

(No Model.)

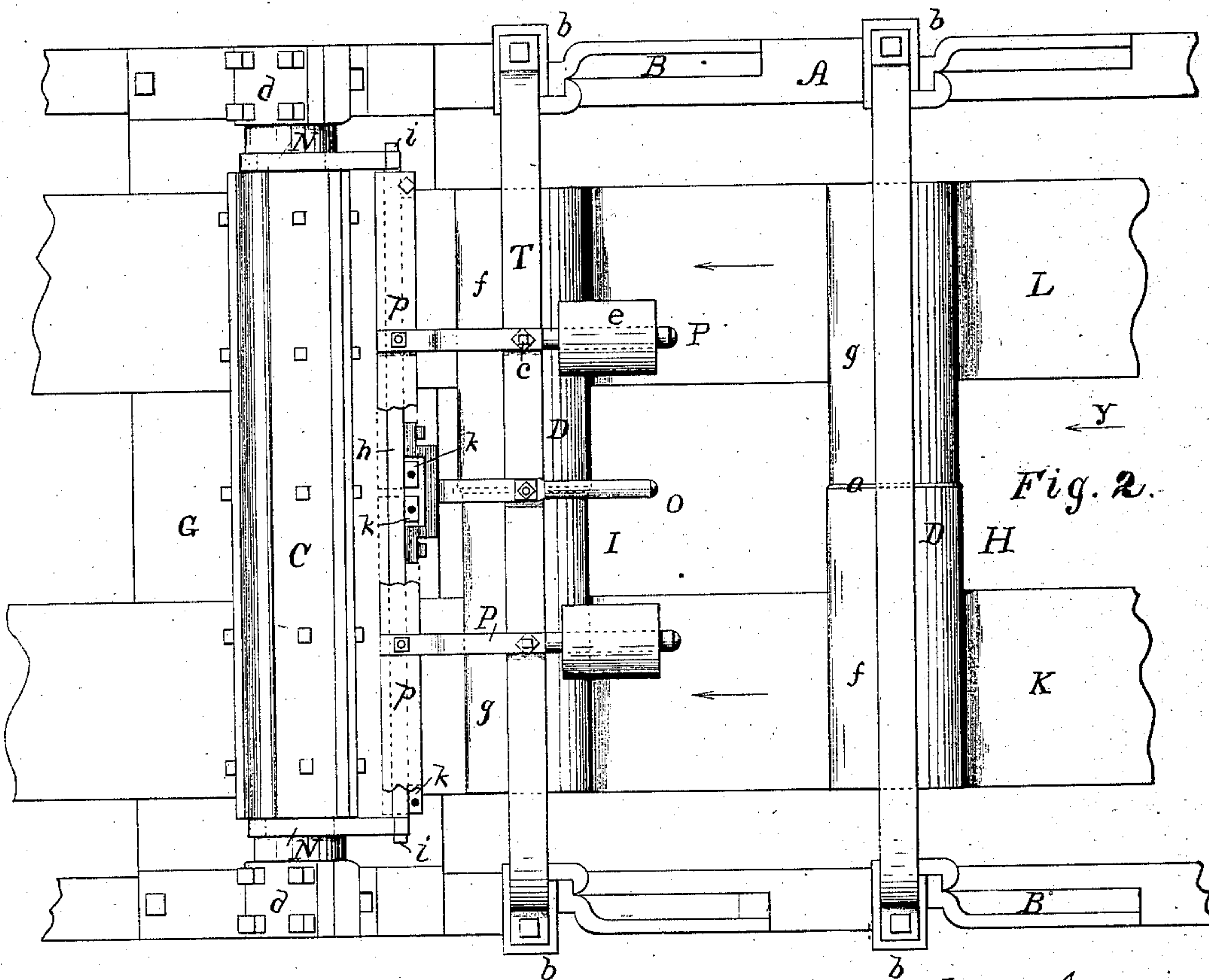
