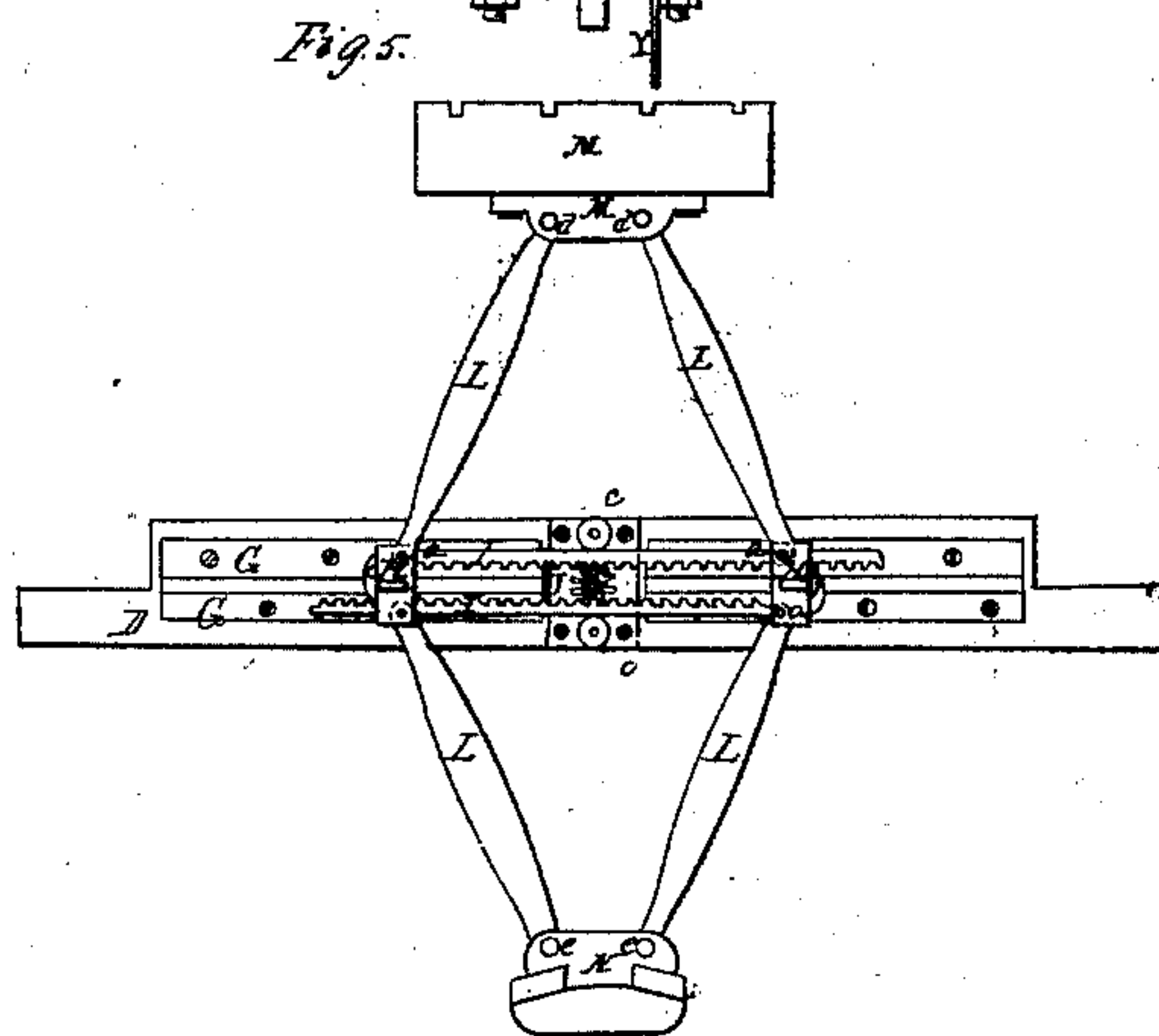
