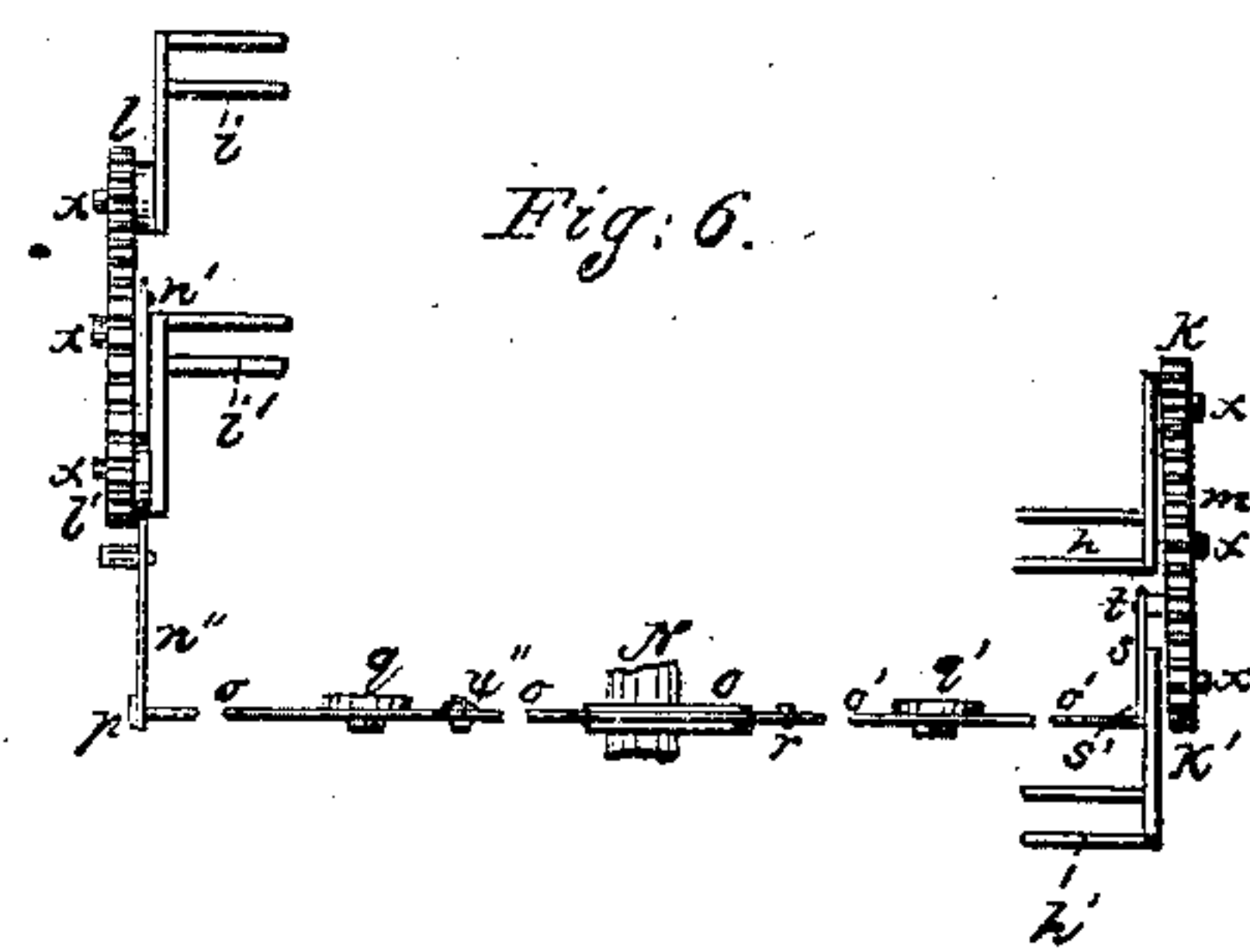
