

J. L. GREGORIE. Paper Cutting Machine.

No. 124,352.

Patented March 5, 1872.

Fig. 1

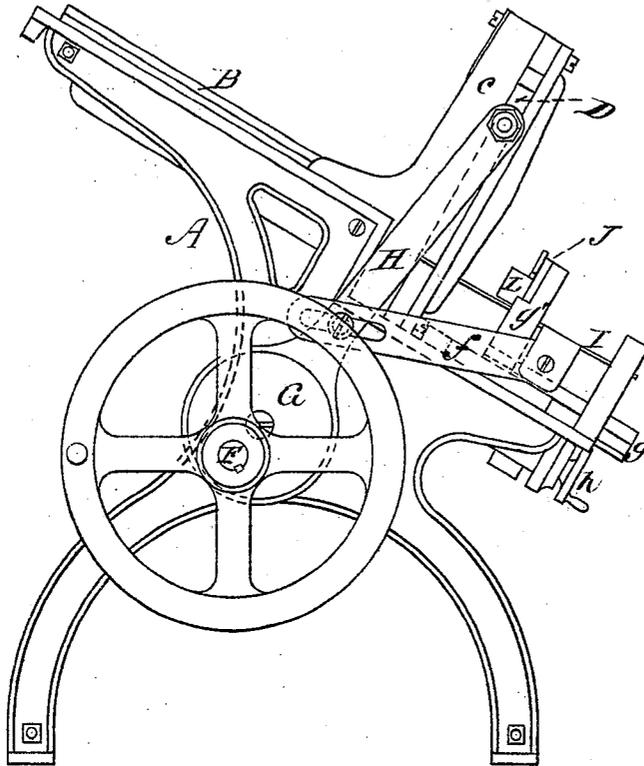
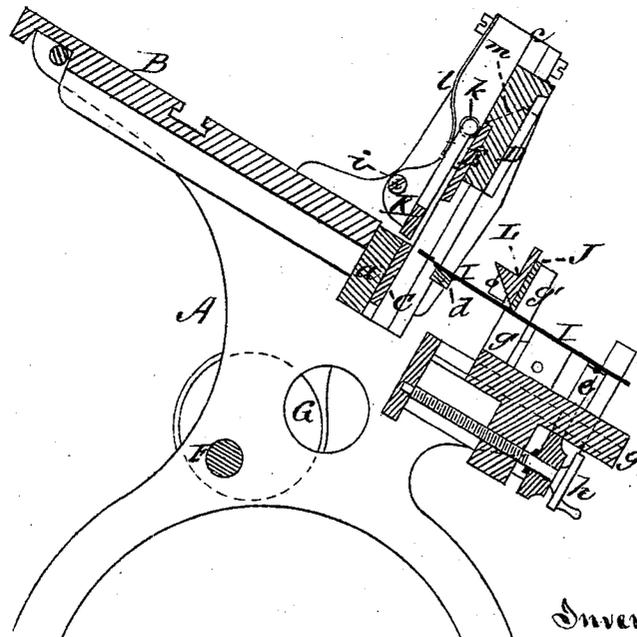


Fig 2



Witness:

B. S. De Forest
George Pohl.

Inventor:

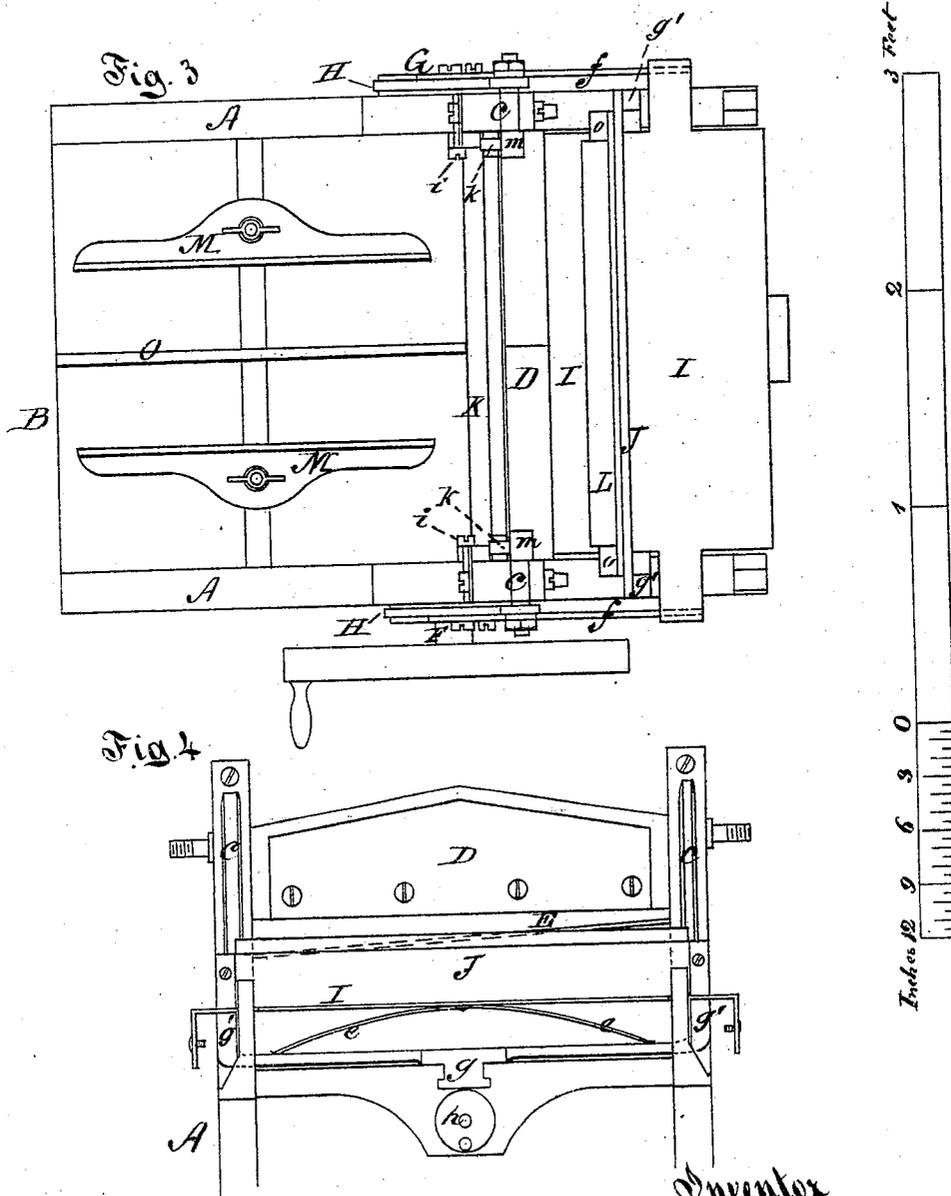
James L. Gregorie
by Wm W. Lotz
his Attorney

J. L. GREGORIE.

Paper Cutting Machine.

No. 124,352.

Patented March 5, 1872.



Witness:

B. S. D. Forest

George Pohl.

Inventor

James L. Gregorie
by Wm. H. Lotz
his Attorney

UNITED STATES PATENT OFFICE.

JAMES LADSON GREGORIE, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN PAPER-CUTTING MACHINES.

Specification forming part of Letters Patent No. 124,352, dated March 5, 1872.

SPECIFICATION.

To all whom it may concern:

Be it known that I, JAMES LADSON GREGORIE, of Chicago, in the county of Cook and State of Illinois, have invented certain Improvements in Card-Board-Cutting Machine or Squaring-Shears, of which the following is a specification, reference being had to the accompanying drawing.

My invention relates to a machine for cutting card-board, straw-board, &c., into pieces of any required size; and consists in a novel manner of constructing and combining the various parts of the machine, as hereinafter described.

Figure 1 is a side elevation of my machine. Fig. 2 is a longitudinal vertical section through the middle of the same. Fig. 3 is a top-plan view of the machine. Fig. 4 is a rear-end view of the machine, looking upward in line with the bed or table.

A represents the frame of my machine, consisting of two side pieces or legs connected by cross-bars. On the frame A is secured an inclined stationary table, B, on which the material to be cut is laid; and to a cross-bar, *a*, at the lower end of the table B the lower knife or cutter C is rigidly bolted, as shown in Fig. 2. On each side of the frame A is an inclined slotted standard, *e*, and across the top of the machine is placed a strong bar or head, D, having its ends arranged to slide in the standards *e*, and having the upper knife or cutter-blade E bolted to its side, as shown in Figs. 2, 3, and 4. Across the machine below the table is mounted a horizontal shaft, F, on the ends of which are secured eccentrics G, which are connected by pitmen H with the respective ends of the cross-bar D, so that when the shaft is turned the eccentrics and pitmen move the bar D with its knife up and down, the knife at each descent being carried down closely past the lower stationary knife C. The upper knife is arranged in the usual manner, with one end of its cutting-edge higher than the other, so as to operate with a draw or shear cut. I is an inclined bed or table, forming a continuation of the table B on the opposite side of the cutters. The upper edge of the table I is attached to a bar, *d*, which has its ends pivoted in the sides of the main frame, while

