

(No Model.)

A. STABLES.
SLIDING PLANER.

No. 512,916.

Patented Jan. 16, 1894.

Fig: 1.

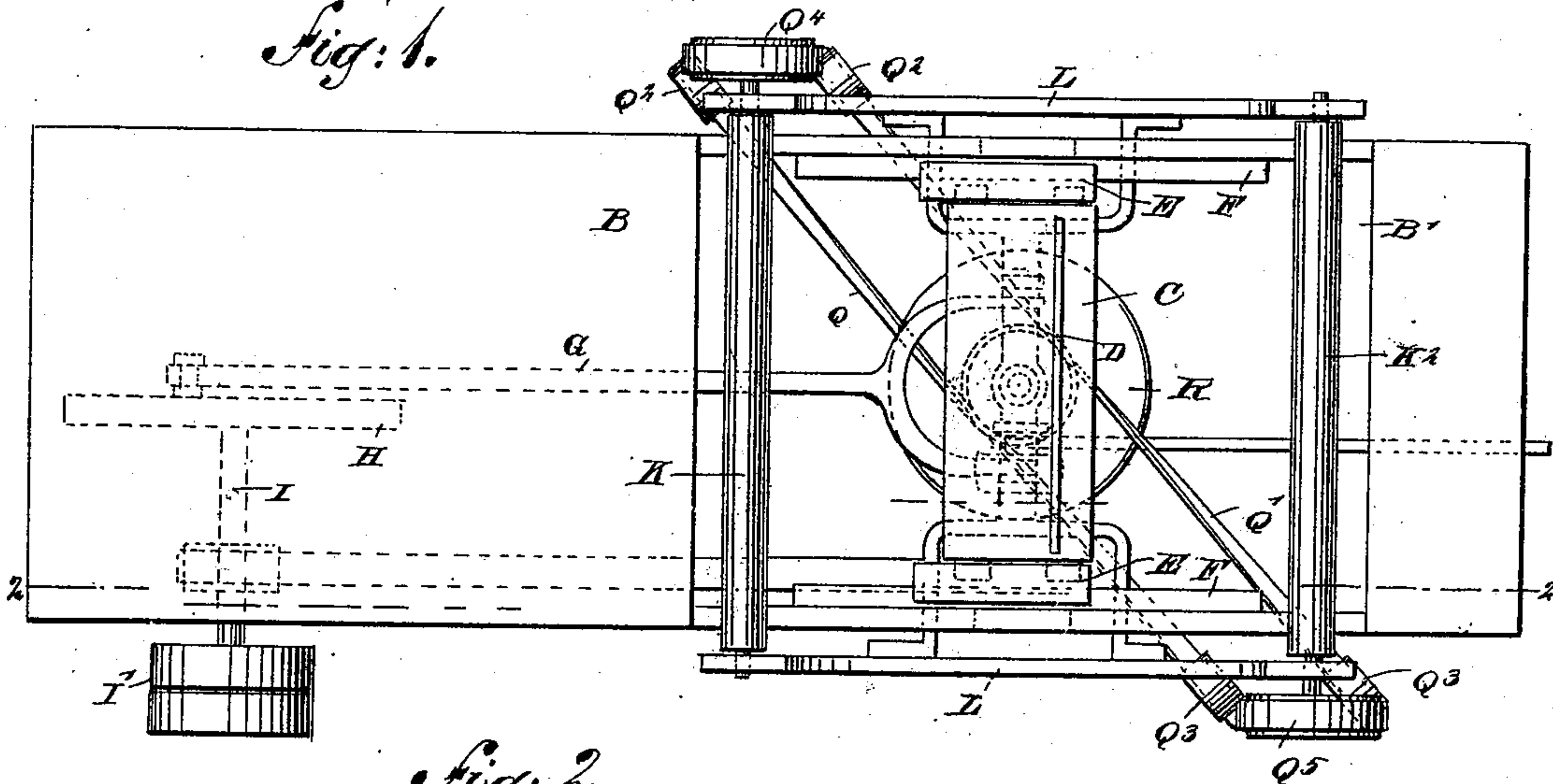


Fig: 2.

