T. C. Robinson,

Paper Cutter.

No. 97,120. Patented. Nov. 23, 1869.

Fig. 1.

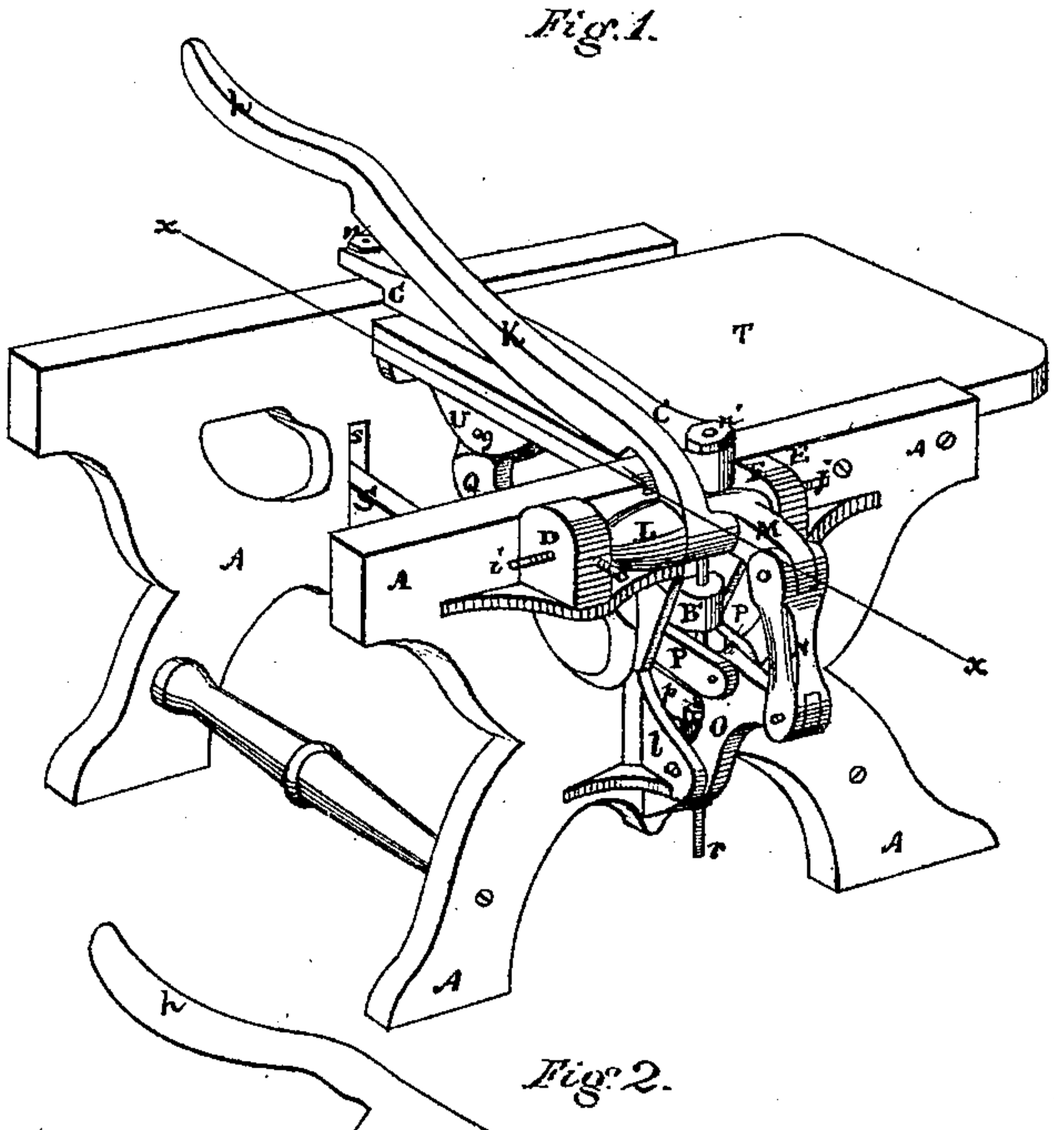

Fig. 2.