the lower edge is supported on an elliptic spring, *e*, as shown in Figs. 2 and 4, so that it can be depressed, as hereinafter described. To each rear corner of the table I there is pivoted a bar, *f*, having its opposite end slotted and mounted on a stud on the corresponding pitman H, as shown in Figs. 1 and 3, so that each time the pitmen draw the upper knife down they also draw down the bars *f* and depress the lower edge of table I, the table being again raised by the spring as the pitmen ascend. In the main frame under the table I is mounted a longitudinal sliding bar, *g*, operated by a screw and hand wheel, *h*, as shown in Figs. 2 and 4, and on said bar are formed lateral arms *g'*, which extend up past the sides of table I, and have a cross-bar, J, secured to their upper ends, as shown in all the figures. When the table I is up in its natural position it bears against the under side of the bar J; but when it is depressed an open space is left between it and the bar, through which the pieces or strips of card-board pass after being cut off. The sheets which are to be cut are shoved or allowed to slide through between the knives and against the bar J, which thus serves as a gauge to determine the width of the pieces.

By turning the hand-wheel *h* the bar J may be moved toward or from the cutters, so as to adjust the machine for cutting any required width.

Immediately over the lower knife C there is mounted a pinch-bar, K, having its ends pivoted to the frame at the points *i i*, as shown in Figs. 2 and 3. On each end of the pinch-bar there is an upright arm, *k*, with a roller on its end, against which springs *l* bear, so as to tip the bar and force its lower edge down upon the lower knife C. On each end of the bar D, which carries the upper knife, there is an incline, *m*, and when the bar rises these inclines strike the upper ends of arms *k* and tip the pinch-bar K so as to raise its lower edge.

The various parts being arranged as described, if a sheet of card-board be placed on the table B and the shaft F turned; the following operations will take place: First, the upper knife rises and the pinch-bar K tilts so as to let the sheet slide down under it against the gauge-bar J. The pinch-bar K then locks down upon the sheet and holds it in place,

while the knife descends and cuts through it. As soon as the knife has finished its cut the table I drops down and permits the strip or piece cut off to slide down under the bar J and out of the machine. The knife then ascends, the table rises against the bar, and the pinch-bar releases the sheet, which slides down as before against bar J. The former operations are then repeated, and so on continuously, the sheets being automatically fed down, cut into strips of equal size, and delivered from the machine.

As there is sometimes a tendency of the lower edge of the sheet to curl up, so that the strips after being cut off will not pass under bar J when the table is depressed, there is attached to the upper side of said bar another bar, L, having its face inclined under, so as to force the edge of the sheet down. This bar L is provided under each end with a small stud or leg, *o*, as shown in Figs. 2 and 3, and it is so connected to the bar J as to have a little vertical play thereon. When the table I is up in position the legs *o* bear thereon and hold the bar L up sufficiently to let the edge of the card-board pass under it and against the face of bar J; but when the table is depressed to let the card-board slide out the bar L drops down so that its edge is below that of bar J, so as to guide the card-board under said bar J and prevent it from catching thereon. On the table B I mount two guide-bars, M, which

are adjustable laterally, and in the center of the table I place a detachable guide-bar O.

When card-board or other material is to be cut up into cards or pieces the central guide O is removed, the guides M properly adjusted, and the sheets fed through the machine and cut into strips. After this has been done the central guide O is secured in place, the outside guides adjusted, and the strips passed through the machine two at a time and cut into pieces of the required size.

Having fully described my invention, what I claim is—

1. The combination of the shaft F, eccentrics G, pitmen H, and bars *f* with spring *e* for operating automatically the pivoted table I, as and for the purpose set forth.

2. In combination with the pivoted table I and gauge-bar J, arranged to operate as described, I claim the vertically-sliding bar L, constructed as described, as and for the purpose set forth.

3. In combination with the moving head D, the pivoted pinch-bar K and springs *l*, when constructed and arranged substantially as described, for automatically clamping the card-board, as set forth.

JAMES LADSON GREGORIE.

Witnesses:

SAML. T. GREEN,
FRITZ FOLTZ.