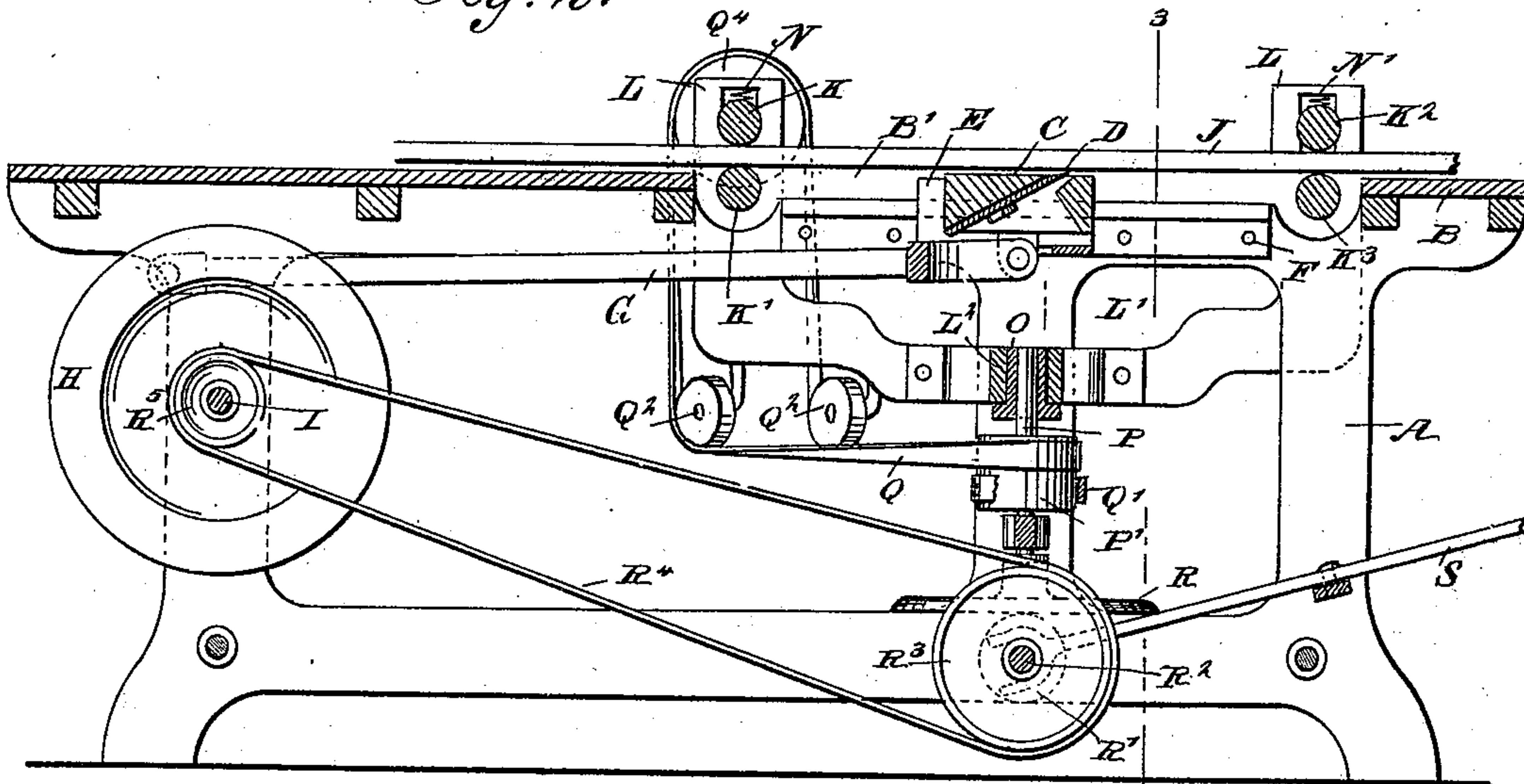


Fig: 3.