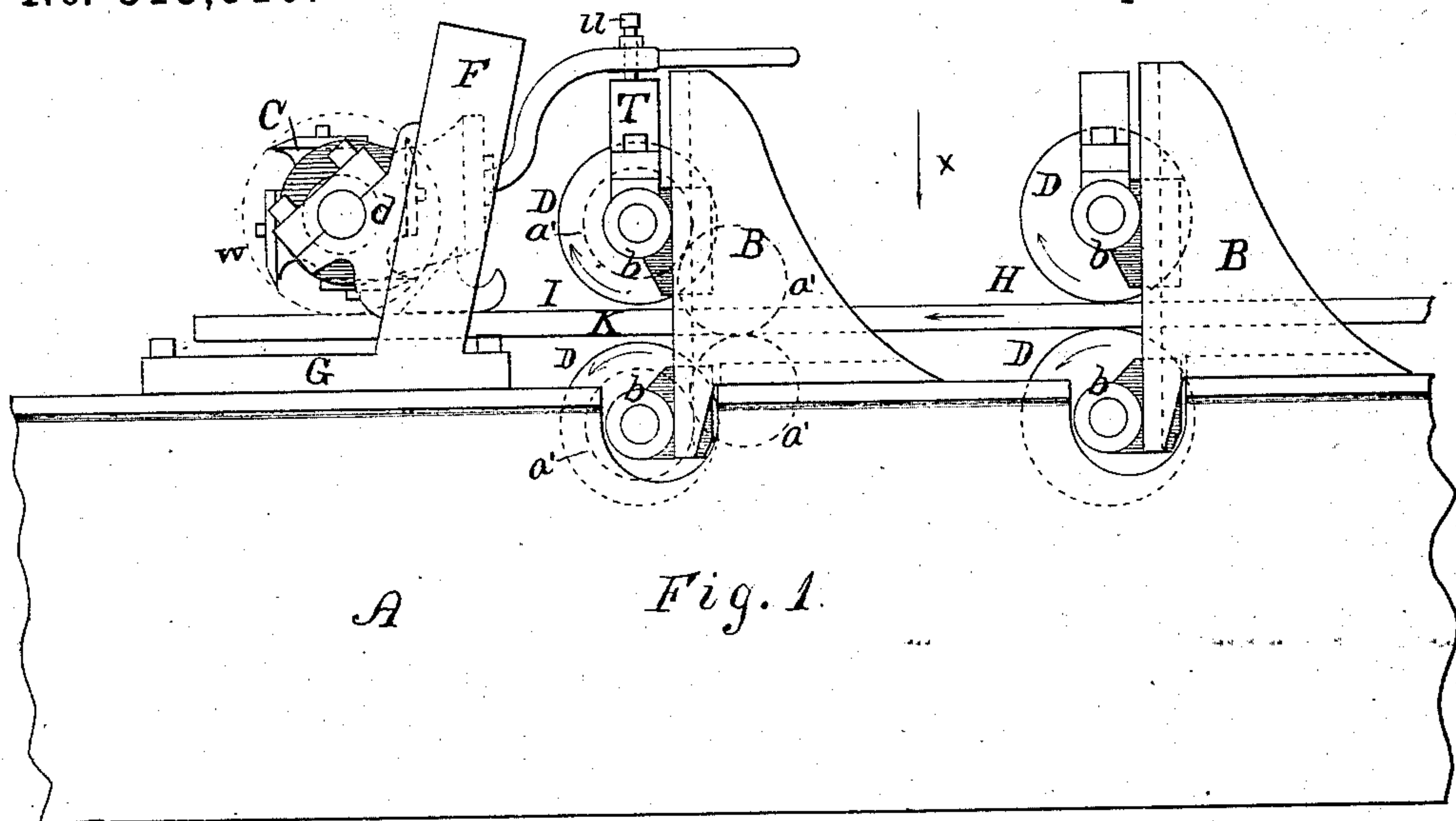
2 Sheets—Sheet 1.

