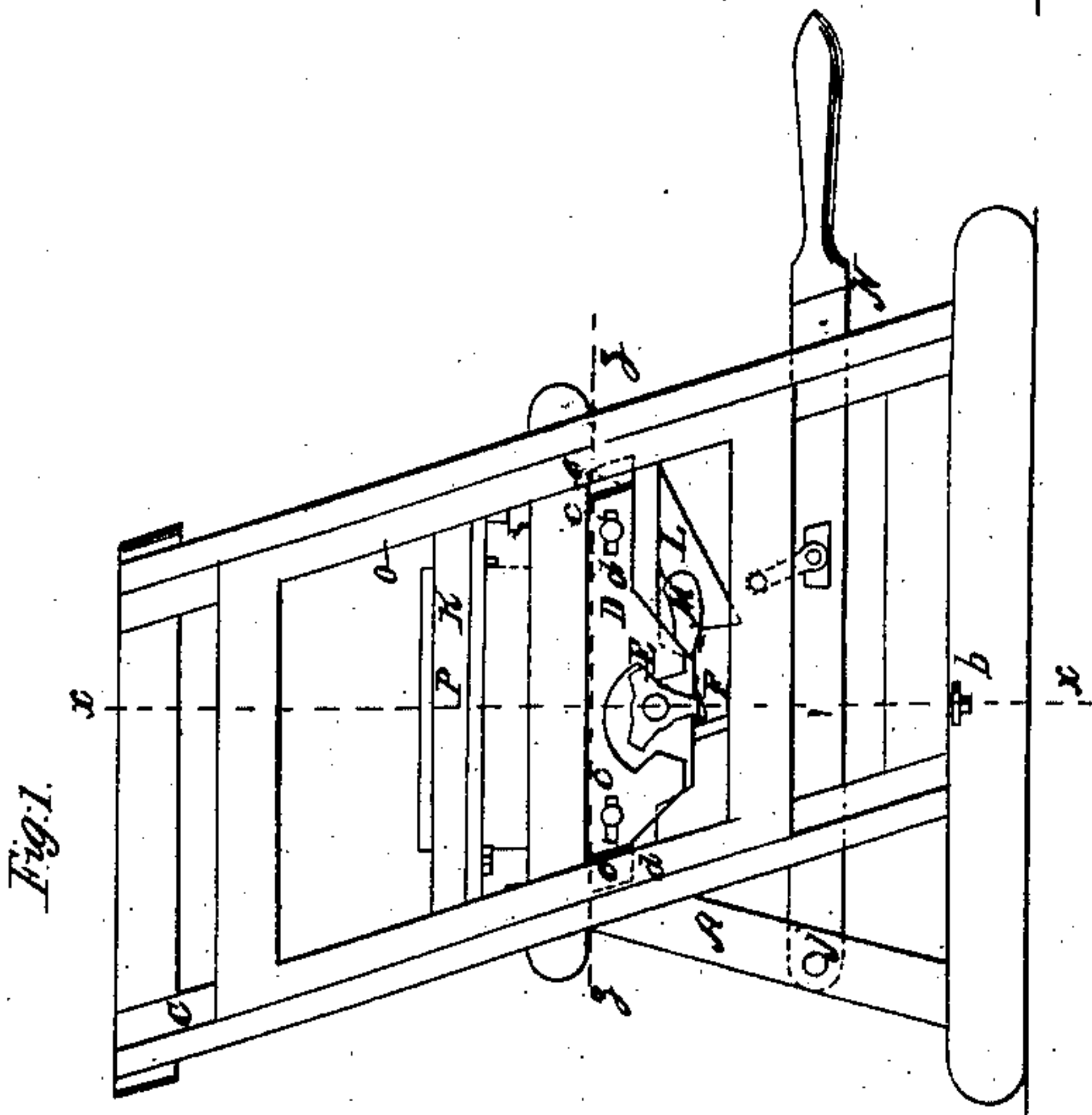