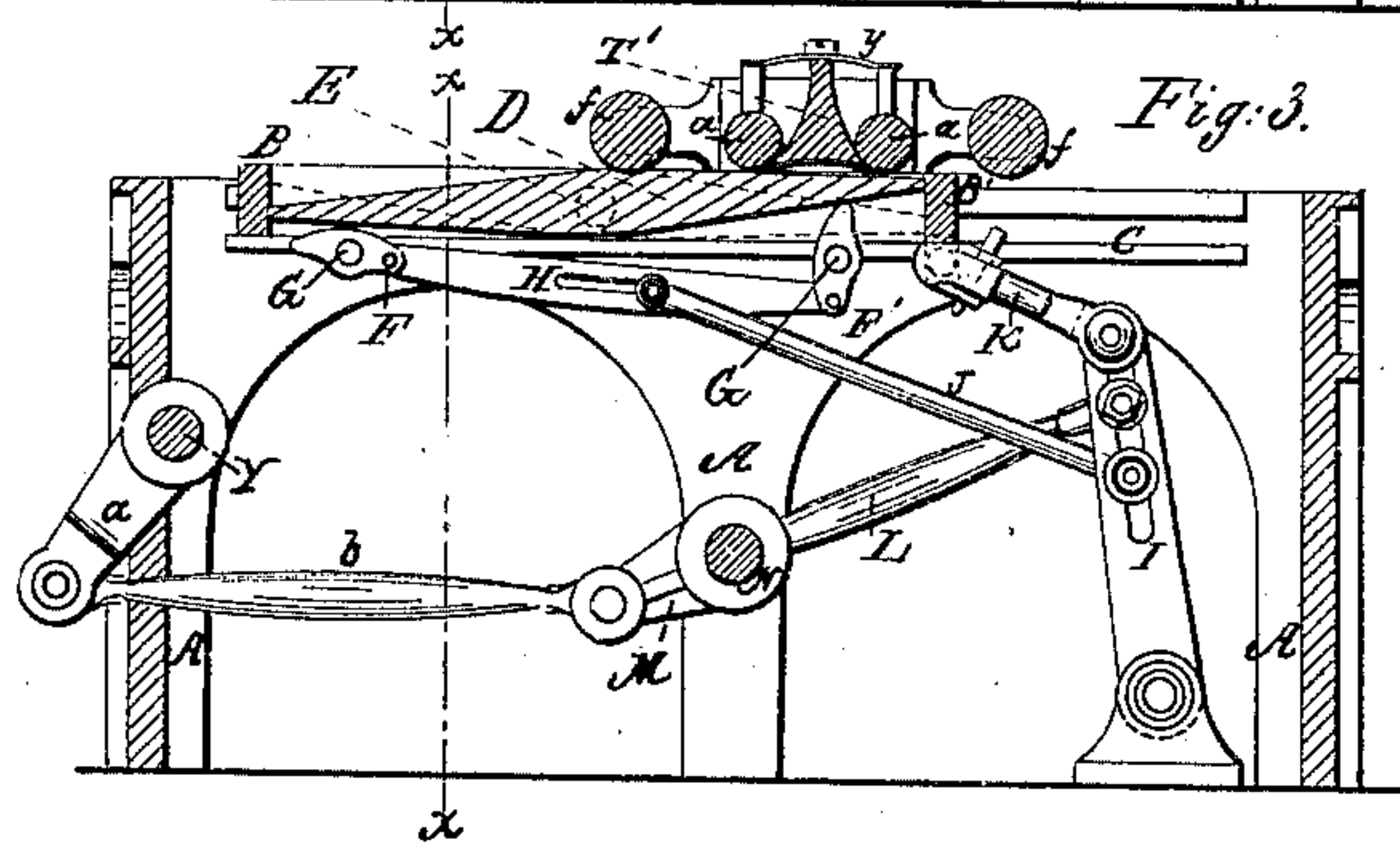