J. KANE.

PRESSURE AND FEED MECHANISM FOR WOOD PLANERS.

No. 315,510.

Patented Apr. 14, 1885.



Attest:

McE. Furlong  
L. S. Whitmore.

Inventor:

John Kane.

By S. B. Whitmore,  
Atty.

(No Model.)

2 Sheets—Sheet 2.

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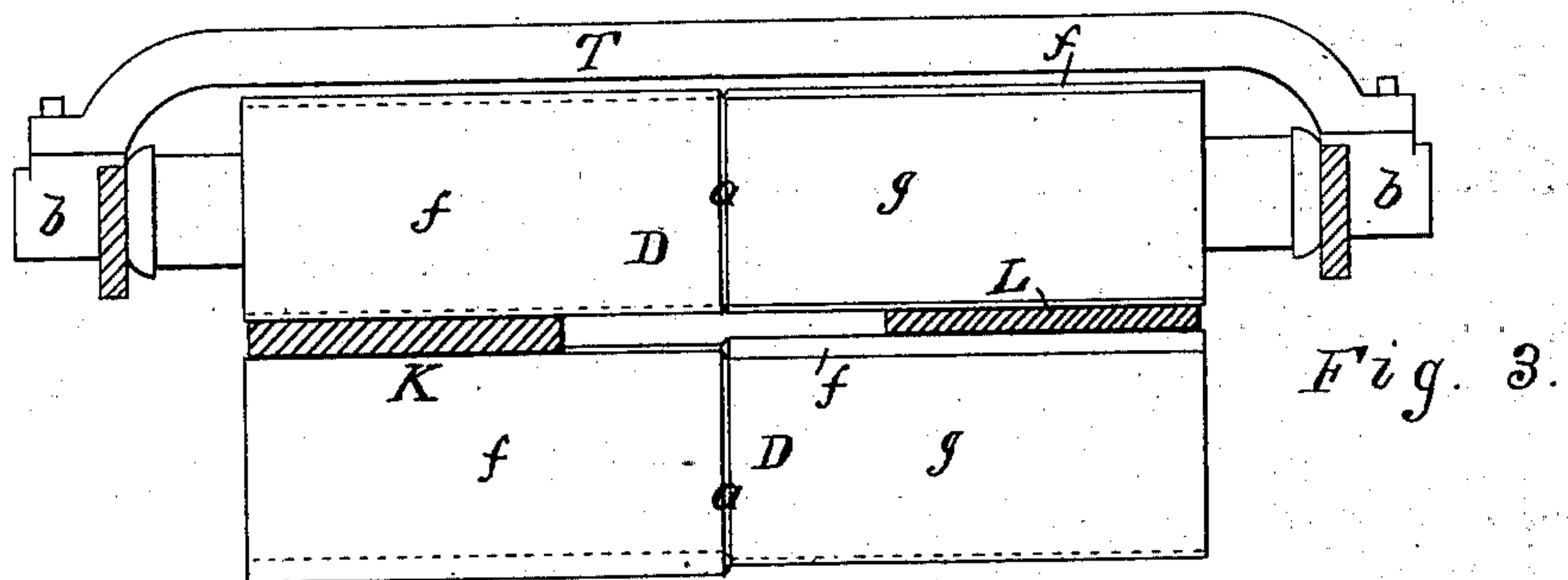
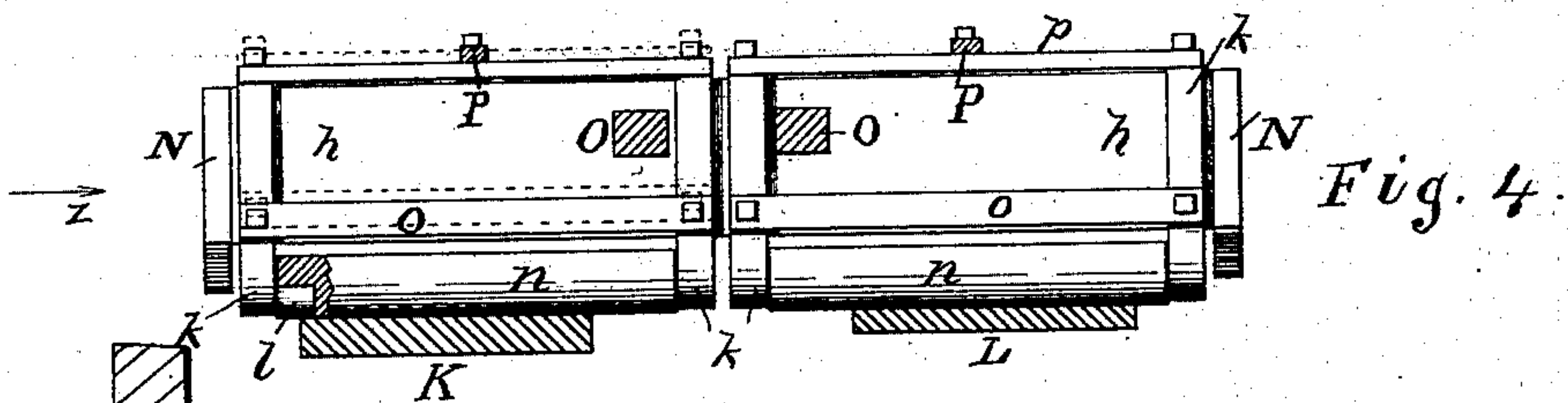