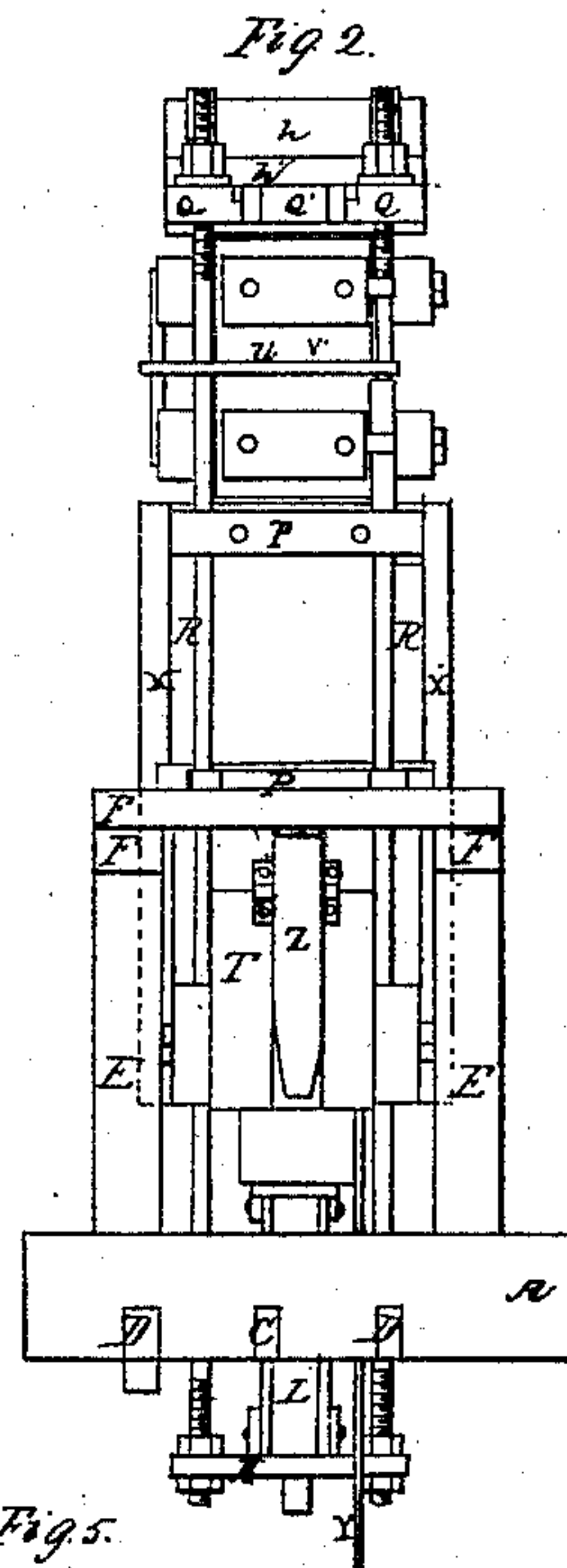
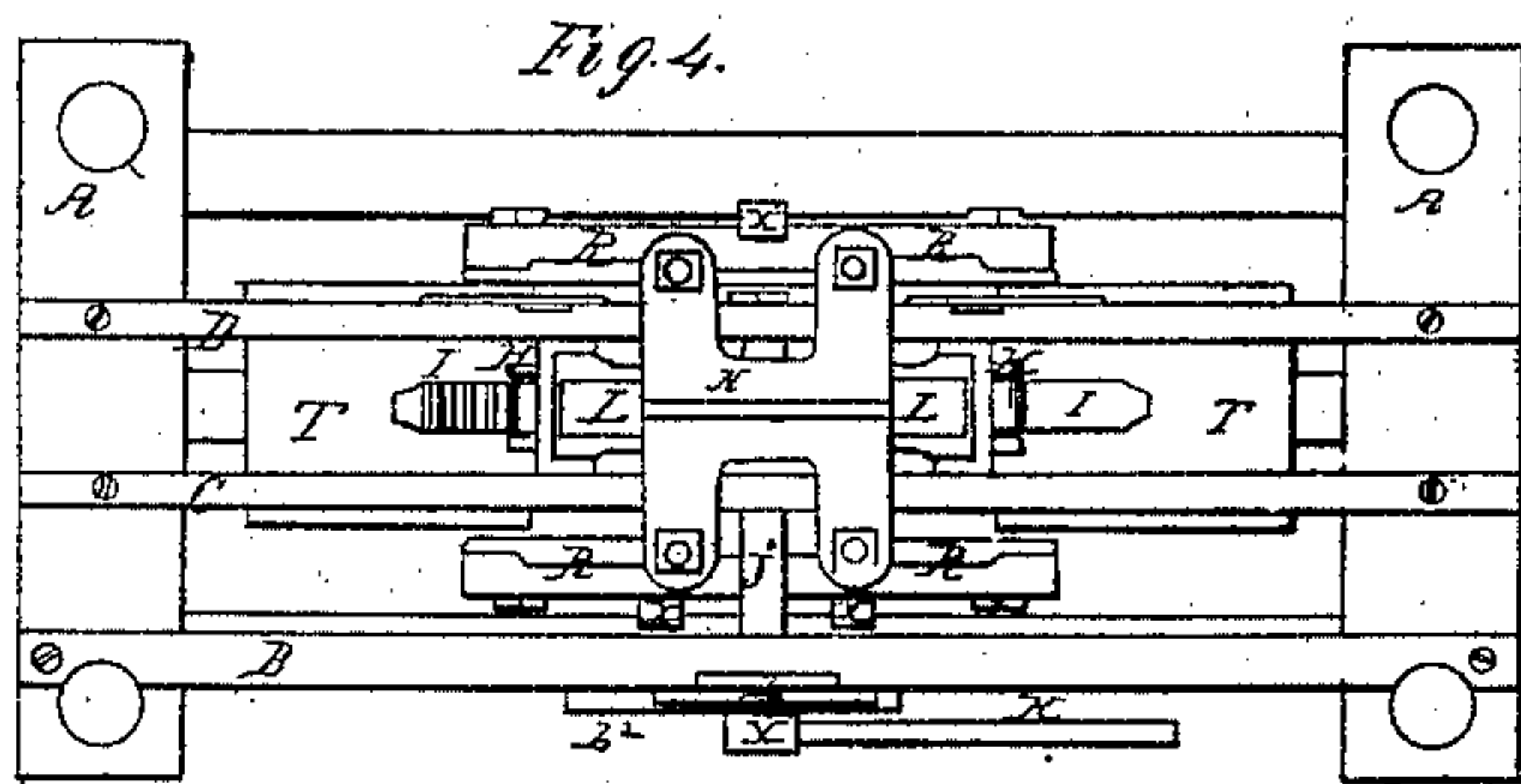