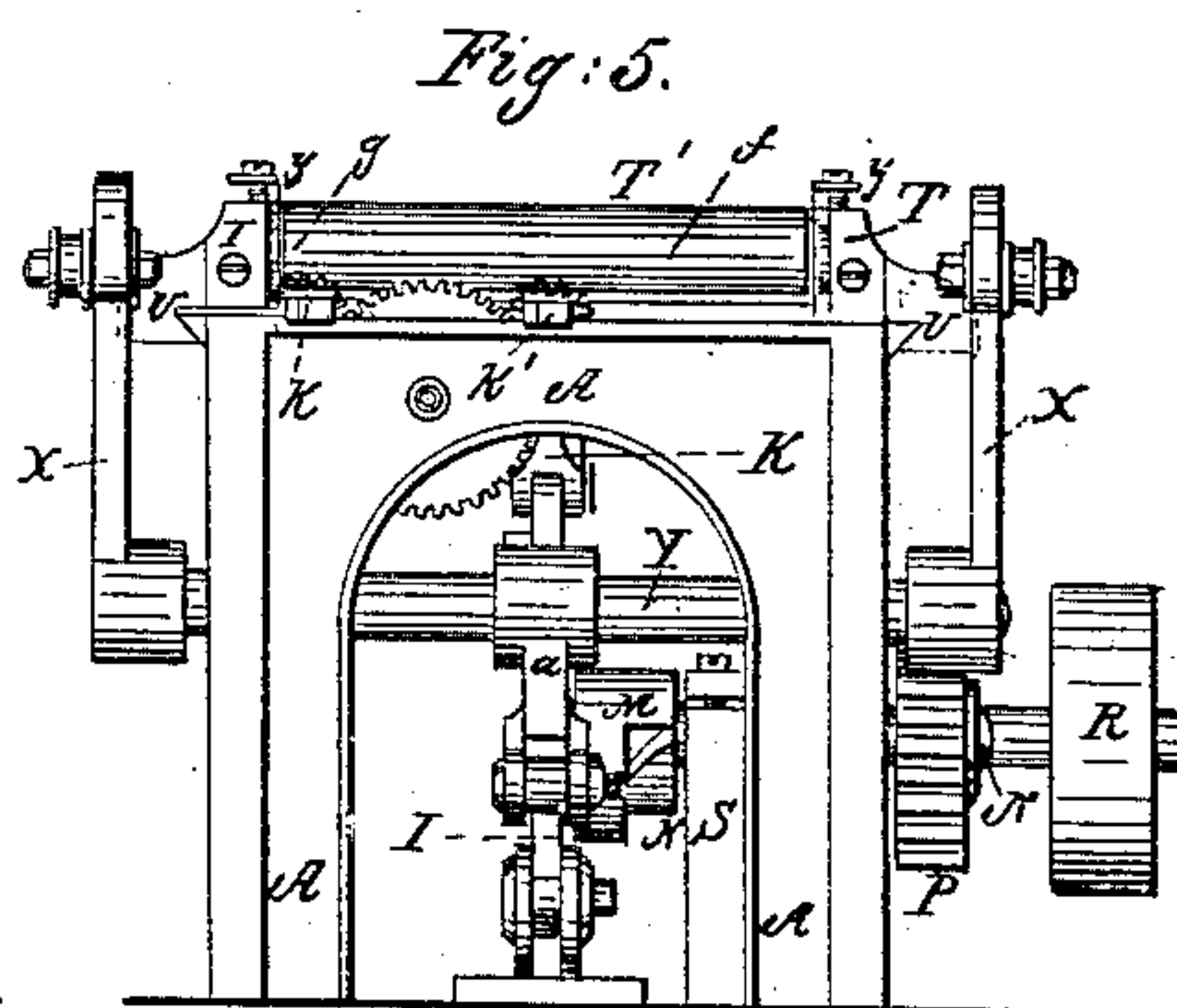