Fig. 3.



*Fig. 4.*

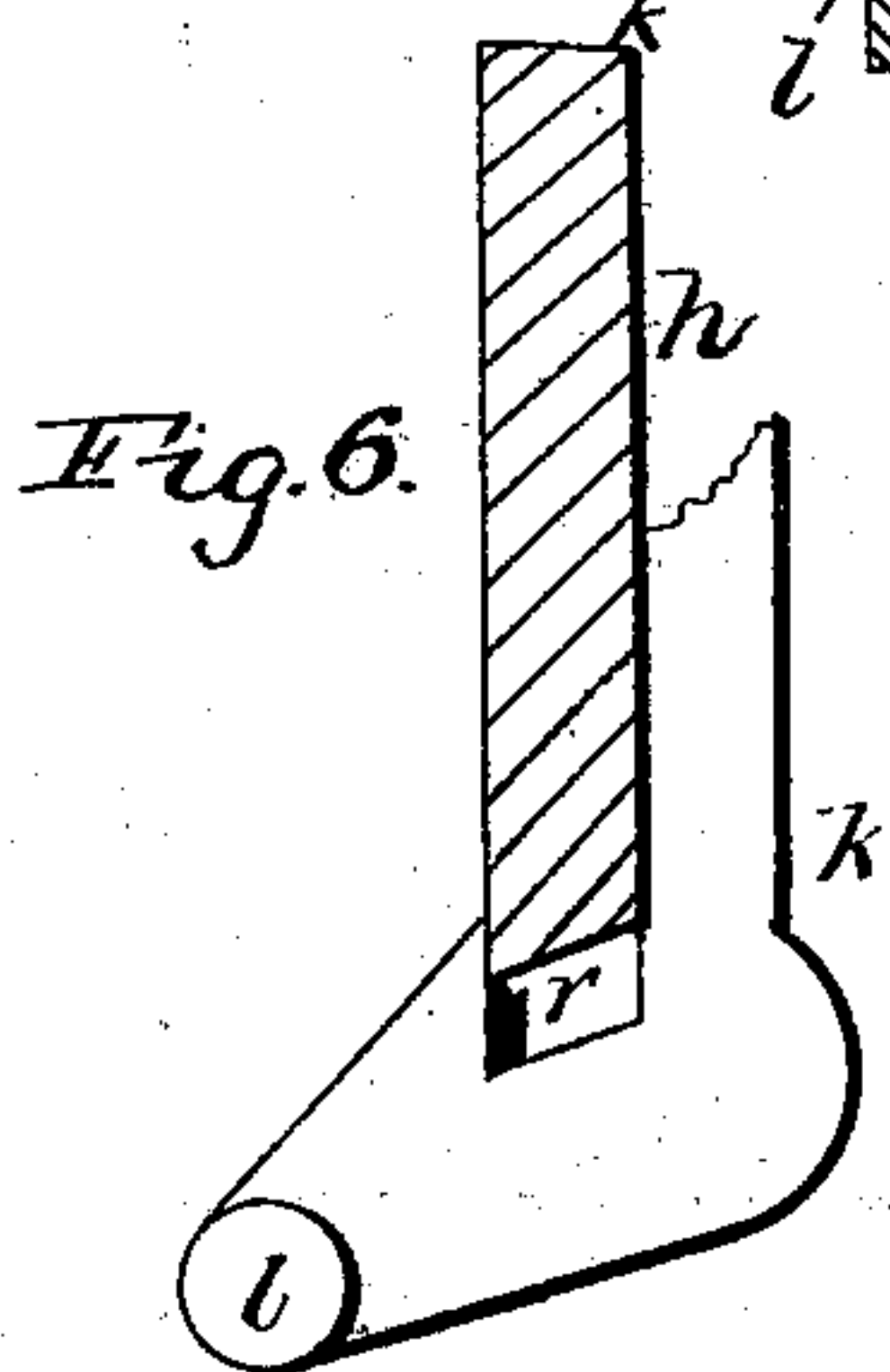