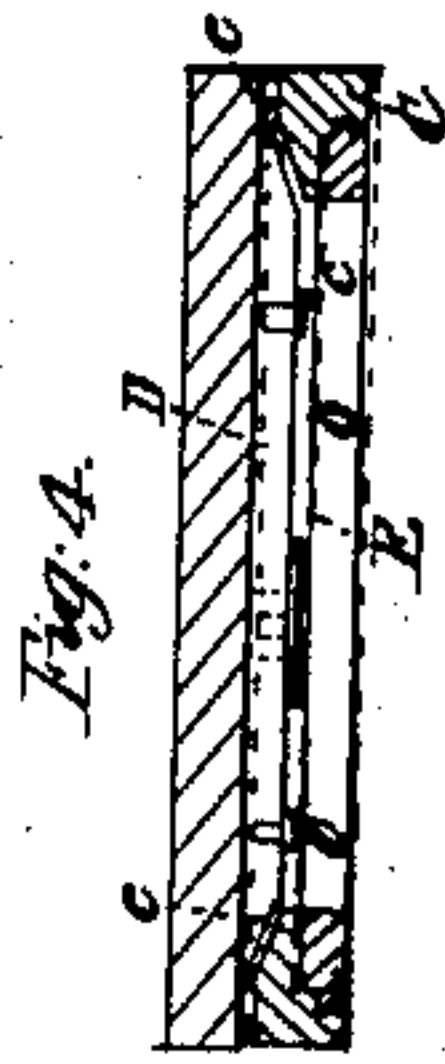
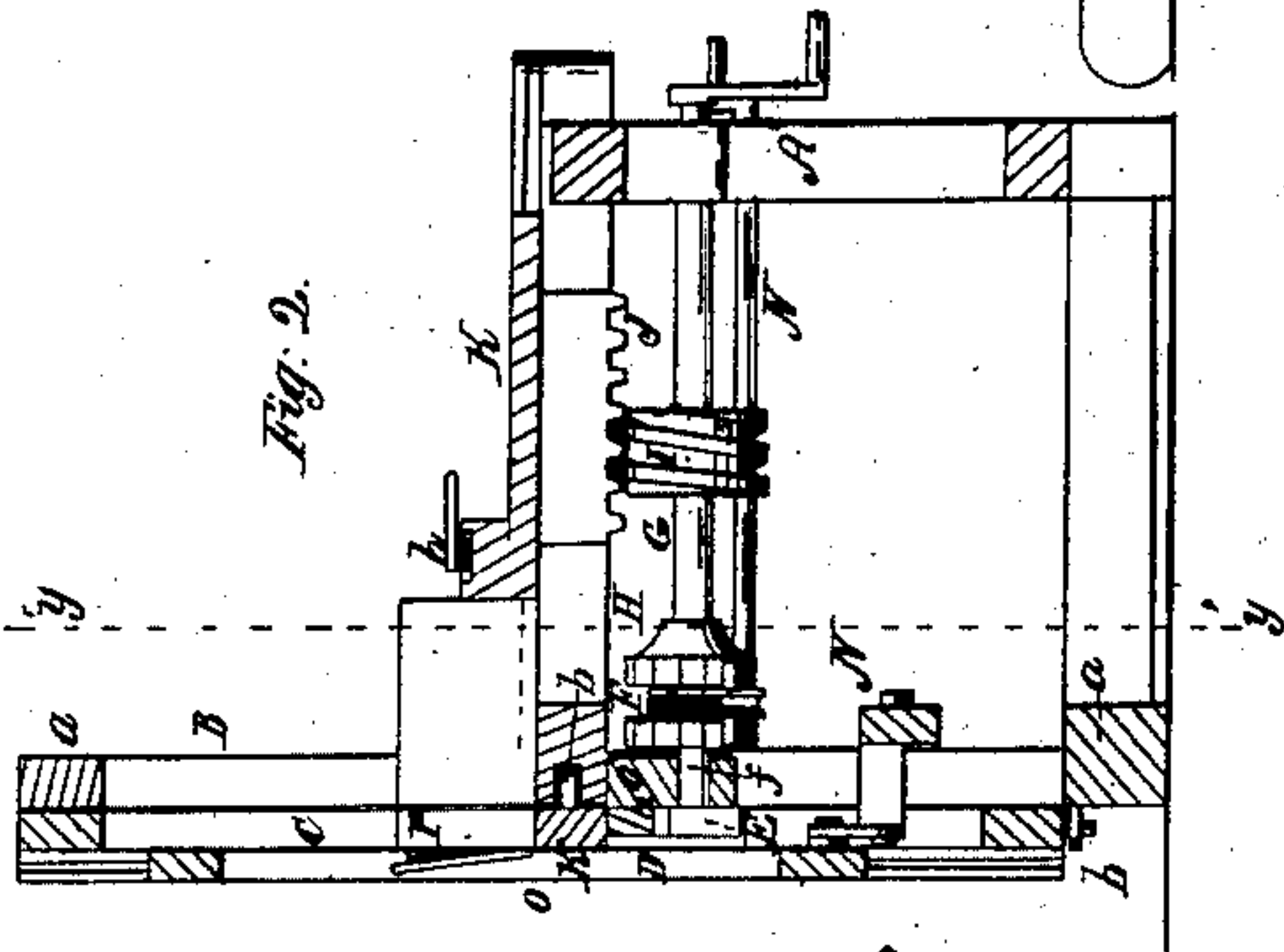