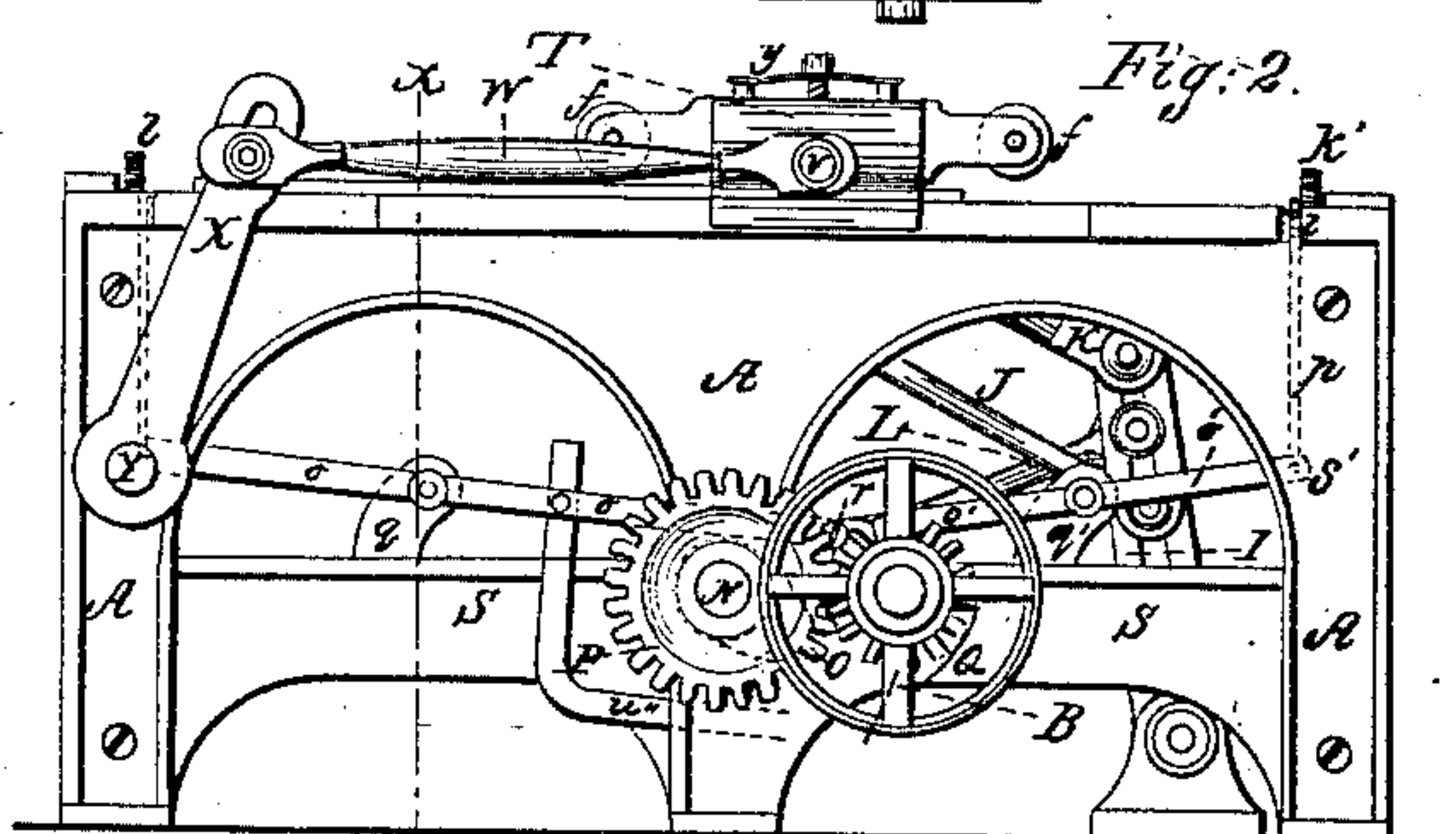