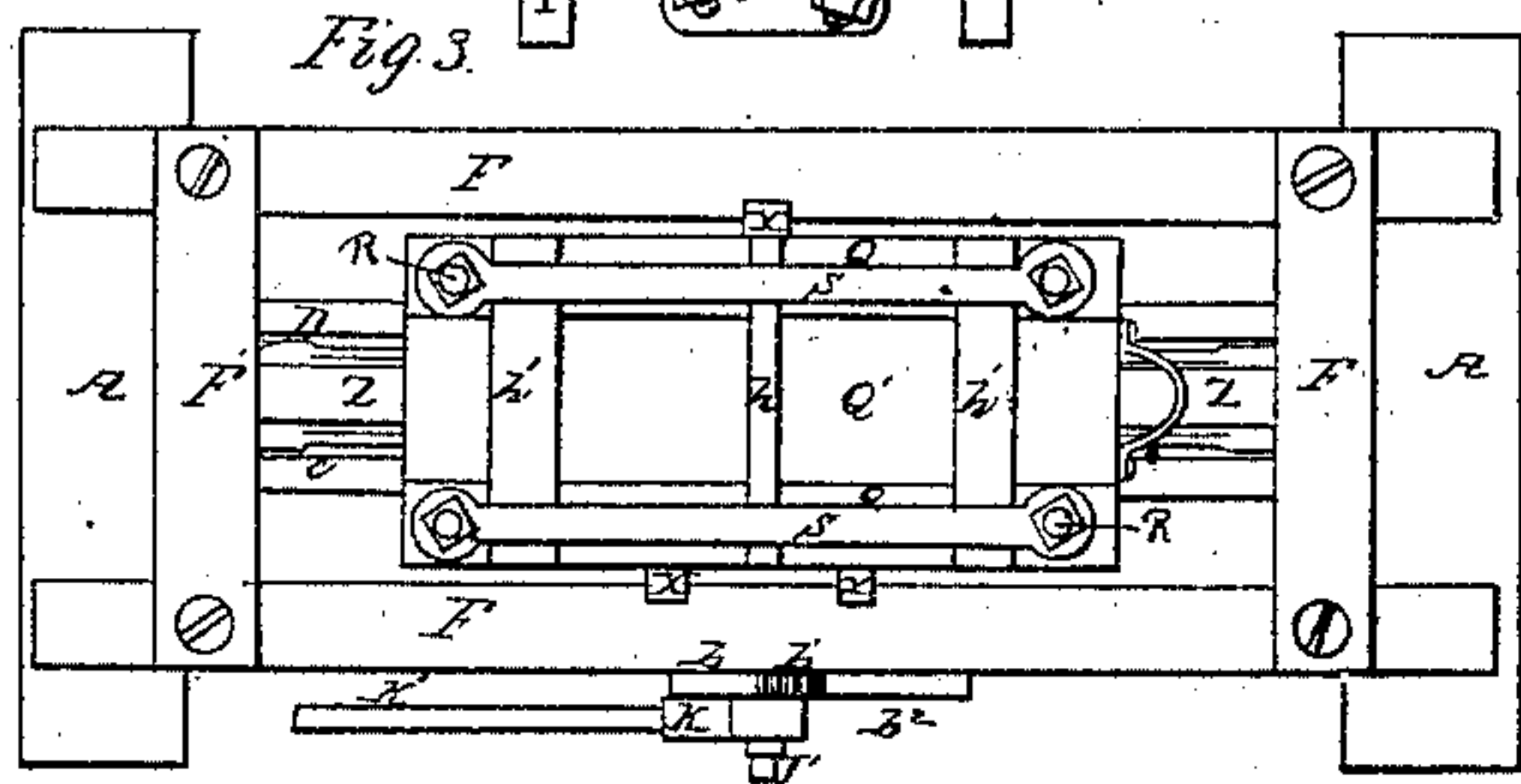
