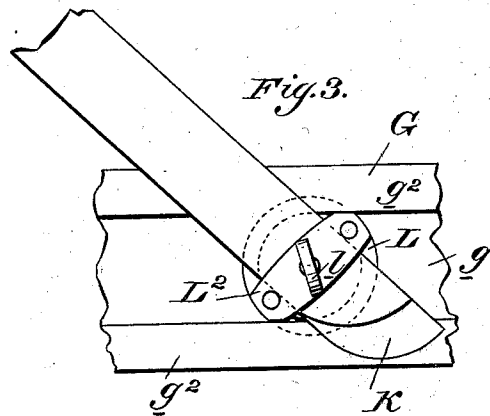
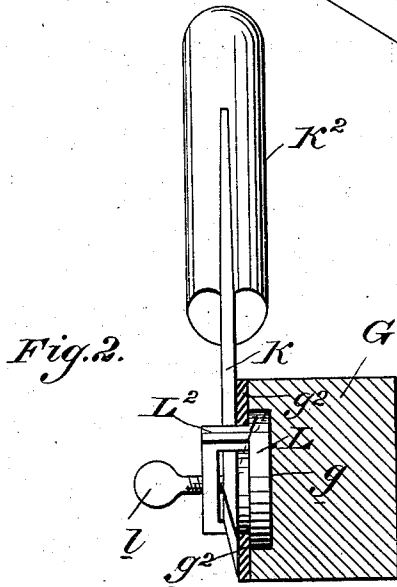
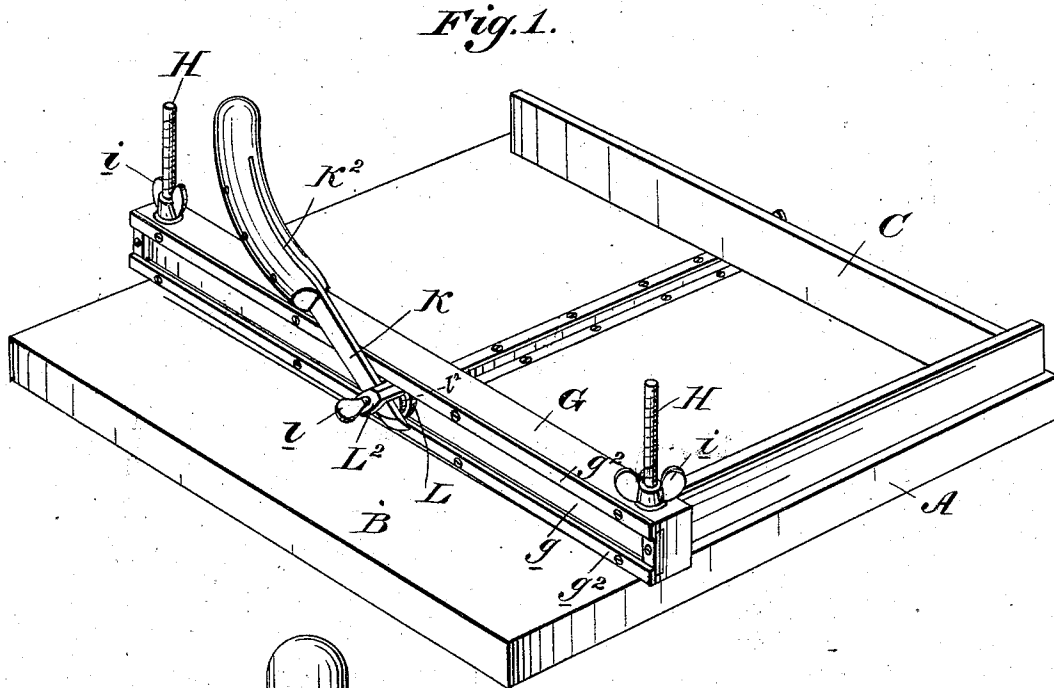


(No Model.)

G. W. SMITH.
Paper Cutting Machine.

No. 231,857.

Patented Aug. 31, 1880.



WITNESSES:

Donn P. Twitchell.
C. Spagwick

INVENTOR:

G. W. Smith
BY *Mum & Co.*
ATTORNEYS.

UNITED STATES PATENT OFFICE

GRANGER W. SMITH, OF CHILI, NEW YORK.

PAPER-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 231,857, dated August 31, 1880.

Application filed June 21, 1880. (No model.)

