates the feeding of the stock to the rulers, so that both are operated by the turning of the drum, and work automatically. These cam-stops are themselves arranged so that they are adjustable on the circumference of the ends of the cylinder, thereby giving any desired result in the feeding and ruling of the stock.

In construction, I form my device of a frame, A A, having near its centre a drum, B, on a shaft, *a*, which works in bearings *b b'* upon the sides of the frame. Over this drum-cylinder B, and also over a smaller one, C, shown by dotted lines, near one end of the frame A A, is an endless belt, D, which feeds the stock to the rulers. The rulers or pens are placed upon a pen-bar, E, hinged or pivoted upon the frame, so that the pens fall over the top part of the drum B, over which the paper being ruled passes, carried on by the endless belt or apron D. On each end of the drum B are the cams *c c c*, adjustable, as before stated, upon the drum, and operating, when the latter is turned, the pen-bar E having the pens and the gate or stop F. The pen-bar E has attached to it, at one end, a lever, *d*, which the cams on this end of the cylinder raise when they pass under it, lifting up the pen-bar E with the pens. The cams on the other end of the cylinder B operate a set of levers, *e e e*, attached to and working the gate or stop F, the construction of which I will now describe. It consists of a rod, G, working in bearings at its ends, the bearings being set in the sides of the frame, so that the rod G crosses the endless belt or apron D at the proper distances from the pens. At equal distances apart are set into the rod G a number of pins, *o o o*, which hang downward and rest upon or nearly touch the surface of the belt or apron D, when they are not lifted by the cams upon the cylinder B, operating the levers *e e e* attached to the gate, and preventing, in this case, the stock from passing this point.

The operation of the cams and levers *e e e* attached to the gate is shown in fig. 3, where the red lines show the gate as shut, and the black lines represent it as being lifted by the action of the cams. The small lever *d*, upon the pen-bar E, may be set at different angles to the apron, thereby regulating the rise and fall of the pens upon the latter when the lever is raised or allowed to fall according to the action of the cams upon the cylinder. The arrangement I use for so setting it is shown in fig. 4, which I will now explain. It consists in pivoting the lever *d* between two ears *f f* upon the pen-bar E, and placing two small set-screws, *g g*, one on each side of the pivot. Now by tightening one of these screws, which pass through the lever and rest upon a plate upon the pen-bar, and loosening the other, the lever *d* is adjusted to the proper position relative to the apron.

The operation of this device is as follows: The stock is placed upon the belt or apron D, which is carried around by the revolution of the drum-cylinder B. A single sheet is carried at a time under the rulers and is marked; the cams on the drum lifting the pens, as may be desired, according to the manner in which the cams are set, and in a like manner the cams on the other end operating the levers *e e e*, causing the gate or stop F to drop and rise, as may be desired. The same operation is repeated until all the stock be ruled.

In this manner I obtain a simple and effective automatic movement for the purposes required, and one that can be arranged in an endless variety of ways, to suit the different styles of ruling and various sizes of sheets, and by placing the cams directly upon the drum obtain a compactness which is very desirable.

Now, having described my invention, what I claim, and desire to secure by Letters Patent, is—

The combination, with the drum B, of two sets of adjustable cams *c c*, &c., one set at one end of the drum operating the pen-board or bar, and the other set the stop-gate, substantially as shown.

J. F. TAPLEY.

Witnesses:

EDWARD H. HYDE,

J. B. GARDINER,