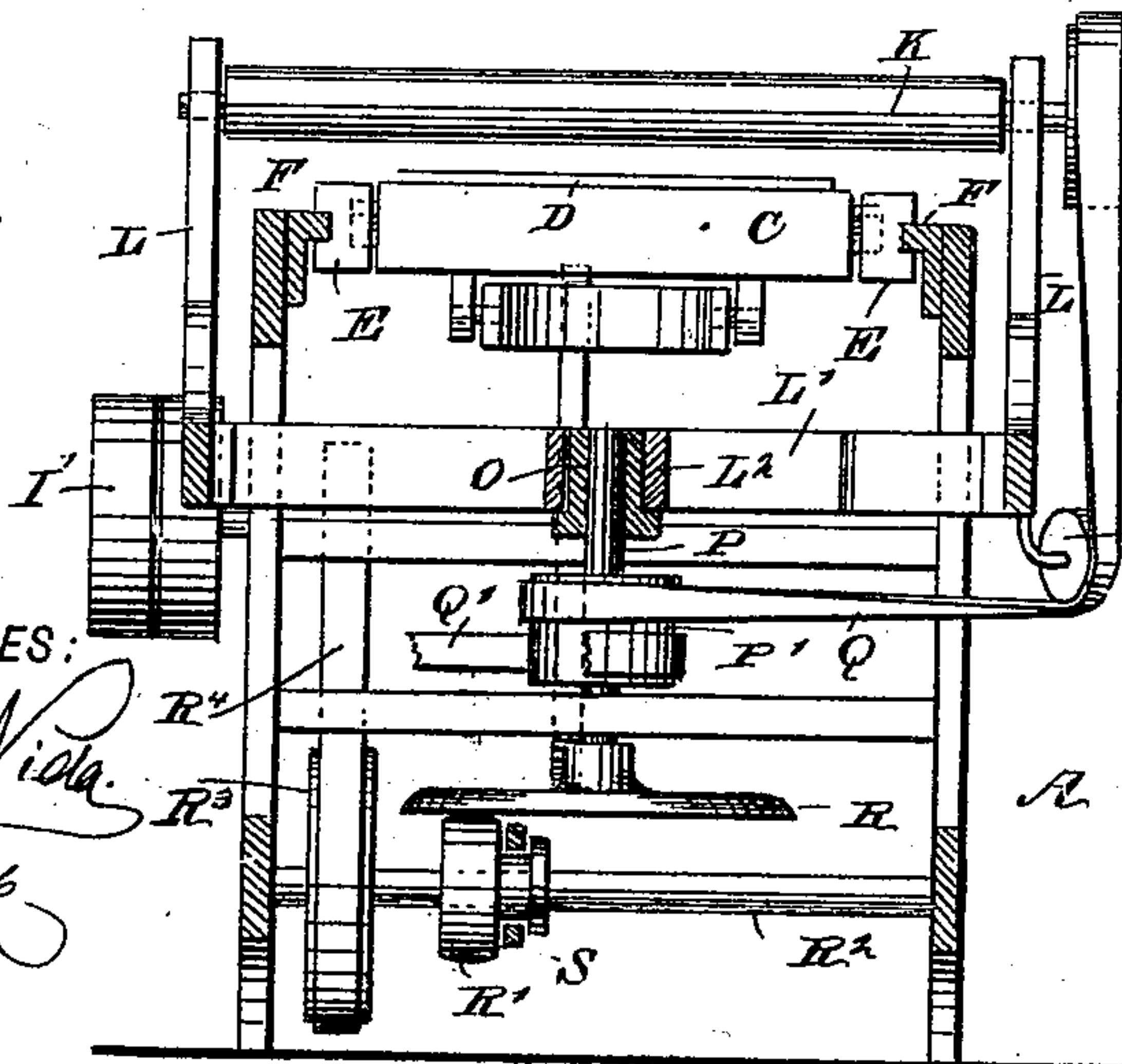
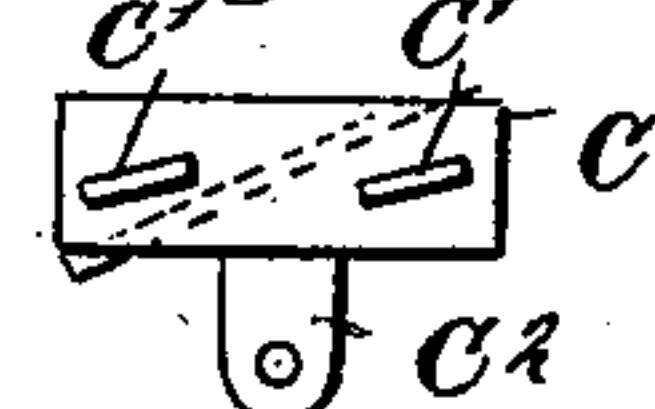