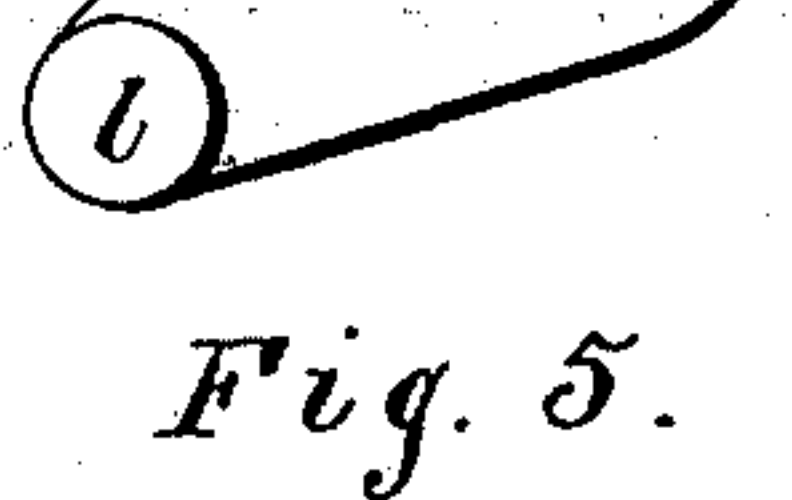
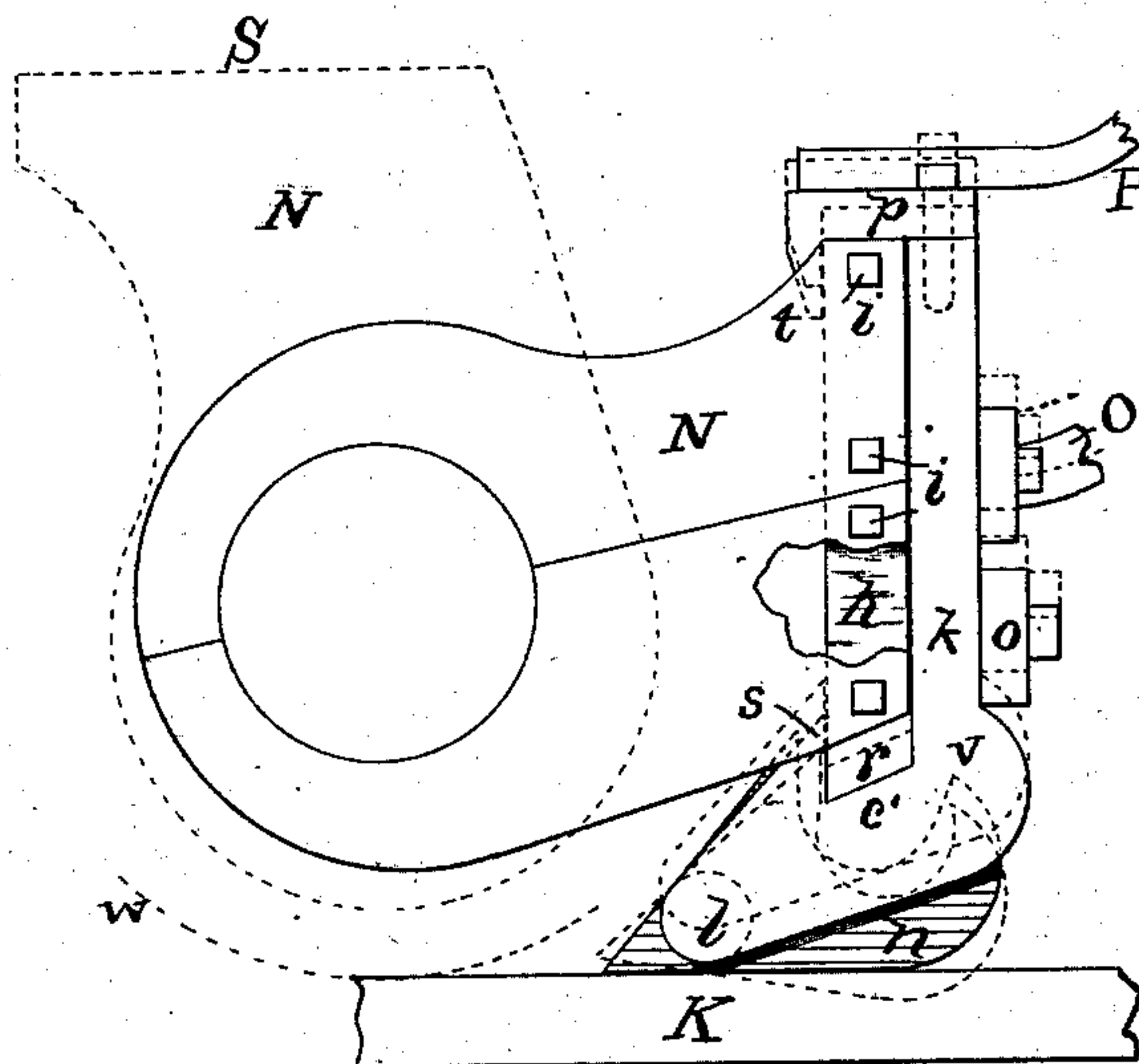


