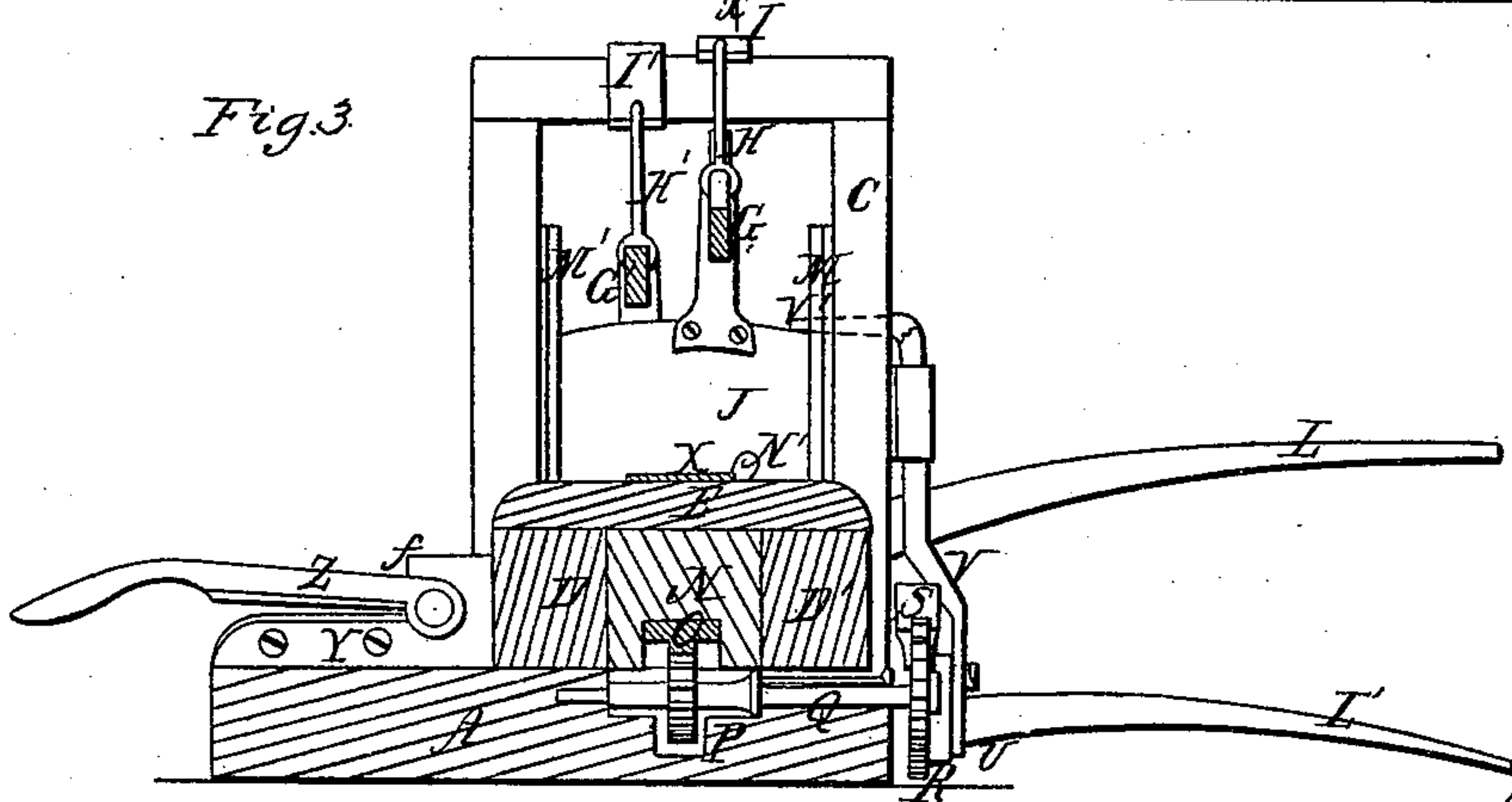