Fig: 4.



Fig: 5.



WITNESSES:

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ARTHUR STABLES, OF MANNBOROUGH, VIRGINIA.

SLIDING PLANER.

SPECIFICATION forming part of Letters Patent No. 512,916, dated January 16, 1894.

Application filed May 2, 1893. Serial No. 472,735. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR STABLES, of Mannborough, in the county of Amelia and State of Virginia, have invented a new and Improved Sliding Planer, of which the following is a full, clear, and exact description.

The invention relates to wood working machinery, and its object is to provide a new and improved sliding planer, which is simple and durable in construction, very effective in operation, and arranged to plane a perfectly smooth and true surface.

The invention consists of a reciprocating cutter head, and a feeding and clamping device of especial construction and serving to hold the work and feed it over the said cutter head.

The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of the improvement. Fig. 2 is a sectional side elevation of the same on the line 2—2 of Fig. 1. Fig. 3 is a transverse section of the same on the line 3—3 of Fig. 2. Fig. 4 is a sectional side elevation of one of the slides for the cutter head; and Fig. 5 is a side elevation of the cutter head.

The improved sliding planer is provided with a suitably constructed frame A, supporting on its top a table B, formed with an opening B', in which reciprocates the cutter head C, carrying a knife D, adapted to engage the under side of the work, to plane the same, as hereinafter more fully described. The cutter head C is provided at its front and rear sides with inclined lugs C', see Fig. 5, fitted to slide in correspondingly shaped grooves E' formed in slides E, mounted to reciprocate on guideways F, secured to the sides of the main frame A, as is plainly shown in the drawings.

On the under side of the cutter head C are formed lugs C², pivotally connected with a pitman G, connected with a crank disk H, held on the main driving shaft I, mounted to turn in suitable bearings in the frame A and provided with fixed and loose pulleys I', connected by a belt with suitable machinery to

impart a rotary motion to the said shaft I, so that the crank disk H and the pitman G reciprocate the cutter head C, traveling with its slides E on the guideways F.

It will be seen that on the forward stroke of the pitman G the lugs C' of the cutter head C first slide forward in the recesses E' until they come to the ends thereof, after which the further forward movement of the pitman causes the slide E to travel in the guideways F. By this forward movement of the cutter head C in the slides E, the cutting edge of the knife D is brought in contact with the under surface of the work J supported on top of the table between the sets of rollers K, K' and K², K³; and when the pitman G is on the return stroke, the cutter head C travels downward a short distance in its slides E, so that the cutting edge of the knife is moved out of contact with the under side of the work J.