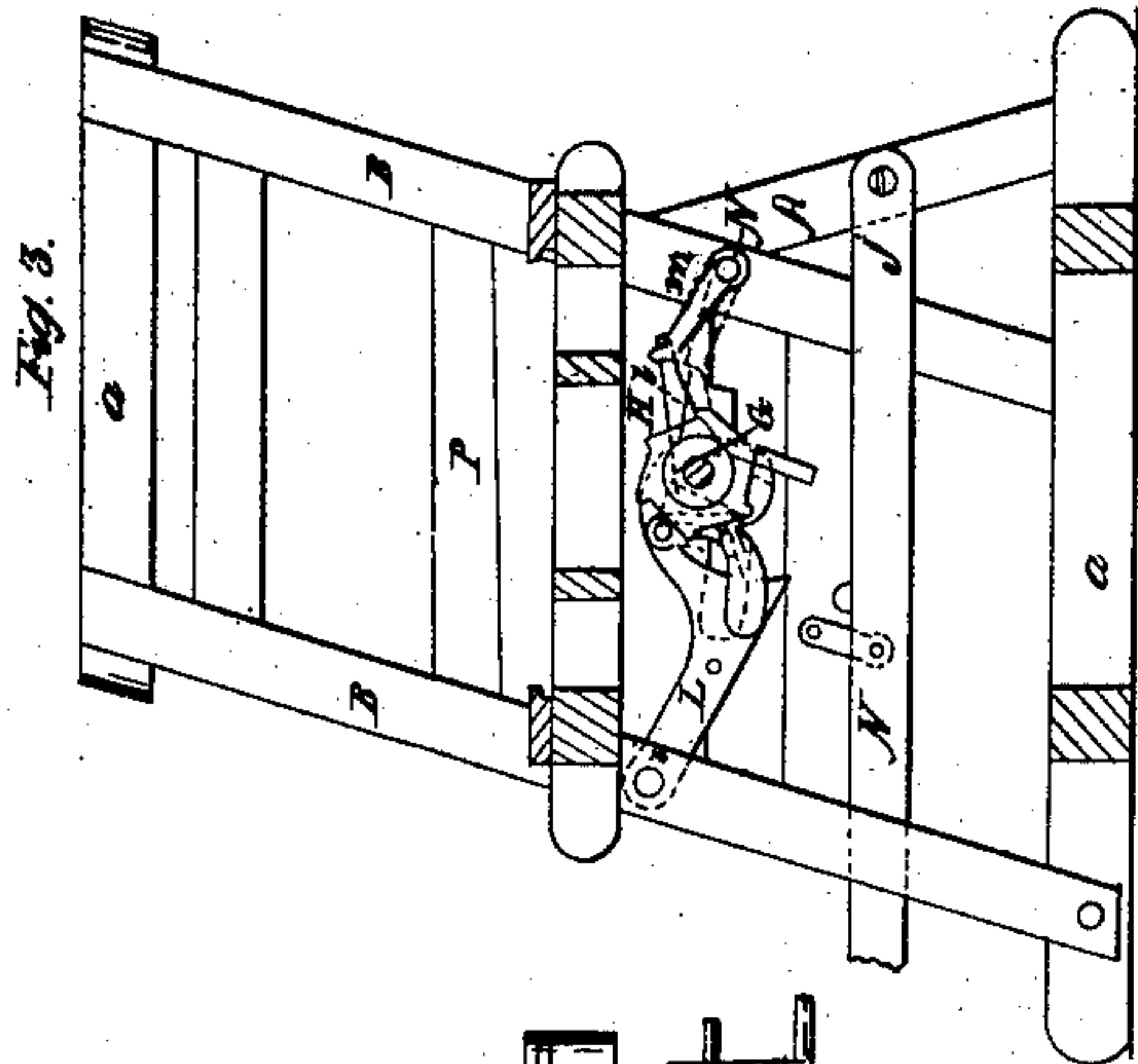