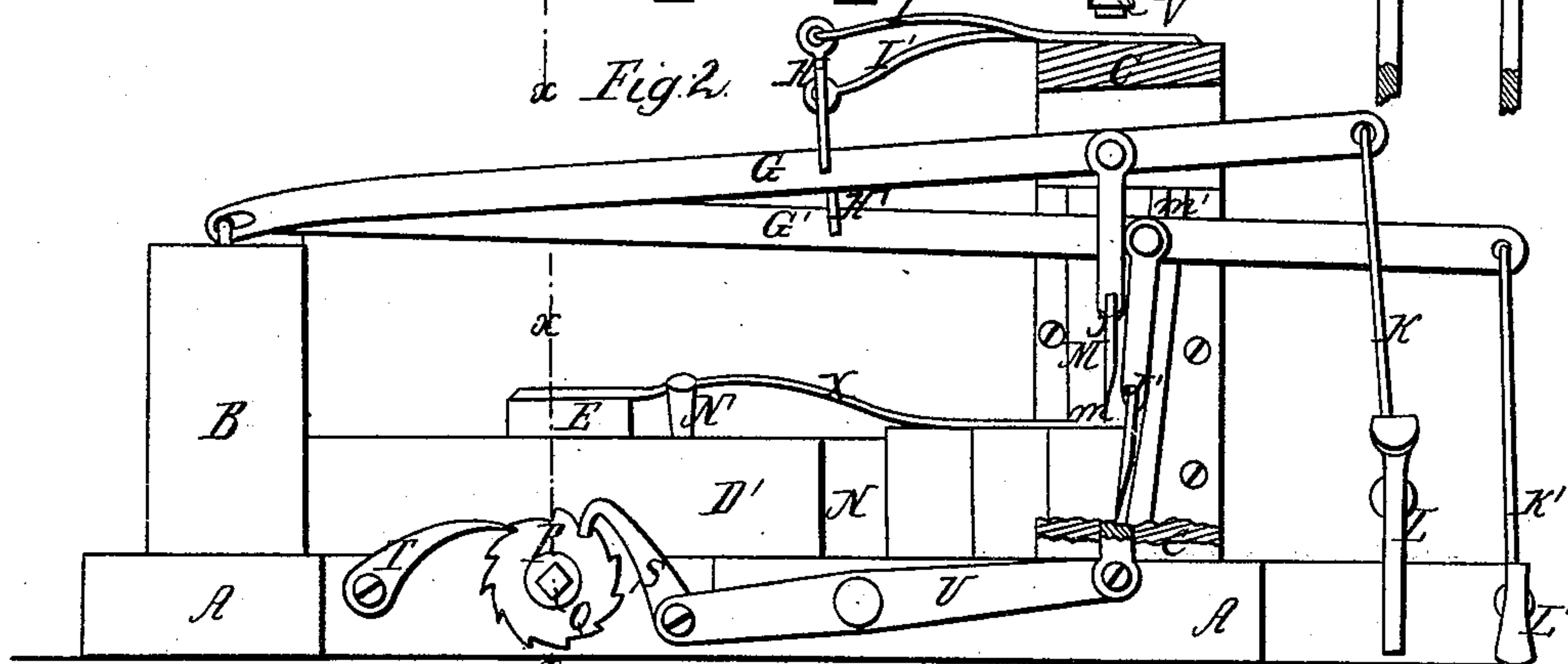