Fig. 6.



*Fig. 5.*



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# UNITED STATES PATENT OFFICE.

JOHN KANE, OF ROCHESTER, NEW YORK, ASSIGNOR TO JAMES S. GRAHAM  
& CO., OF SAME PLACE.

## PRESSURE AND FEED MECHANISM FOR WOOD-PLANERS.

SPECIFICATION forming part of Letters Patent No. 315,510, dated April 14, 1885.

Application filed September 16, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN KANE, of Rochester, in the county of Monroe and State of New York, have invented a new and useful  
5 Improvement in Pressure-Bars and Feed-Rollers for Wood-Planers, which improvement is fully set forth in the following specification, and shown in the accompanying drawings.

The object of my invention is to produce a  
10 wood-planer provided with pairs or sets of feed-rollers for the boards to be planed turned with positive motion substantially in the usual manner, each roller of a pair being of larger  
15 larger and lesser parts of the rollers being truly cylindrical with a jog or offset midway the length of the roller between the two unequal parts thereof. Usually in these improved  
20 between which the boards pass before reaching the knives, and in mounting the rollers their large ends are placed adjacent or opposite each other in each pair while the large ends of the rollers in either pair are opposite  
25 the small ends of those in the other pair; also, to provide an improved pressure-bar broken or divided at the middle into independent sections, each being adjustable or movable independently of the other, the object of the  
30 rollers thus formed and independently movable section of the pressure-bar being to admit of two boards of unequal thickness being surfaced simultaneously in the planer.

Referring to the drawings, Figure 1 is a  
35 side elevation of a part of the bed of a wood-planer, showing the feed-rollers, cylinder, pressure-bar, and other parts in place, some more common parts of the planer not essential to the description being omitted; Fig. 2,  
40 a plan of the same views, as indicated by arrow *x* in Fig. 1, drawn to show more clearly the form of the rollers and the operation of the divided pressure-bar, parts being broken away to uncover parts beneath, and other  
45 parts common to similar machines not essential to the description omitted; Fig. 3, Sheet 2, an elevation of the pairs of feed-rollers viewed as indicated by arrow *y* in Fig. 2,  
50 showing the manner in which said rollers operate upon boards of different thicknesses, parts

being sectioned and other parts omitted; Fig. 4, an elevation of the divided pressure-bar viewed from the same direction in which Fig. 3 is seen, a part at one end of one of the pressure-shoes being longitudinally sectioned to  
55 show the manner in which the latter is hung, one side or section of the pressure-bar being shown in dotted lines as being raised; and Fig. 5, drawn to a larger scale, an end elevation of the pressure-bar, showing more clearly  
60 its form and adjustments viewed as indicated by arrow *z* in Fig. 4, parts being broken away and other parts shown in full-line and dotted-line positions. Fig. 6 is a detached section of  
65 one of the plates *h* and a portion of one of the suspending-bars, showing the relation of said bar to said plate.