Witnesses.

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THOMAS C. ROBINSON, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 97,120, *dated November* 23, 1869.

IMPROVEMENT IN PAPER-CUTTING 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, THOMAS C. ROBINSON, of the city of Boston, in the State of Massachusetts, have invented certain new and useful Improvements in Bookbinders' Shears; and I do hereby declare the following to be a full and correct description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of my improved self-clamping paper-shears complete.

Figure 2 is a vertical section of the same on line *x x* of fig. 1.

The same part is marked by the same letter in both figures.

This invention relates to the table-shears used by bookbinders, and operated by hand.

The nature of the invention consists in connecting, with the movable knife, so as to be operated by it, a clamping-device, that is brought down upon the paper with increasing pressure as the knife descends, and gradually relaxes its pressure as the knife is lifted, in the manner hereinafter more particularly set forth.

To enable others to make and use my improved machine, I will proceed to describe its construction and operation.

A stout frame, A, to which the operative parts are attached, is surmounted by a table, T, which supports the paper to be cut.

A knife, K, having a handle, *h*, and a fulcrum, at L, plays vertically against the front edge of the table T.

The clamp C lies transversely across the table, its lower front edge being in the same plane with the front edge of the latter. Its office is to hold immovably the paper subjected to the action of the knife. It is operated by toggle-mechanism, now to be described.

The shaft L, which forms the fulcrum of the knife K, is hung, on pivots *i j*, to the brackets D E, attached to the outside of the frame.

The pivots are threaded, to enable them to adjust the position of the knife relatively to the front edge of table T.

From shaft L projects a short arm, M, pivoted at *a* to link N, which connects it, at *b*, with the bell-crank lever O.

This lever is pivoted, at *c*, to lugs *l*, attached to the side of the frame, and, at *d*, to a link, P, united by pivot *e* to the toggle-arms Q R.

The arm Q is pivoted, at *g*, to a bracket, U, depending from the bottom of table T.

The arm R is pivoted, at *f*, to the bar S, which extends transversely across the machine, and works vertically in the slots *s s'*, in the side framing.

The bar S is connected with the clamp C by the rods *r r'*.

These rods are connected to the ends of the clamps C by the nuts *n n' o o'*. They pass down through brackets B B' and *t t'*, receiving the nuts *p p'* above the ends of bar S, and nuts *v' v'* below the spiral springs *q q'*, which rest upon said nuts, and react upward against the ends of bar S, to throw up that bar and partly raise the knife K.

The operation is as follows:

The paper to be cut is laid on the table T, and placed in proper position beneath the clamp C, the knife and clamp being raised for that purpose. The knife is now driven downward, to give the required cut. This movement brings the toggle-arms Q R into a line, and forces down the bar S, which draws down the clamps C by means of rods *r r'*. When the clamp has descended as far as possible, the knife is driven to the end of its stroke, forcing down the bar S against the reaction of the springs *q q'*, which yield as the bar descends. The knife being now relieved of pressure, these springs react upward with sufficient force to raise the bar S and throw up the knife K to the position it occupies in fig. 1. It is then lifted to raise the clamp C and release the paper, preparatory to a repetition of the operation.

Having thus fully described my invention,

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

1. The combination of the knife K with the toggle-mechanism, for operating the clamp, substantially in the manner described.

2. The combination and arrangement of the bar S, springs *q q'*, toggle-mechanism, and knife K, substantially as described, for the purpose of throwing up the knife at the completion of its downward stroke, as stated.

The above specification of my said invention signed and witnessed at New York, this 14th day of June, A. D. 1869.

T. C. ROBINSON.

Witnesses:

JNO. R. HOOLE, Jr.,

CHAS. F. STANSBURY.