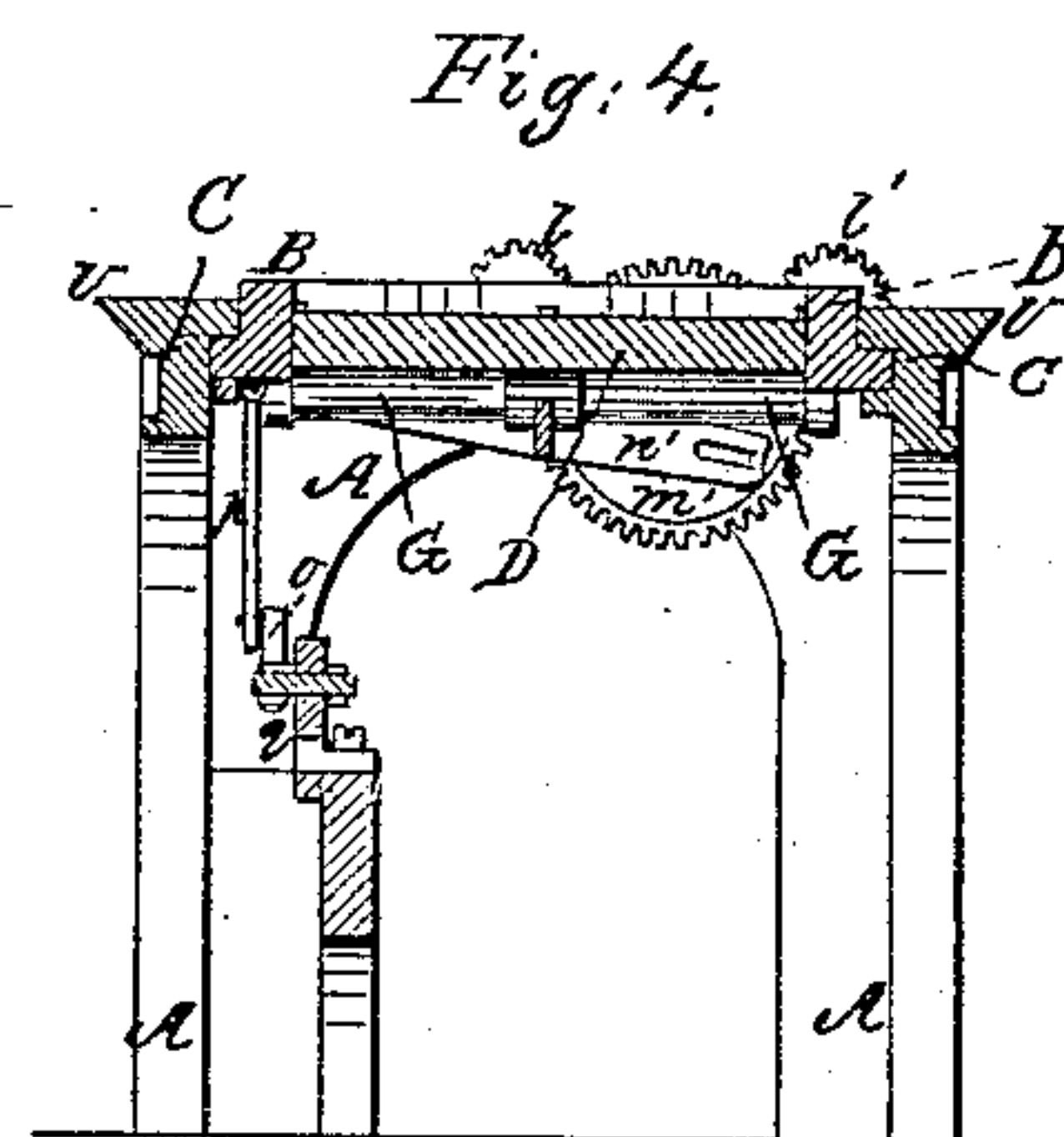