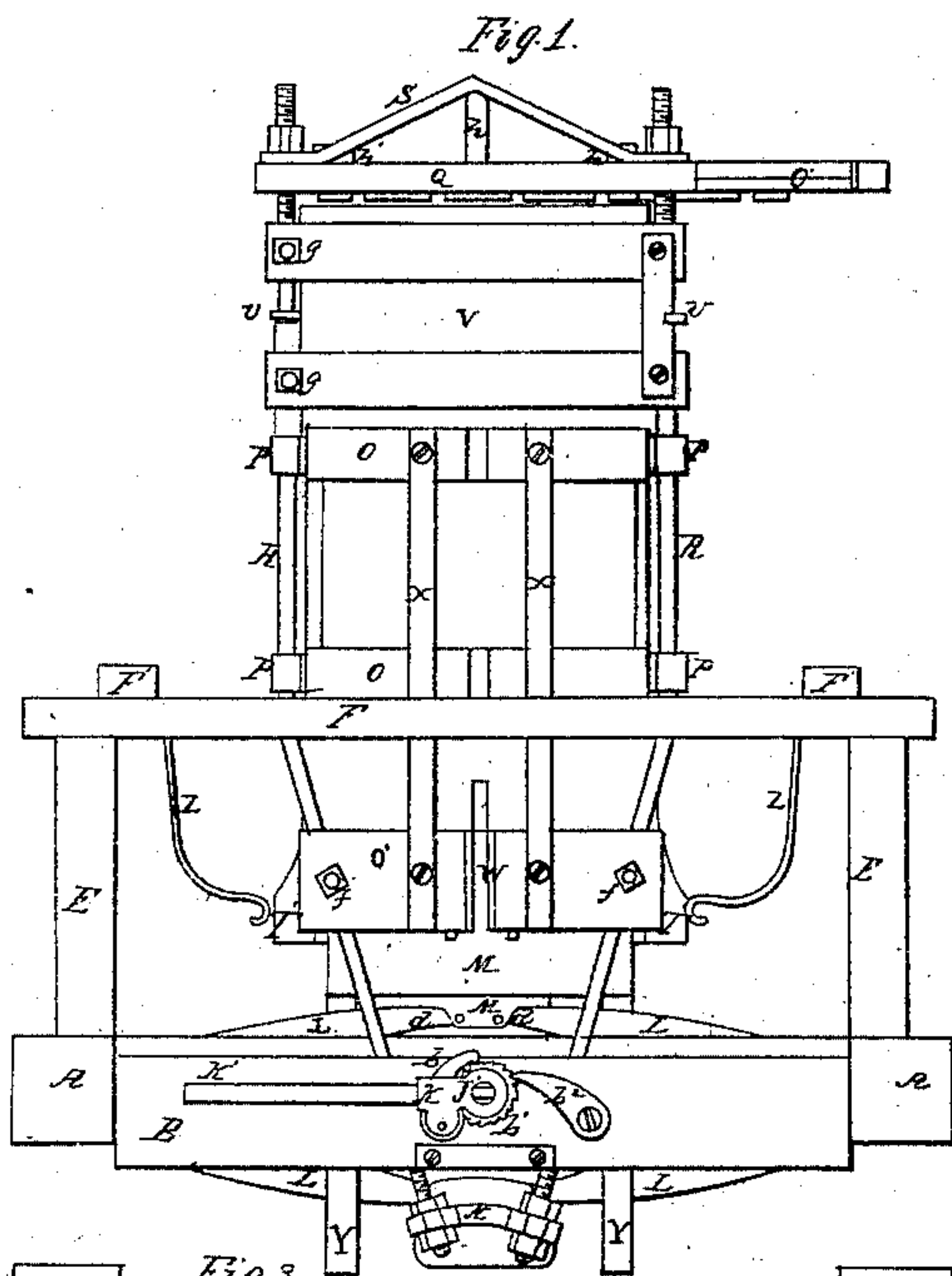