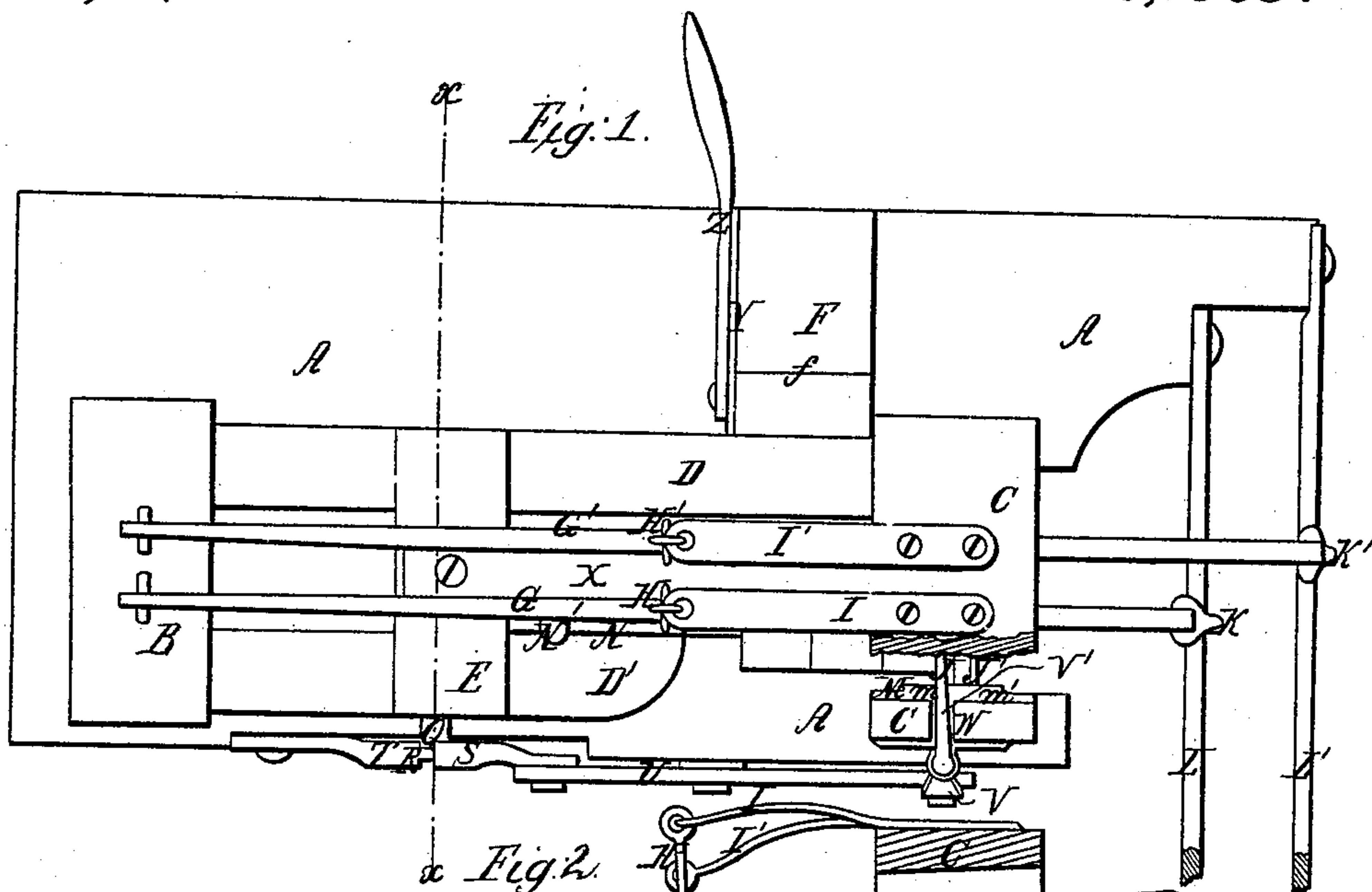