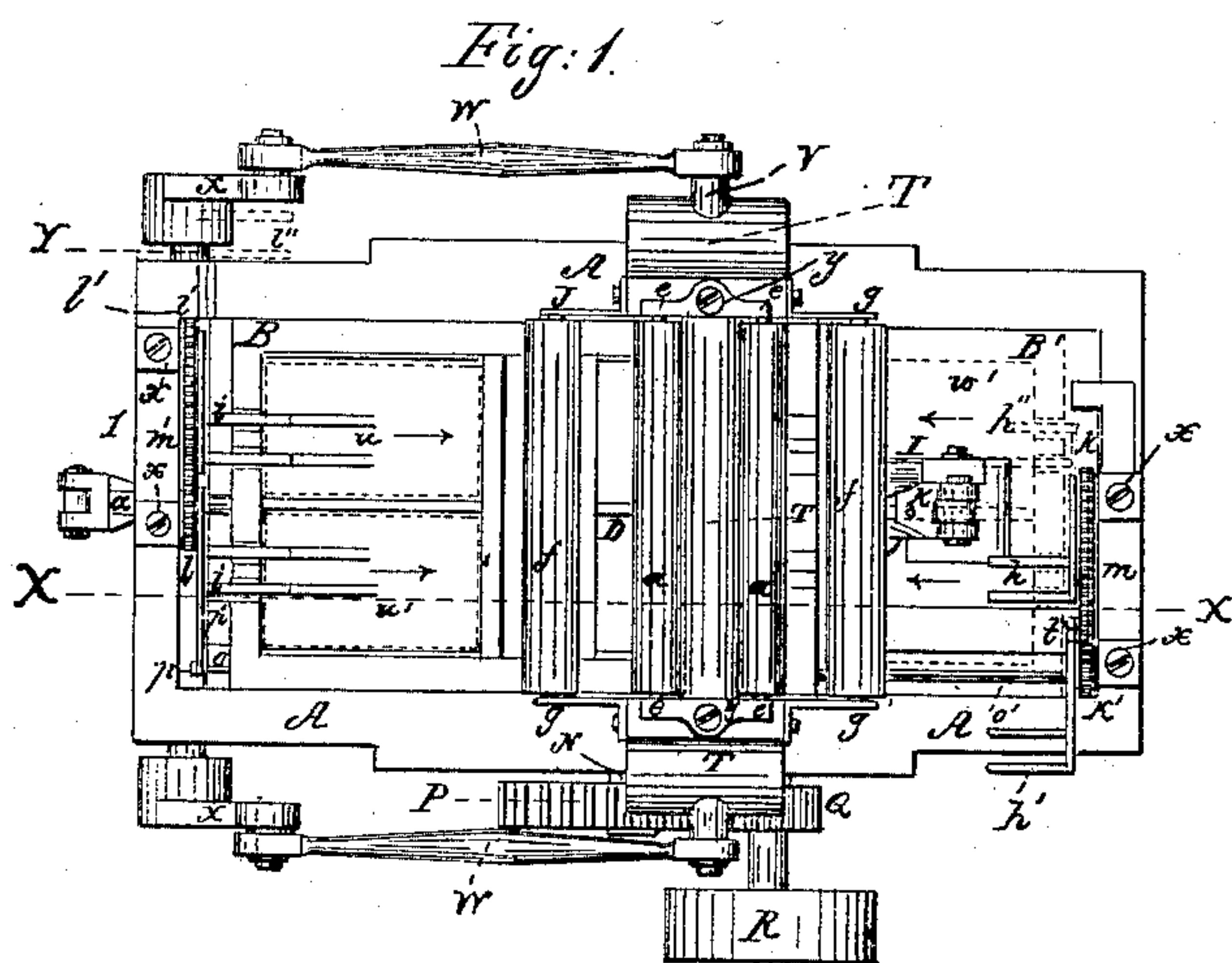