To all whom it may concern:

Be it known that I, GRANGER W. SMITH, of Chili, in the county of Monroe and State of New York, have invented a new and useful Improvement in Paper-Cutting Machines, of which the following is a specification.

My invention relates to an improvement on the paper-cutting machine for which Letters Patent No. 228,686 were granted to me under date of June 8, 1880. In that invention the knife or cutter is provided with a cutter-holder through which the blade of the cutter passes and is held in place by a set-screw.

In using the machine the blade of the cutter works in a slot in a pressure-bar, which holds the paper in place, and the cutter-holder slides on the top of said slotted pressure-bar.

The present invention relates particularly to the pressure-bar and the cutter-holder working in connection therewith and carrying the cutter.

The invention consists in a novel construction of the pressure-bar and the cutter-holder, whereby provision is made for the sliding and oscillating of the holder and the adjustment of the cutter, as hereinafter described.

In the accompanying drawings, Figure 1 is a perspective view of an apparatus embodying my improvements, and Figs. 2 and 3 are detail views.

Similar letters of reference indicate corresponding parts.

The frame A, board or table B, and sliding gage-board C may be similar to those shown in my patent aforesaid, or of any suitable construction and arrangement with relation to each other. So, also, may be the screws H H and thumb-nuts *i i*.

In my patent aforesaid the pressure-bar is shown as composed of two parts, G G², with a slot, *g*, between them, and the blade K of the cutter works in said slot, with the gage-block L sliding on the top of the bar.

In the present invention the pressure-bar G is provided with a groove, *g*, on one of its vertical sides, with the edges of said groove overhanging toward each other. These overhanging edges may be formed by strips *g*², of metal, wood, or other suitable material, secured to the bar G, or the whole may be made in one piece with the bar.

If desired, the groove may be of dovetail form, and made by any suitable means.

In the groove *g* works the cutter-holder L, which consists of a circular disk of a diameter corresponding with the width of the groove *g* inside of its overhanging edges *g*², which overhanging edges prevent the displacement of the holder from the groove. This disk is provided with a lateral extension, L², in which is a slot, through which the blade K of the cutter passes in a similar manner to that in which the cutter engages with the cutter-holder in my patent aforesaid, and which extension is provided with a set-screw, *l*.

As the cutter-holder is circular, it admits of a certain degree of reciprocating rotary motion in the groove *g*, said motion being limited only by the extension L², and at the same time it is free to slide easily in the groove *g*. The oscillating motion of the cutter-holder permits the cutter to be raised clear of and out of contact with the paper on the back-stroke. Upon the face of the extension L² is formed a shoulder, *p*, beneath the arch, and filling the space between the inner sides of the overhanging edges *g*², to hold the knife just clear of the edges *g*² and permit the knife to be reciprocated in the groove *g*.

I am aware that it is not new to use shoulders falling inside of the overhanging edges or flanges; but I cause these shoulders to project a little beyond them, so as to allow the knife or cutter to be both oscillated and reciprocated while held firmly within its holder.

The cutting-edge of the cutter differs from that shown in my patent aforesaid only in being more rounded.

The pressure-bar G is adjusted by means of the screws H and thumb-nuts *i*, in the same manner as described in my patent aforesaid, and the cutting is performed in the same manner by grasping the handle K² and drawing it toward the person.

In the machine described in my patent aforesaid, in order to avoid contact with the paper in the back-stroke of the cutter, it was necessary to raise the cutter upward in the slot of the pressure-bar. In this invention, in order to avoid contact with the paper on the back-stroke, the cutter is inclined from a vertical position in a direction toward the person

until it is clear of the edge of the paper to be cut or the book to be trimmed, and in the forward or cutting stroke it is raised nearer to a vertical position, and so held until the stroke is completed. This movement of the cutter and its efficiency are facilitated by having its cutting-edge rounded instead of diagonal, as in my patent aforesaid.

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

1. In a paper-cutting machine, the pressure-bar G, provided on one of its vertical sides

with a groove, g , having overhanging edges g^2 , as herein shown and described. 15

2. In a paper-cutting machine, the cutter-holder L, having upon the face of its extension L^2 a shoulder, l^2 , projecting beyond the overhanging edges or flanges g^2 of bar G, whereby the cutter can be both oscillated and reciprocated while clamped, as and for the purpose specified. 20

GRANGER W. SMITH.

Witnesses:

C. SEDGWICK,

J. H. SCARBOROUGH.