The sets of rollers K, K' and K², K³ are journaled in suitable bearings formed in the side frames L of a frame L' extending horizontally below the pitman G, and the cutter head C as plainly shown in Figs. 2 and 3. The rollers K' and K³ are journaled in stationary bearings, while springs N, N' press on the bearings for the rollers K and K² respectively, so that the work J is firmly held between the sets of rollers.

The frame L' is formed in its middle with a socket L² mounted to turn on a boss O forming a bearing for the upper end of a shaft P disposed vertically and journaled in suitable bearings in the main frame A. On this shaft P is secured a pulley P' over which pass the belts Q and Q' extending diagonally in opposite directions, as is plainly shown in Fig. 1, the said belts passing over idlers Q², Q³ respectively, up and over pulleys Q⁴ and Q⁵ respectively secured on the shafts of the rollers K and K² respectively, so that when the shaft P is rotated a rotary motion is transmitted by the pulley P', the belts Q and Q' and pulleys Q⁴, Q⁵ to the top spring-pressed rollers K and K². By this arrangement the work J is fed forward in the roller frame on top of the table B, so that at each stroke of the cutter head C the knife D comes in contact with a new surface to be planed.

In order to impart a rotary motion to the

shaft P from the main driving shaft I, the following device is provided: On the lower end of the shaft P is secured a disk R, in frictional contact at its under side with a friction pulley
 5 R' mounted to slide on and to turn with a shaft R² extending transversely and journaled in suitable bearings in the frame A. A shifting device S is connected with the pulley R' to move the latter on the shaft R² nearer to or
 10 farther from the center of the disk R, so as to increase or decrease the speed of the said disk R and the shaft P to obtain more or less feed for the rollers K and K² at one revolution of the shaft R². The latter carries a pul-
 15 ley R³ connected by a belt R⁴ with a pulley R⁵ secured on the main driving shaft I, so that when the latter is set in motion a continuous rotary motion is transmitted to the shaft R² which, by its friction roller R', rotates
 20 the disk R, so as to impart a rotary motion to the feed rollers K and K².

It will be seen that when the work J is arranged between the sets of rollers K, K' and K², K³, and the main driving shaft I is re-
 25 volved, then the work J is fed forward, and at the same time the reciprocating cutter head C, by its knife D, makes a cut in the under side of the work J on each forward stroke. On the return stroke of the cutter
 30 head C it moves downward slightly, as before described, so as to move the cutting edge of the knife D out of contact with the under surface of the work J during the return stroke. By this arrangement the cutting
 35 edge of the knife D is not liable to be dulled, and a clean, perfect cut is made at all times.

It will further be seen that no additional strains whatever are exerted on the cutter head C, so that the machine can be run with
 40 comparatively little power.

Having thus fully described my invention,

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

1. A sliding planer comprising a reciprocating cutter head provided with inclined lugs, 45 slides formed with angular recesses engaged by the said lugs, and means, substantially as shown and described, for imparting a forward and backward movement to the said cutter head, as set forth. 50

2. A sliding planer provided with a cutter head having inclined lugs and reciprocating slides formed with angular recesses engaged by the said lugs, substantially as shown and described. 55

3. A sliding planer provided with a feeding device for the work, comprising two sets of rollers, side frames in which the said rollers are journaled, a main frame carrying the said side frames and mounted to turn, a shaft 60 forming the center for the said frame, a pulley on the said shaft, and belts connecting the said pulley with pulleys on the uppermost feed rollers, substantially as shown and described. 65

4. A sliding planer provided with a feeding device for the work, comprising two sets of rollers, side frames in which the said rollers are journaled, a main frame carrying the said side frames and mounted to turn, a shaft 70 forming the center for the said frame, a pulley on the said shaft, belts connecting the said pulley with pulleys on the uppermost feed rollers, a disk held on the said shaft, and an adjustable friction roller engaging the face 75 of the said disk to impart a rotary motion to the latter, substantially as shown and described.

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Witnesses:

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