J. TIFFANY.
Planing Shingles.

No. 9,614.

Patented March 8, 1853.



UNITED STATES PATENT OFFICE.

JOEL TIFFANY, OF CLEVELAND, OHIO.

MACHINE FOR DRESSING SHINGLES.

Specification of Letters Patent No. 9,614, dated March 8, 1853.

To all whom it may concern:

Be it known that I, JOEL TIFFANY, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented new and useful Improvements in Shingle-Machines; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making part of this specification.

Figure 1 is a plan view of the machine, Fig. 2, is a side elevation, Fig. 3 is a transverse section as indicated by the red line $x x$ in Fig. 1; Fig. 4 is a transverse section in the direction of the red line $x x$ in Figs. 2 and 3. Fig. 5 is the end view marked 1, in Fig. 1. Fig. 6 will be referred to in further description.

Like letters refer to like parts in the different views.

A general view of the frame is shown at A A A in the several views, inside of which slides the table frame B B' Figs. 1, 3, and 4. In the groove C as shown in Figs. 3 and 4, inside of this frame, is hung the table D by means of the journal E Fig. 3. The table is hung in the frame so as to be well balanced. Directly under the table are two cams F F, which are hung to the shafts G G; which shafts are hung in boxes to the frame B B' as seen in Fig. 4. The cams are connected to the bar H by means of a pin joint at each end as seen in Figs. 3 and 4. The bar H is in connection with the lever I, by means of the connecting rod J; the table frame B B' is also attached to the lever I, by the connecting rod K having a strap joint at the end attached to the frame, and a pivot joint at the end attached to the lever I, as seen in Figs. 1 and 3.

The rod L connects the lever I to the crank M which is on the shaft N. The cam O marked red, and the wheel P is also keyed to the shaft N. The wheel P is in gear with the pinion Q; on the same shaft as the pinion Q is the driving pulley R as seen in Figs. 1, 2, and 5. The shaft to which the pinion and driving pulley are keyed, revolves on journals inside of the pinion, which is the case with the shaft N on which the gear P cam Q and crank M are secured. Each shaft has inside bearings, the outside boxes being in the outside frame, and the inside box for the journals, on the girt S; by this combination and arrangement, it will be observed that the

table and frame, obtain a reciprocating motion, and at the same time a vibratory movement is given to the table D by the action of the cams F and F' alternately elevating and depressing each end of the table, at each full stroke of the crank; and at the same stroke, the table and frame pass from B to B' as indicated by the red lines in Fig. 1. This compound movement of the table and frame is obtained at each stroke of the crank, which is connected to the table and frame by the connecting rods and lever, in the manner before described, and by which means the desired movements are given to the table and frame.

Directly over the table and frame is the cross-head T T T' the ends of which form beveled jaws, and are fitted to corresponding slides, as seen at U U Figs. 4 and 5; this is for the purpose of keeping the cross-head parallel to the table. From each end of the cross head project arms V V to which is fitted the rods W W', and by which means the crosshead is connected to the levers X X, by the wrists in the upper portion of the levers, as seen in Figs. 1, 2, and 5. On the shaft Y, to which the levers X X are secured, is also keyed the counter lever a and connected to the crank M, by the rod b , Figs. 3 and 5. By this arrangement of the levers and connecting rods W and b , it will be noticed that the crosshead T T T' is brought in direct connection with the same crank M as operates the table and frame and D Fig. 1; consequently the movement of the crosshead and table is simultaneous, yet adverse to each other.

To that section of the cross-head marked T are secured knives, as shown at $c c$ Fig. 3. These knives run the whole length of the section T', which is transversely over the table; in front of the knives are two parallel rollers d, d which have their bearings in the cross head as seen at $e e$ Fig. 1. In front and parallel to the rollers d, d are two other rollers, as seen at $f f$, Figs. 1 and 3; these rollers have their bearings in arms which project from the crosshead as shown at $g g$ Figs. 1 and 5.

The arms or lifters $h h'$ and $i i'$, are for the purpose of turning the shingles from one bed to the other, and removing the shingles from the machine, when finished and are operated as follows; the arms $h h'$ are attached to the pinions $k k'$, and the arms $i i'$ are attached to the pinions $l l'$.