N. CHAPMAN.  
COTTON OR HAY PRESS.

No. 26,750.

Patented Jan. 10, 1860.



Witnesses  
J. Dennis  
Edw. P. Brown

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Nathan Chapman



# UNITED STATES PATENT OFFICE.

NATHAN CHAPMAN, OF MYSTIC RIVER, CONNECTICUT.

## IMPROVEMENT IN COTTON AND HAY PRESSES.

Specification forming part of Letters Patent No. 26,750, dated January 10, 1860.

*To all whom it may concern:*

Be it known that I, NATHAN CHAPMAN, of Mystic River, in the county of New London and State of Connecticut, have invented certain new and useful Improvements in Presses for Cotton, Hay, &c.; and I do hereby declare that the same are described and represented in the following specification and drawings.

To enable others skilled in the art to make and use my improvements, I will proceed to describe their construction and operation, referring to the drawings, in which the same letters indicate like parts in each of the figures.

Figure 1 is a front elevation of the press. Fig. 2 is an elevation of one side. Fig. 3 is a plan or top view, and Fig. 4 is a plan of the bottom. Fig. 5 is an elevation of the racks and pinion that work the toggle-links to operate the press.

The nature of my invention and improvements in presses for cotton, hay, &c., consists in making the toggle-blocks to traverse between ways, so as to traverse both the press-box and the follower, and in arranging the racks which operate the toggle-blocks between the toggle-links, so as to operate both racks by the same pinion or gear, and work the racks through the toggle-blocks, or between the ends of the toggle-links; also, in supporting the press-box over the toggle-links by means of the lower toggle-links, bottom block, and press-rods; and in making doors on the edges of the press-box at the lower end, so as to work automatically as the press is worked, or otherwise to accommodate the toggle-links and allow the sides of the press-box to work down by the bars which support the ways in which the toggle-blocks traverse which operate the press; also, in applying some curved pieces to the doors last mentioned, and arranging some arm to work against said pieces so as to close them and hold them to as long as they are needed in working the press.

In the accompanying drawings of my improvements in presses, A A are the end sills of the frame, connected by the bars B, C, and D, which are fastened to them so as to form a strong base or frame. There are four posts, E E, fastened in the sills A A, to support the rails F F, which are connected by the bars F' F', to complete the stationary part of the frame.

G G, Fig. 5, are metal ways fastened to the bar D, and similar ways are fastened to the

bar C, between which bars the toggle-blocks H H traverse, being supported by the tenons on the ends of the blocks, which traverse between the ways and are operated by the toothed racks I I, which are connected to the block by the pins *a a*; and the racks are traversed the pinion J on the shaft J', which turns in boxes fastened to the bars C and D, and extends through the bar B, as shown in Fig. 4, and has the socket K fitted to turn freely on it, which is operated by the lever K', and carries the pawl *b*, which catches the teeth in the wheel *b'*, fastened to the shaft J', so as to turn the shaft and pinion as the lever is vibrated, and draw the toggle-blocks H H toward the pinion and operate the press, the pawl *b'* holding the wheel while the lever is raised to fleet the pawl *b*. The racks I I are held into gear with the pinion by the rollers *c c*, which turn on pins which pass through the bars C and D, and through the boxes in which the shaft J' turns. A crank may be applied to the end of the shaft J', so as to turn it by hand; or a gear-wheel may be fastened to it outside of the socket K, so that it may be operated by steam, water, or horse power. There are mortises through the blocks H H for the racks I I to work through as the blocks are drawn toward the pinion, and the ends of the toggle-links L L are made forked, so as to pass each side of the racks, where they are connected to the blocks H H, as shown in the drawings. The two upper toggle-links are connected by the pins *d d* to the block M, which is fastened to the follower M', which is forced up into the press-box by the links to press the cotton, hay, &c. The two lower toggle-links are connected to the block N by the pins *e e*, which block may be made in the form shown in the drawings, or in such other form as will answer the purpose, and perforated to receive the press-rods R R, which pass through it and are fastened firmly in it by the nuts applied to each rod on each side of the block, as shown in the drawings. The rods R R extend up from the block N, as shown in the drawings, through the bars P P, on the edges of the press-box, and also through the top bars Q Q and straps S S above the bars, and are provided with screw-nuts above the straps, and nuts in recesses under the top bars, to hold up the top of the press while the bale pressed is being removed. The bars O O on