*J. I. Lancaster*

*Shingle Mach.*

*N<sup>o</sup> 85,676.*

*Patented Jan. 5, 1869.*



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# United States Patent Office.

ISAAC I. LANCASTER, OF VANCOUVER, WASHINGTON TERRITORY.

Letters Patent No. 85,676, dated January 5, 1869.

## IMPROVEMENT IN SHINGLE-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, ISAAC I. LANCASTER, of Vancouver, in the county of Clark, Washington Territory, have invented a new and useful Improvement in Shingle-Machines; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, which are made part of this specification.

The subject of my invention is a machine for cutting shingles from the bolt or block, adapted to be operated by man-power. A pair of knives is employed for riving the bolt; said knives moving respectively in vertical and oblique planes, so as to cut the shingles, commencing alternately at butts and points. The feeding-mechanism is actuated by the upward movement of the vertically-cutting knife, and propels the block or bolt each time a sufficient distance to have a pair of shingles removed. A separate pivoted knife is employed for edging the shingles.

Figure 1 is a plan view of my improved machine, a portion of the frame being broken away to expose the working-parts;

Figure 2 is a side elevation, partially in vertical section;

Figure 3 is a transverse section on the line *xx*, figs. 1 and 2; and

Figure 4 is a detached perspective view of one of the plates employed to guide the riving-knives.

The frame of my machine may consist of a bed-piece, A, of any suitable form, having mounted upon it, in about the relative positions shown, upright rectangular frames B C, longitudinal guides D D', for guiding the feeding-plunger and shingle-blocks, a cross-piece, E, spanning said guides, and a table, F, for supporting and guiding the shingles, while they are being "edged."

Hinged to the top of the frame B is a pair of levers, G G', which are supported by links H H', from the ends of springs I I', secured to the top of the frame C, and, passing through said frame, are attached to the knives J J', and through rods K K', to the levers or treadles L L', by which, in connection with the springs I I', they are respectively operated. The said levers are pivoted to the bed-piece A of the frame, as shown in fig. 1.

The knives J J' are guided by grooves *m m'*, in plates M M', attached to the inner faces of the sides of frame C, said plates being constructed as represented in fig. 4.

N is the plunger, by which the shingle-blocks or bolts are fed to the knives.

It is provided on its under side with a rack, O, which is meshed by a pinion, P, keyed to a shaft, Q, which shaft also carries a ratchet-wheel, R.

This ratchet-wheel is engaged by pawls S T, the former of which, S, is pivoted to the end of the reciprocating lever U, and serves to communicate motion to said ratchet-wheel, and the latter, T, to prevent backward movement.

The lever U, at the opposite end to that to which the pawl S is pivoted, is connected to a vertically-sliding rod, V, whose bent upper end V' passes through a slot, W, in the side of the frame C, and upper end of the plate M', a sufficient distance to engage with the knife J in its upward movement, so as to communicate its motion to the shaft Q, to propel forward the feeding-plunger.

The plunger may be forced back, to allow more blocks to be placed before it, by means of the handle N'.

The spring X holds the shingle-blocks from vertical displacement while they are being cut up.

Secured to the end of the table F is a metallic plate or stationary knife, Y, having pivoted to it a knife, Z, by which the edges of the shingles, as they come from the knives J J', are cut at right angles to their butts.

All the parts being in the positions represented in fig. 2, and one shingle cut from point to butt, removed by the knife J', the treadle L' is released, allowing the knife J' to be returned by the spring I' to the top of the frame, and the treadle L is forced down, cutting off a shingle from butt to point, and allowing the bar V, by its gravity, to force the pawl S up, so as to take hold of another tooth on the ratchet-wheel R. This hold of another being released, the knife J is returned by treadle also being released, the knife J is returned by the spring I to its former position, raising the rod V, and through it and the lever U, pawl S and ratchet-wheel R, turning the shaft Q a sufficient distance to feed the shingle-block forward the thickness of two shingles.

The treadle L' is then again forced down, cutting off another shingle from point to butt, and released, and so on until the shingle-blocks in the machine are cut up, when the pawls S T being raised, the plunger N may be forced back, by means of the handle N', and a new supply of shingle-blocks placed in front of it, through the opening between the front end of the guide-piece D' and the frame C.

The shingles, as they come from the knives J J', are placed on the table F, with their butts against the shoulder *f*, and with their edges projecting under the knife Z, which cuts their edges at right angles to their butts.

Having thus described my invention,

What I claim as new therein, and desire to secure by Letters Patent, is—

1. The guide-plates M M', constructed with straight and oblique grooves *m m'*, and employed in combination with the riving-knives J J', substantially as and for the purpose specified.

2. The pair of reciprocating knives J J', and the feeding-mechanism R S U V, operated by the return-stroke of one of the said knives, all substantially as and for the purposes herein set forth.

ISAAC I. LANCASTER.

Witnesses:

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