

G. A. WALKER.
Paper-Cutting Machine.

No. 209,995.

Patented Nov. 19, 1878.

Fig. 1.

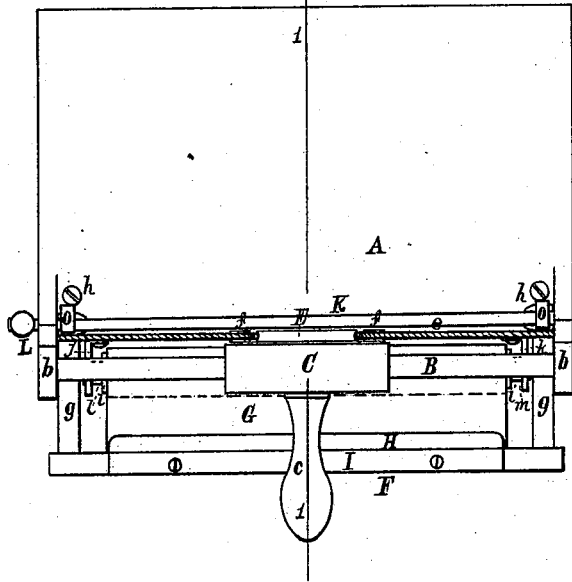
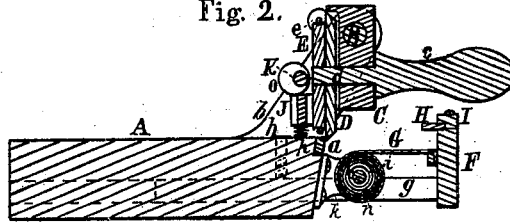


Fig. 2.



Attest;

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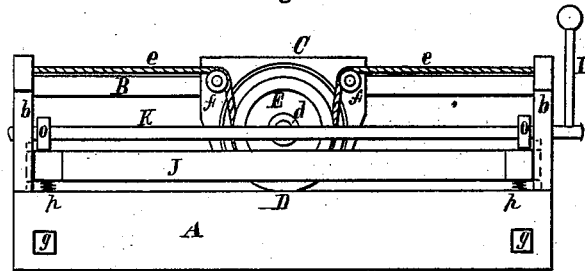
George A. Walker
per *Edw. Dummer*
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Fig. 3.



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UNITED STATES PATENT OFFICE.

GEORGE A. WALKER, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN PAPER-CUTTING MACHINES.

Specification forming part of Letters Patent No. 209,995, dated November 19, 1878; application filed March 15, 1878.

To all whom it may concern:

Be it known that I, GEORGE A. WALKER, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Paper-Cutters, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

My invention relates to machines for cutting into smaller and regular parts sheets of paper, card-board, &c., and it consists, first, in an apron and roller, upon which the apron winds, so attached to the gage and the table of the machine as to form a rest for the paper between the gage and the cutters; secondly, in a ledge so attached to the gage as to prevent the paper from curling up, and further assist in keeping the paper in place while being cut; thirdly, in a bar, operated by a cam or cams, or their equivalent, to clamp the sheets in position while being cut.

In the drawings, Figure 1 shows a plan view of a paper-cutter having the attachments embodying my invention. Fig. 2 is a vertical section taken on line 1 1 of Fig. 1. Fig. 3 is an elevation, showing the rear view.

The paper-cutter here shown is substantially of a form now in common use, with the exception of the attachments constituting my improvement.

A is the table on which the sheets of paper to be cut are laid. A cutter-bar, *a*, is firmly secured at the edge of the table. Two stands, *b*, one at either end of the table, support in the proper position a guide-rod, B. On this guide-rod slides a carriage, C, moved back and forth by means of the handle *c*. This carriage carries a circular cutter, D, which is rotated, in the operation of cutting, on a stud, *d*, its rotation being assured by a band, *e*, which passes about a pulley, E, made fast to the cutter D, and also about the guide-pulleys *f* on the carriage. The band *e* is fastened at each end to the stationary part, as to one of the stands *b*.

The gage F consists of a bar, which extends in width a sufficient distance above the level of the surface of the table A to meet the edges of the paper laid on the table, and is held by the guide rods or bars *g*, which slide horizontally in recesses in the table A. By means of

the set-screws *h* the rods *g* and gage F are secured in any desired position.

The disadvantages which appear in the use of this machine, as above described, are that there is nothing to prevent that part of the sheets of paper which is between the gage and cutter-bar from sagging, that the paper is liable to curl up in the operation of cutting, and that there is no appliance to prevent the sheets from being moved out of position while being cut. To obviate these defects, I first attach one end of an apron, G, to the gage F and the other end to a roller, *i*. This roller is held in place by the supports *j* and *k*, which are secured to the table A. I prefer to use what is commonly known as a "spring-roller." This has at one end a stud, *l*, fastened rigidly to the roller, to turn in the bearing *j*, and runs at the other end on a shaft or stud, *m*, which is fitted into the support *k*, so as not to turn. Thus the roller *i* being hollow, and containing a spiral spring, *n*, one end of which is fastened to the roller and the other end to the stationary shaft or stud *m*, the spring will be coiled on unwinding the apron G from the roller, and the action of the spring will keep the apron taut, and wind it up when the gage F is moved toward the table A.

I further improve the machine by attaching a ledge, H, to the gage F at a suitable distance above the apron G. This ledge is only of sufficient width to extend a short distance over the edge of the paper as it is brought to the gage, and may be made of glass, so that the edges of the paper will not be concealed, being held in place by the cleat I, as shown.

I still further improve the machine, and do away with the third defect, by placing a clamp-bar, J, at the rear of the cutter D, and parallel with the cutter-bar *a*. The bar J is arranged to slide vertically, as here shown, by projections thereon moving in vertical grooves in the stands *b*. Parallel with the bar J, and above it, is a shaft or rod, K, which has fixed to it, one at either end, the cams *o*. The rod K has also fixed to it a hand-lever, L, in convenient position for turning the rod, and hence the cams *o*, which, being situated to bear on the top of the bar J, may thus be caused to press this bar downward. The bar J may be raised by springs *p*, placed between it and the

table, to press against the bar and the table; or the bar J may be raised by the cams *o*, which, in their reverse movement, may be made to press against the projections connected to the bar, that it may be lifted thereby.

It will be readily seen that my attachments are effective in operation; that the paper will be well supported, and be prevented from curling up or getting out of place in the operation of cutting, and may be securely clamped to the table.

Variations in the form of construction of my attachments might be made without changing the essential features of my invention. The roller *i* might be fixed to the gage F and the other end of the apron to the table. Other methods of attaching a spring to the roller *i*, or a weight, instead of the spring *n*, might be used.

It will also be seen that my invention is not necessarily confined to paper-cutters having a circular cutter, D, but may be used in other machines—as, for instance, those having straight cutters only.

I claim as my invention—

1. The combination of the table A, gage F, apron G, and roller *i*, substantially as hereinbefore described.

2. The combination of the gage F, apron G, and roller *i*, having the spring *n*, constructed and operating substantially as and for the purpose hereinbefore set forth.

3. In a paper-cutting machine having an apron, G, or its equivalent, for supporting the paper, the combination of the table A, gage F, and ledge H, the latter located to project over the edge of the paper, substantially as and for the purpose hereinbefore set forth.

4. The combination of the rotary cutter D, operated as set forth, table A, clamp-bar J, stands *b*, and cams *o*, substantially as hereinbefore described.

GEORGE A. WALKER.

Witnesses:

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