Referring to the parts, A is the frame of the machine; B, the posts for supporting the feed-rollers, and C the cutter head or cylinder, all  
70 substantially of common form. The feed-rollers D are supported at the ends in vertically-adjustable journal-boxes *b*, substantially in the usual manner, and the cylinder is held  
75 in bearings *d*, secured to standards F of the ordinary bed-plate, G.

Each feed-roller is made a continuous single piece of larger diameter at one end than at the other, it being composed of two cylindrical  
80 parts, *f* and *g*, with a jog at *a* midway the length of the roller.

In making up the pairs—as, for instance, the one at H—the larger ends *ff* of the two rollers are placed next to or opposite each other, and the rollers of the pair at I are similarly ar-  
85 ranged, with the large ends of the rollers, however, on the other side of the machine or opposite the small ends of the rollers in the pair H. From this construction of the rollers it will be understood that when a board, K, is put  
90 through on the left side of the machine the rollers of the pair H will seize it and feed it along, while the rollers of the pair I will not touch it on account of its passing between the reduced parts thereof, and when a board, L, is  
95 put through at the other side of the machine it will pass untouched between the rollers of the pair H, but will be urged along by the rollers of the pair I. Now, it will be seen that  
100 by vertically adjusting the different pairs of rollers



rollers to boards of different thicknesses two boards may be put through the machine simultaneously and properly surfaced by the knives, each set of rollers feeding its particular board against the cutters, as indicated in the figures. The rollers of each set are placed one over the other in the usual manner, one arranged to press upon the upper surface of the board and the other to press on the under surface of the same, as shown, and are operated and adjusted in the manner usual to wood-planers.

I employ a pressure-bar for the boards having the pressure-shoe divided midway of its length into sections, each capable of having an independent vertical movement, each, also, having a vertical pivotal movement upon its centers or bearings, which admits of each shoe being adjusted to press independently upon the board passing beneath it. In the construction shown two hangers, *N*, are fitted to turn upon the respective inner projecting ends of the journal-boxes *d*, holding the cylinder, each of which hangers is secured by bolts *i* to a plate, *h*, reaching across the machine from one hanger to the other. Upon this plate are fitted four similar suspending-bars or suspenders, *k*, for the shoes crossing said plate vertically, one near each end thereof and the other two near the middle of the plate. Each of said suspenders extends some distance below the lower edge of the plate with its lower free end turned toward the cylinder and under the sweep of the knives thereof, as shown in Fig. 5, the dotted curve *w* in said figure indicating the circle followed by the edge of the knives as the cylinder is turned upon its axis. Each one of the bars *k* is provided at its lower free end with a horizontally-projecting pin, *l*, and a pressure shoe or bar, *n*, reaches across between either two opposing bars *k*, the respective pins *l* entering into suitable cavities formed in the ends of the shoes, upon which bearings or pins said shoes are permitted to tilt or turn vertically, as indicated in dotted position in Fig. 5. This rocking or pivotal motion of the shoes permits them to adjust their lower flat surfaces squarely against the surface of the passing board. These suspending-bars *k* are held relatively in position by means of tie-bars *o*, rigidly secured to them at points opposite the lower edge of the plate *h*, and cap-pieces *p*, secured at their upper ends. These bars are also each provided with a notch, *r*, Fig. 5, in which to receive the lower edge of the plate *h*, a lip or ridge, *s*, of each bar extending upward on the inner side of said plate for the purpose of assisting to hold said bars in place against the plate. The cap-pieces *p* are each provided with downturned members or flanges *t*, which lap or hook over on the inner side of the plate *h*, as shown. The notches *r* are cut sufficiently deep in the bars *k* to leave a space in each bar below the lower edge of the plate *h*, by means of which the pairs of bars *k* may be each raised vertically along their respective