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to not in print.

J. Wood,
Cutting Shingles.

N^o 23,420.

Patented Mar. 29, 1859.



Witnesses:
W. T. G. S. C.
C. A. D. R.

Inventor:
J. Wood.

UNITED STATES PATENT OFFICE.

JOHN WOOD, OF BROOKLYN, NEW YORK.

METHOD OF OPERATING THE KNIFE IN RIVING SHINGLES.

Specification of Letters Patent No. 23,420, dated March 29, 1859.

To all whom it may concern:

Be it known that I, JOHN WOOD, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Shingle-Machine; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a front view of my invention, Fig. 2, a vertical section of the same, taken in the line *x, x*, Fig. 1. Fig. 3, a vertical section of the same, taken in the line *y, y*, Fig. 2. Fig. 4, a horizontal section of the same taken in the line *z, z*, Fig. 1.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to an improvement in that class of shingle machines in which the shingles are rived or cut from the bolt by a knife placed in a reciprocating gate.

The invention consists in giving the frame in which the gate is placed and works an intermittingly oscillating or vibrating movement simultaneously with the forward feed movement of the bolt, in such a manner that the knife as it descends to its work will have its cutting plane in an oblique position with the edge of the bolt and consecutively in reverse positions so that the shingles will be cut from the bolt in taper form, the shingles being cut alternately from each side of the bolt.

The object of the invention is to obtain a proper bearing for the underside of the front part of the bolt, so as to insure the shingles being rived or cut in a smooth and perfect manner as hereinafter fully described.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A, represents the frame of the machine which is of rectangular form and has two oblique and parallel posts B, B, attached to its front end, see Fig. 3.—These posts B, B, are connected by cross ties *a, a*, at their upper and lower ends and a rhomboidal frame C, is attached to the outer sides of the cross-ties by pivots or joints *b, b*, which serve as centers of vibration or oscillation for the frame, the inner surfaces of the cross pieces of frame C, being chambered or beveled to permit of the necessary degree of vibration.

To the front side of the frame A, a slide D, is secured by means of pins *c, c*, which

pass through oblong slots *d, d*, in the slide into the frame A, see Fig. 1. This slide is beveled at each end to form wedges *e, e*, the wedge portions working between the frame C, and posts B, B, see Fig. 4. In the slide D, a recess is made to receive a cam or wiper F, the shaft *f*, of which passes through the crosspiece *g*, of the frame A, and has a ratchet F, on its inner end, as shown clearly in Fig. 2.

In the upper part of the frame A, longitudinally with it and in line with the shaft *f*, of the wiper F, a shaft G, is placed. This shaft G, has a ratchet H, on its front end and a screw I, is placed on it at about its center, the screw gearing into a rack J, which is at the under side of a slide K, placed on the frame A, and allowed to work freely back and forth thereon. On the front part of the slide K, dogs *h*, are placed, said dogs securing the bolt in front of the carriage.

To one side of the frame A, two arms L, L, are attached by a pivot *i*. The inner ends of these arms are of curved or hook form and extend over the front end of the shaft G, as shown in Fig. 3. To each arm L, a pawl M, is attached by a pivot *i*. In the lower part of the frame A, and at its front side, a lever N, is secured, *j*, being its fulcrum pin. This lever is attached to the lower part of a gate O, which is fitted in the frame C. This gate O, corresponds in form to the frame C, and a knife P, is placed therein.

The operation is as follows:—The bolt shown in red outline Figs. 1 and 2, and from which the shingles are rived or cut, is placed on the frame A, and secured to the front end of slide K, by the dogs *h*. The slide K, being previously moved to the back end of the frame A. The operator then raises and lowers the lever N, or power may be applied to said lever in any proper way, and a reciprocating motion is consequently given the gate O, and knife P. Each time the lever N, approaches the termination of its upward movement it strikes the arms L, L, and the pawls M, M, simultaneously actuate the ratchets F, H, and the shafts *f*, G, will be turned a certain distance simultaneously, the screw I, moving the slide K, and bolt toward the knife P, and the cam or wiper F, moving the slide D, which on account of its wedged shaped ends *e, e*, vibrate or cant the frame C, and conse-

quently the gate O and knife P, so that the latter will have an oblique position with the bolt and as the knife descends cut the shingles in proper taper form, the wiper F, giving the slide a reciprocating movement, that is to say, moving it in one direction at the termination of the upward stroke of lever N, and then in the other direction at the termination of the succeeding stroke, so that the shingles will be cut with their butts first from one side of the bolt and then from the other. The bolt is fed in a right line to the knife and the bearing $\frac{1}{2}$, on which the front end of the bolt rests is in the frame C, and consequently moves or vibrates with it and will always be in the same cutting plane with the knife P, and afford a proper bearing for the bolt adjoining the cut just at the point where good or proper bearing surface is required in order to prevent the knife splitting or rending off portions of the bolt at the lower end of its cut. A good

clear cut therefore is always insured. The slide K, is gigged back by throwing the pawls M, M, out of gear with the ratchets F, H, by means of a lever l , actuated by an arm m , attached to a shaft or rod N, and turning the shaft G, in the proper direction. 25

I do not claim the rhomboidal reciprocating gate O, with knife D, attached, for this has been previously used, but, 30

Having thus described my invention, what I do claim as new and desire to secure by Letters Patent, is—

Giving the frame C, in which the reciprocating knife gate O, is placed an intermittingly vibrating movement simultaneous with the feed movement of the bolt, substantially as and for the purpose herein set forth. 35

JOHN WOOD.

Witnesses:

WM. TUSCH,
CHAS. LEVIE.