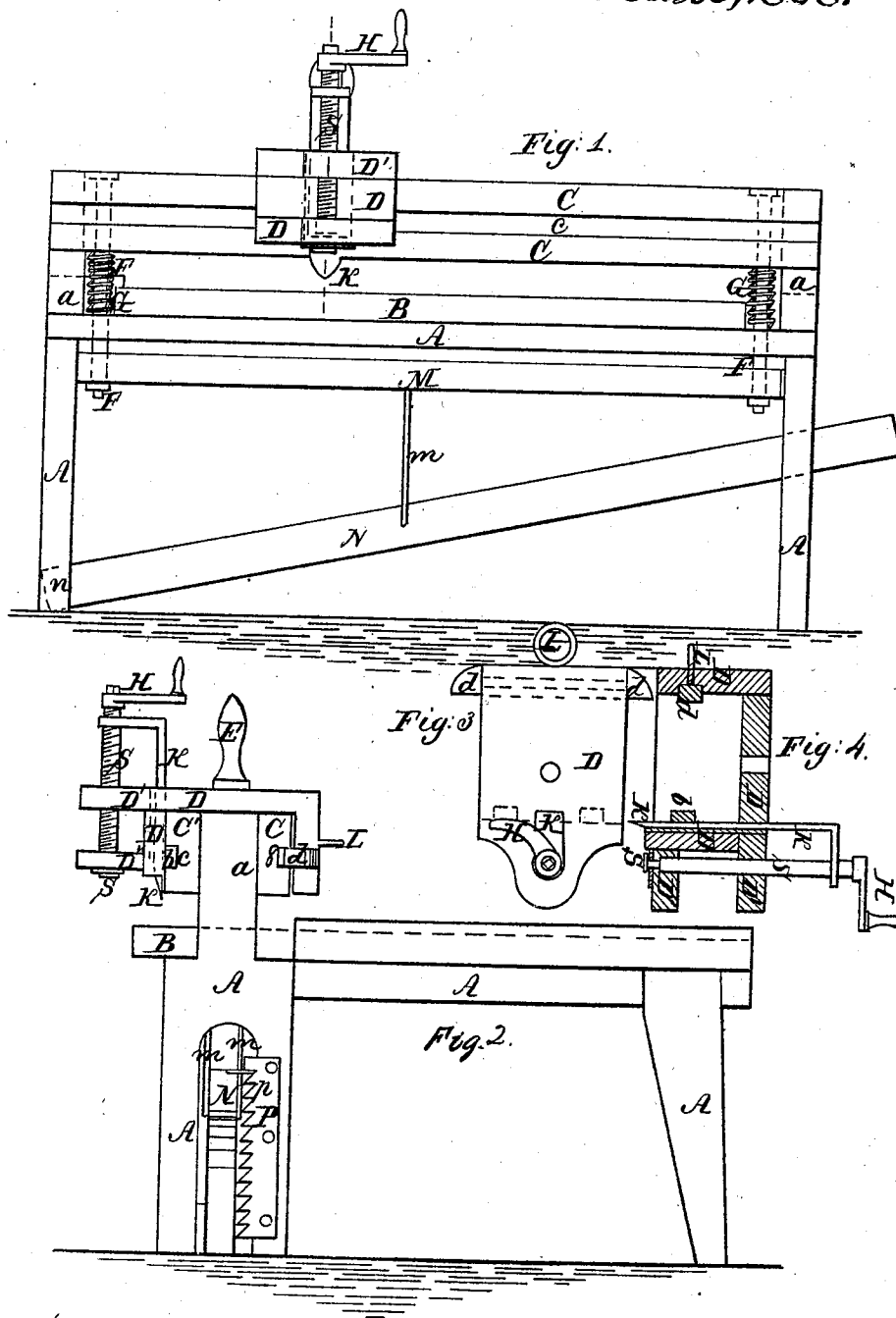


S. Ellsworth.
Paper Cutting Machn.
N^o 83,143. Patented Oct. 20, 1868.



Witnesses
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SPENCER ELLSWORTH, OF LACON, ILLINOIS.

Letters Patent No. 83,143, dated October 20, 1868.

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, SPENCER ELLSWORTH, of Lacon, in the county of Marshall, in the State of Illinois, have invented a new and useful Improvement in Paper-Cutters; and I do hereby declare and make known that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and the letters and figures marked thereon, which form part of this specification.