Between the two pinions and in gear with them are the wheels m and m' Figs. 1, 4 5 and 6. In the gear m' is inserted a pin n' as seen in Figs. 4 and 6 to which is fitted
 5 the slot lever n'' , which is hung to the frame by means of a pin in the center of the lever that end of the lever opposite the shot, is connected to the cam rod o , by the rod p . The rod O is hung to the standard q , and is
 10 connected to the cam rod o' by a pin joint at r , as seen in Figs. 2 and 6. The rod o' is also hung to a standard, as seen at g' . The section u'' of the cam rod o drops the distance of the cam stroke from the rod o , forming
 15 right angles with it. At one end of the cam rod O' , will be observed a connecting rod s , attached at s' Figs. 2 and 6, which connects it to the gear m , there being a pin or wrist in the gear m which receives the rod as seen
 20 at t , Figs. 1, 2, and 6: thus a direct action is secured to the arms, by the action of the cam o .

Having thus described the manner of constructing this shingle machine, I proceed to
 25 explain the principle of its operation; after the shingles are rived out they are first placed on the table beds u u' alternately as the table passes from one end of the frame to the other the shingle being placed on the
 30 bed u' , the bed or table raises and falls by the action of the cams F F' , as indicated by the red lines in Fig. 2, so that the knife in the cross-head will not shave the shingle against the grain in passing from B to B' ,
 35 but as the table returns from B' B , it is elevated and thereby the shingle is shaved from butt to point, the points being always in the direction of the arrows. By the raising and lowering of the table as described,
 40 the proper taper is given to the shingle.

The shingles placed in the bed u , are not shaved until the table returns from B' to B but as there is a shingle placed in the bed
 45 w' , it is shaved as the table passes from B' B , thus alternately as the table passes from B to B' , the shingles are shaved in the direction of the arrows, by the knives c c in the cross head, which always moves in an adverse direction to the table, for instance,
 50 as the table moves from B' to B the cross-head passes from B to B' , by the action of the parts as before described. The shingles are shaved on one side at a time, the first side is shaved in the bed u' , and are turned
 55 from the bed u' to u , and from w' to w , by which means the shingles are shaved on the other side, as follows; as the table passes from B to B' , the shingle passes in between the forks of the arms K'' marked red, and
 60 the instant the table moves from B' to B , the shingle is conveyed from the bed w' to

w , the arms taking the place marked h , which was occupied by the arms h' , and at the instant the arms h'' begin to pass to h , the arms h' which then occupied the place h , 65 pass to the position indicated at h' , which throws the shingle from the bed w , to the floor, ready for bundling.

The shingles are withdrawn from the arms h and i , by the return movements of 70 the frame. The position of the shingles on the bed of the table is indicated by the red line in the beds u' and u . The principle and manner of the operation of the arms are alike on both ends of the machine. The 75 arms i' convey the shingles from the bed u' , to u , and the arm i gives place to it, passing to the position i'' , and at the same time, taking a finished shingle with it from the bed u , which had been previously placed there 80 by the arms i' , from the bed u' . A finished shingle is thrown from the machine at every passage of the table from B to B' , and from B' to B , which makes one stroke of the crank. The rollers a a and f f are for the 85 purpose of keeping the shingle in place, when it is being shaved. The gear wheels by which the arms are operated, are hung on journals, as seen at x x Figs. 1 and 6.

The springs y y , Figs. 1, and 2, are for the 90 purpose of allowing the rollers to adjust easily to shingles of various thicknesses. The ends of the springs rest on the journal caps.

I do not intend to confine myself explic- 95 itly to this manner of arrangement and operation, but contemplate, if found expedient, having the crosshead stationary with the knives and rollers, and the table having the same movement under it, or, to change 100 it in any other advisable manner that will accomplish the desired result by substantially the same means.

What I claim as my improvement, and for which I desire to secure Letters Pat- 105 ent, is,

The combination of parts consisting of the pinions l l' , and h h' , with the intermediate gears m m' , the levers n' , and joint levers o and o' , and section u'' , with the con- 110 necting rods p and s , and cam o , for the purpose of operating the arms h h' , i i' , as described, viz, turning and removing shingles at the same time, from one side of a reciprocating bed, to the other, and then when its 115 second face is dressed, throwing it from the machine, in a finished state.

J. TIFFANY.

Witnesses:

JEHU BRAINERD,
W. F. BURRIDGE.