J. G. MORGAN.
Paper-Cutting Machine.

No. 198,519. Patented Dec. 25, 1877.

Fig. 1.

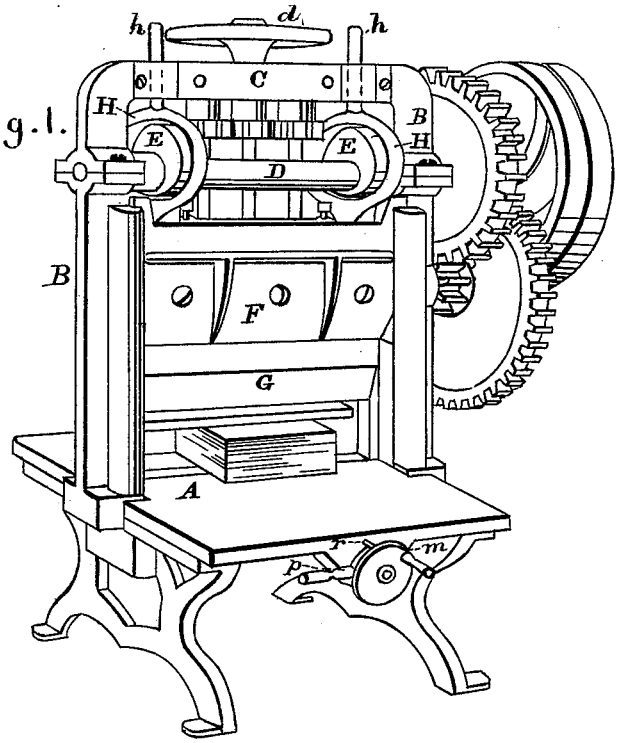



Fig. 3.

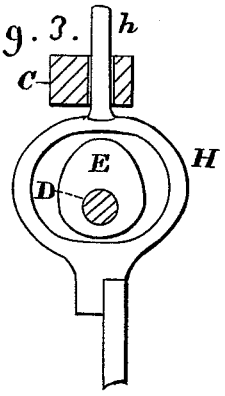



Fig. 4.

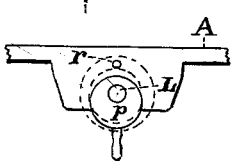
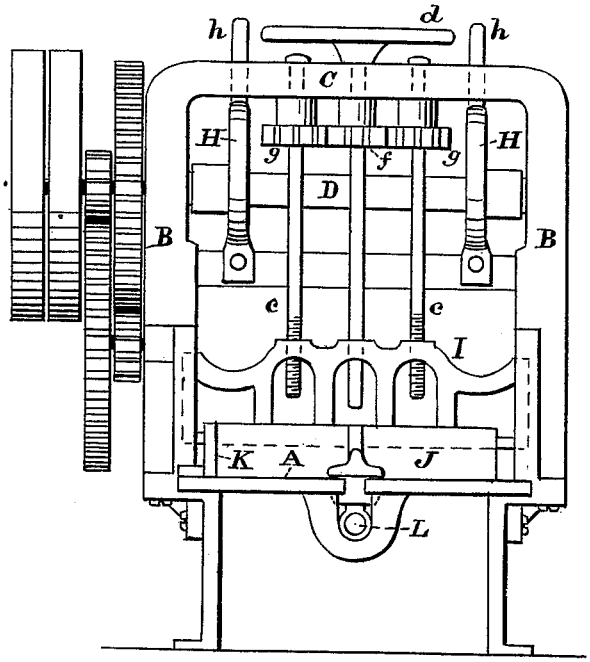



Fig. 2.

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# UNITED STATES PATENT OFFICE.

JOHN G. MORGAN, OF APPLETON, WISCONSIN.

## IMPROVEMENT IN PAPER-CUTTING MACHINES.

Specification forming part of Letters Patent No. **198,519**, dated December 25, 1877; application filed December 11, 1876.

*To all whom it may concern:*

Be it known that I, JOHN G. MORGAN, of Appleton, in the county of Outagamie and State of Wisconsin, have invented an Improved Paper-Cutting Machine, of which the following is a specification:

The object of this invention is the construction of a paper-cutting machine in which the movement of the knife will be at the same speed at all points in its downward stroke, and also to equalize the power requisite to effect the cutting, so that it will be uniform at all points.

In the accompanying drawings, forming a part of this specification, Figure 1 is a perspective view of the machine as seen from a position at the left front. Fig. 2 is a rear elevation of the machine. Fig. 3 is a detached view of one of the cams and yoke referred to herein. Fig. 4 illustrates the eccentric *p* referred to herein.

On the frame-work of the machine is placed the bed A, which is divided into two parts, the division being directly under the knife. On each side of the machine is an upright standard, B, and both are connected at their upper extremities by a yoke or cap, C.

D indicates a shaft, having bearings in the standards B, and upon which are the cams E. F is the plate, which holds the knife G, the standards B being grooved to receive the extremities of said knife-plate. The yokes H, within which work the cams E, are rigidly attached to the knife-holding plate F, as shown in the drawings, and have projections *h* at the top, which move in guides formed in the cap C.

I designates a binder for the paper, placed just back of the knife, and which also moves in grooves formed in the uprights B. The said binder is operated by means of two screws, *c*, supported by the cap C, as shown in Fig. 2. Midway between said screws *c* is a vertical shaft, at the upper end of which is a hand-wheel, *d*, said shaft being provided with a gear, *f*, which meshes into gears *g* on the screw-shafts *c*, so that the latter are turned simultaneously, and the binder is at all times kept in a horizontal position, producing an equal pressure at all points on the paper.

On the rear part or division of the bed A are two guides, J and K, for the paper, one of which, J, is parallel with the cutting-knife, and is moved forward and back by means of a screw, L, located under the bed A, along the center thereof, and at right angles with the cutting-knife. The said screw L is worked by means of a crank or hand-wheel, *m*, at the front of the machine. On the screw L, between wheel *m* and the edge of the bed is an eccentric, *p*, which, being revolved, comes in contact with a stud, *r*, inserted in the edge of the bed, and thereby holds the screw, and prevents it from turning and displacing the paper while being cut. The other guide or stop, K, is located at right angles with the knife, and is attached to the bed by bolts or screws. The construction of the machine, as above described, is such that the force produced by the revolution of the cams is the same from the point of contact of the knife with the paper to the completion of its downward movement. The movement of the knife being in a vertical plane, the result is a cleaner cut and a smoother edge on the paper than when the cutting is produced by a knife combining a lateral with the downward movement.

I claim—

1. The uprights B, provided with grooves for grinding the knife-plate, and bearings for the cam-shaft, combined with a cap, C, having bearings or supports for the projections *h* of the yokes H, and for the central vertical shaft and screw *c* of the binder mechanism, substantially as specified.

2. The binder I, having side bearings in the frames B, and operated from a central shaft and gear by means of the vertical screws *c* and gears *g*, combined with the bed-plate A, having the adjustable gage J and guide K, substantially as described.

3. The sliding gage upon the cutting-table operated by the screw L, in combination with the eccentric *p* and stud *r*, for securing the screw in position and preventing any movement of the gage during the act of cutting, as and for the purpose described.

JOHN G. MORGAN.

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