My said invention consists in three several and special features of improvement in paper-cutting machines; one being the manner herein described of adjusting the cutter or knife; another being the mode herein described of clamping or tightening the reciprocating knife-carriage upon its guides or ways, and holding the knife close up to the gauge-bar; and another, the mode described for raising up the bar which clamps the paper upon its bed when being cut, and for depressing said bar so as to hold the paper in place.

To enable those skilled in the art to understand how to construct and use my invention, I will proceed to describe the same with particularity, making reference in so doing to the aforesaid drawings, in which—

Figure 1 represents a front elevation of my invention;

Figure 2 is a side or end elevation of the same;

Figure 3 is a plan view of the knife-carrier; and

Figure 4 is a vertical section of the same at the line *x* in fig. 3.

Similar letters of reference in the several figures denote the same parts of my invention.

A represents a suitable frame upon which is arranged a movable or sliding table, B, which has a reciprocating or sliding movement from rear to front, in suitable ways, or within suitable guides, which movement may be effected, as desired, by any suitable mechanical appliances, or by hand, as preferred.

At the front of the machine at each end are suitable vertical standards or guides *a*, fitting in corresponding grooves in the ends of a cross-bar, C, so that while said cross-bar is held securely in place, it has at the same time a vertical movement within said supporting-guides *a*, as hereinafter more particularly described.

Between said bar C, and the permanent or stationary frame A, springs, G, are placed to hold up the said bar when desired.

To said bar C are also attached rods or arms F, which pass down through said springs, thus keeping them upright, and through the frame A, to be secured, as shown, to a movable bar, M, which is connected by a suitable rod, *m*, or otherwise, to a treadle, N, which is pivoted at one end, at *n*, to the foot of the frame A, the other end passing through a vertical slot in the frame at the opposite end of the machine, which is provided with a toothed plate, P, as clearly shown in figs. 1 and 2.

Upon said bar C is secured a knife-carriage, D, which is provided with ribs *b* *d*, entering grooved ways *c*, so that said carriage may be moved from one end of said bar C, as desired. The knife K passes down through the carriage, as seen in the drawings, a screw passing through its upper end, so that, by turning said screw by the handle H, the knife may be moved up and down, presenting a longer or shorter point below, as desired;

said screw resting in arms D, on the carriage, as indicated.

The rib *d* is movable, so that by turning a screw, L, upon it, it may be pressed inward against the recess *c*, in which it moves, so as to tighten the carriage upon its bar, C, and hold the knife close up to the face of the bar C, as desired.

Having described the construction of my said improved machine, I will now describe its mode of operation.

The paper to be cut, is laid in a pile of as many sheets as practicable, upon the sliding feeding-board or table B, and is moved under the bar C, to the required position.

The foot of the operator is then pressed down upon the treadle N, bringing the bar C down upon the pile of paper in sheets, with sufficient force to keep the same firmly in place, when the treadle is slipped under one of the catches upon the plate P, thus securing it in place.

The knife K is then turned down, so as to project as far below the bar C as it is practicable to make it cut into the paper at one movement of the carriage, when the carriage D is grasped by the operator, and moved back and forth across the machine, cutting into the pile of paper as far as possible.

The knife is then turned down by means of the screw S, and the operation repeated until the whole pile is cut through.

The treadle is then released, the springs G, throwing up the bar C, when the feeder B is again moved, bringing the paper under the knife, the treadle pressed down, and the knife adjusted, and the operation proceeded in as before.

Should the carriage D become worn or loosened in its bearings upon the bar C, so as to wind and not cut the paper true and evenly, by turning the set-screw L, the displacement is readjusted, and the operation again becomes accurate.

Having described the construction and operation of my invention, I will proceed to specify what I claim, and desire to secure by Letters Patent.

1. I claim the combination of the bar or way C, the sliding carriage D, the vertically-adjustable knife K, and screw S, all arranged, constructed, and operating in the manner and for the purposes herein set forth.

2. I claim the combination of the bar C, provided with the grooves *c*, the carriage D, provided with the rib *b*, and adjustable rib *d*, and the screw L, all arranged to operate in the manner and for the purposes described.

3. I claim the combination of the bar C, carriage D, knife K, screw S, movable rib-guide *d*, and screw L, all arranged in the manner and for the purposes specified and shown.

4. I claim the combination of the bar C, frame A, rods F, springs G, treadle N, and toothed plate P, arranged to operate as specified, and for the purposes set forth.

Witnesses:

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