the sides of the press-box are fastened to the bars P P on the edges, and the two frames thus formed are planked inside to form the press-box to receive the cotton, hay, &c., to be pressed. The planking of the sides of the press-box extends some distance below lower bars O, and have the bars O' O' fastened across their lower ends, and also to the rods R by hook or eye bolts *f f*.

The planking of the edges of the press-box extends but little below the lower bars P, and has the door T hinged to it, as shown in Fig. 2, which door extends down as low as the planking of the sides of the press-box. The doors T are forced open by the upper links, L, as the press-box is drawn down in pressing a bale, after the follower M' has forced the material being pressed in the box above the top of the doors T, and the press may be worked until the doors T traverse out on the bars C and D until they are parallel with the bars, and until the follower rises above the upper bars O, when the hooks U U, which hold the doors V V to, may be unhooked and the doors opened; and the bale pressed, hooped, and removed from the press. The sides of the press-box pass down outside of the bars C and D, and the front side has a score, W, cut in it, so as to permit it to pass down each side of the shaft J'. There are two guide-bars, X X, on the front of the press-box and one, X', on the back, which traverse in scores in the rails F F, to steady and guide the press-box as it is moved up and down; and there are two bars, Y Y, fastened to the rear of the follower M', which traverse in scores in the bar D, so as to guide and steady the follower when the press is worked. When the press-box is raised, the arms Z Z, fastened to the bars F', act on the curved blocks T' on the doors T, to close the doors and hold them to while the press-box is being filled, and until the follower pushes the materials in the press-box above the tops of the doors T. The doors V V above the sides of the press-box are hung to the press-rods R R, which are diagonally opposite to each other, by the eye-bolts *g g*, which turn freely on the rods; and the side doors, V', are hinged to the doors V V, so as to be pulled out when the doors V V are opened; and there are some pieces on the doors V' which enter mortises in the doors V

V when they are shut, so as to hold them against the pressure of the material being pressed; and the hooks U, which hold the doors V V to, vibrate on the same rods to which the doors are hung. The bar *h* and the bars *h' h'*, across the top of the press under the straps S S, hold the top of the press against the pressure brought against it in pressing a bale. The upper inside edges of the top bars Q have a rabbet cut in them for the flanges on the central top piece Q' to slide in, so as to hold it up when the bale is removed; and after the bale is removed the doors V and V' may be closed and fastened and the central top piece Q' drawn out so as to fill the press-box through the opening in the top.

I propose to set this press up in the gin-house by placing the sills A A on the ground and digging a pit between them deep enough to accommodate the toggle-block and guide-bars that work below the sills, and to make an opening in the floor of the gin-house large enough to let the top of the press up even with the top of the floor when it is ready to receive the cotton to be pressed; and as the press-box is drawn down in pressing the cotton the bale pressed may be taken out below the floor; and should water accumulate and stand in the pit below the press, the parts working down into it are made of metal, so that they would not be injured and rotted by being wet, as they would be if they were made of wood.

I believe I have described and represented the improvements which I have invented so as to enable any person skilled in the art to make and use them; and I will now state what I desire to secure by Letters Patent—

1. A movable cotton-press constructed substantially as described, when operated by toggle-links, in combination with the pinion J and racks I I, working or passing through the blocks H H, arranged to work or traverse between ways, substantially as described.

2. In combination with the doors T T, constructed as described, the arms Z Z for closing and holding the doors closed, substantially as described.

NATHAN CHAPMAN.

Witnesses:

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EDM. F. BROWN.