bearings against the plate, as indicated by dotted lines in Fig. 5. This vertical movement of the bars with their tie-bars, cap-pieces, and shoes permits the latter to readily adjust themselves to any inequalities in the lumber as it passes under them, or to different thicknesses of boards. Thus constructed and hung, the pressure-bars with their shoes serve to hold the boards snugly down at all times against the bed-plate of the planer. A handle secured at the middle of the plate *h* on the side opposite the cylinder affords a means by which the whole mechanism constituting the pressure-bar may be raised or turned up over the cylinder to a position indicated at *S* in Fig. 5, for the purpose of making repair or for other purpose. The handle is bent, as shown on Sheet I, and carried across the arched bar *T* of the set *I* of rollers, and an adjusting-screw, *u*, passing through the handle, having its point resting upon the bar *T*, serves to regulate the distance the plate *h* is lowered when brought down to engage the lumber as the same passes through the machine. Other bent arms, *P*, similar to the lever *O*, secured to the respective cap-pieces *p* of the sections of the pressure-bar also reach across over the arched bar *T*, having adjusting-screws *c c* passing through them with the points of the screws resting upon the bar *T* also. Weights *e e* are placed upon the arms *P*. The office of these weighted arms is to hold the sections of the pressure-bar firmly down upon the boards, and the adjusting-screws *c c* serve to regulate the distance the pressure-bars drop down toward the bed-plate. The shoes *n* are hollowed out at their upper sides by deep longitudinal grooves, as shown at *c'* in Fig. 5, forming two ridges or edges, *s* and *v*, the lower edge of the plate *h* dropping partially within said grooves. As the shoes turn upon their pivotal bearings, as above stated, the edges *s* and *v*, striking against the plate *h*, form stops for the shoes to prevent their being turned too far in either direction.

*a'* represents the usual gears connecting the rollers of each set, so that both rollers shall be caused to turn uniformly in opposite directions, positive motion being communicated to the rollers to turn them independently of the boards passing between them.

What I claim as my invention is—

1. A wood-planer provided with feed-rollers, each made continuous and of larger diameter at one end than at the other, said larger and lesser parts of the rollers being cylindrical, and the rollers turned or driven by substantially the usual positive-motion mechanism independently of the boards passing between them to urge the boards against the cutters, substantially as set forth.

2. A wood-planer provided with cylindrical feed-rollers made larger at one end than at the other, put together in sets or pairs in such manner that the larger ends of the two rollers in either pair shall be adjacent or vertically opposite, while the large ends of the rollers in



one pair shall be horizontally opposite the small ends of those in the other pair, said rollers being rotated by positive-motion mechanism independently of the passing boards in substantially the usual manner, substantially as and for the purpose set forth.

3. A wood-planer provided with cylindrical feed-rollers made of larger diameter at one end than at the other, substantially as shown, put together in pairs with the large ends of the rollers of each pair together or vertically opposite, the large ends of the rollers in either pair being horizontally opposite the small ends of those in the other pair, and a pressure-bar provided with a divided shoe for pressing upon the boards as they pass through the planer, each part or section of the shoe being suspended or held so as to independently adjust itself to the surface of the board beneath it, substantially as and for the purpose set forth.

4. A wood-planer provided with cylindrical feed-rollers made of larger diameter at one end than at the other, substantially as shown, put together in pairs with the large ends of the rollers together or vertically opposite, the large ends of the rollers in either pair being

horizontally opposite the small ends of those in the other pair, and a pressure-bar formed in independent parts or sections, each provided with a shoe for pressing upon the boards as the latter pass through the planer, each part or section of the pressure-bar being provided with a weighted lever, substantially as and for the purpose set forth.

5. A wood-planer provided with cylindrical feed-rollers made larger in diameter at one end than at the other, substantially as shown, put together in pairs with the large ends of the rollers in either pair adjacent or vertically opposite and horizontally opposite the small ends of those in the other pair, and a pressure-bar formed in independent parts or sections, each provided with a shoe for pressing upon the boards as the latter pass through the planer, each part or section of the pressure-bar being provided with a weighted lever and an adjusting-screw for the latter to regulate the distance the section of the pressure-bar descends, substantially as specified.

JOHN KANE.

Witnesses:

E. B. WHITMORE,  
M. E. FURLONG.