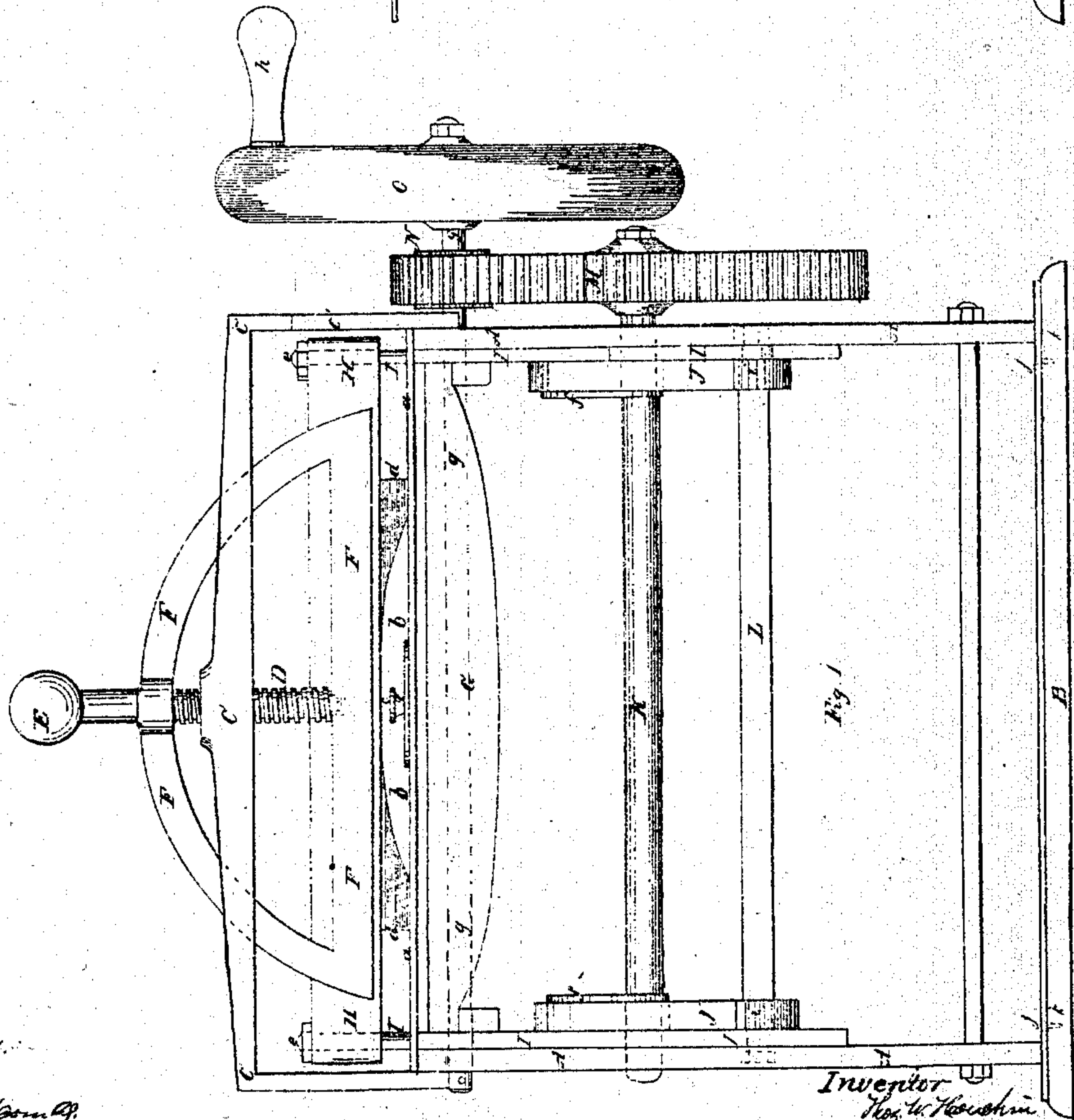
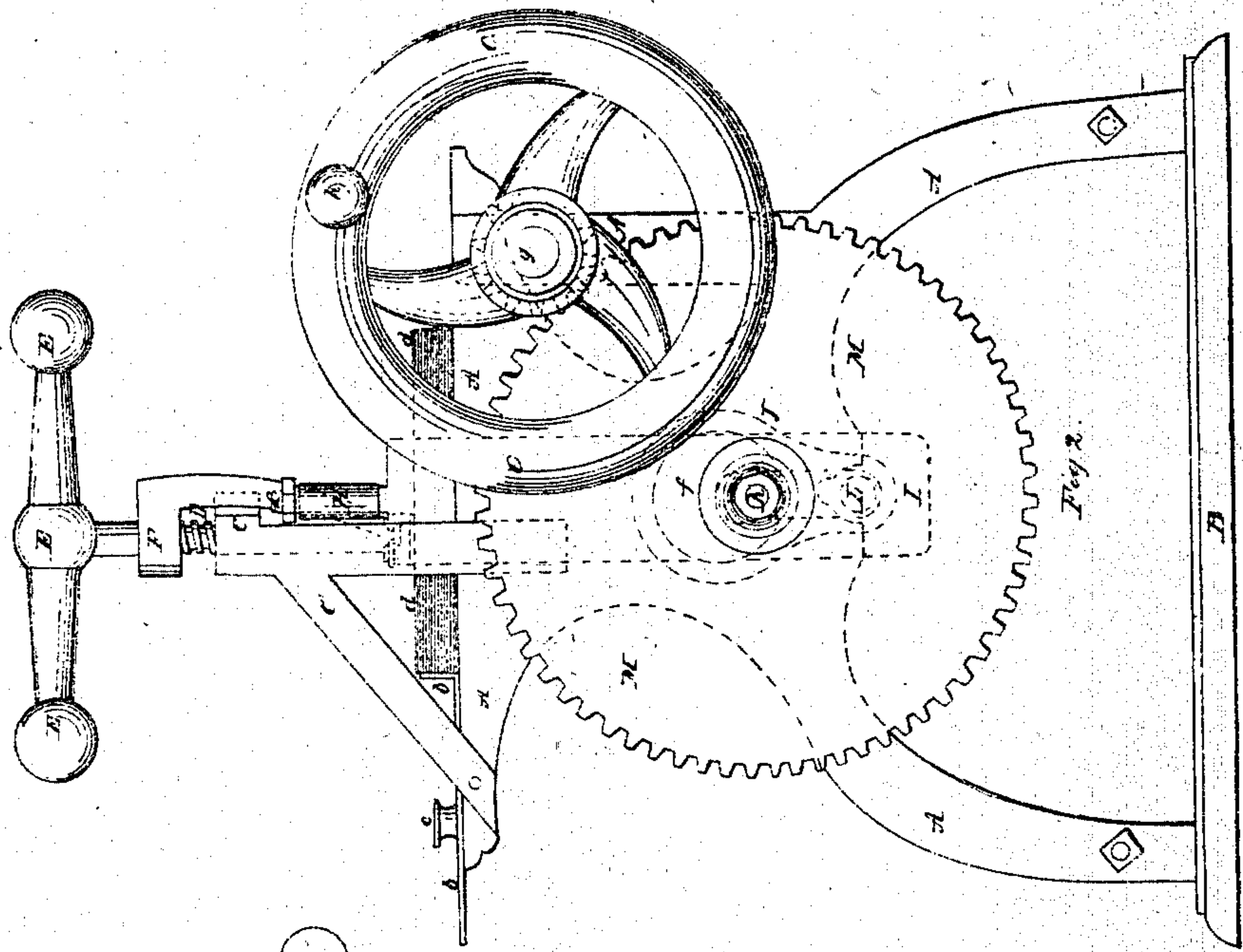


T. W. Houchin.
Paper Cutting Mach.
No 26499. Patented Dec. 20. 1859.



Witnesses.

Chas. M. Adams
Geo. L. Adams
11.11

Inventor
T. W. Houchin
By his Attorney,
John H. Dwyer

UNITED STATES PATENT OFFICE.

THOMAS W. HOUCHIN, OF WORCESTER, MASSACHUSETTS.

MACHINE FOR CUTTING PAPER.

Specification of Letters Patent No. 26,499, dated December 20, 1859.

To all whom it may concern:

Be it known that I, THOMAS W. HOUCHIN, of Worcester, in the county of Worcester, in the State of Massachusetts, have invented certain new and useful Improvements in Paper-Cutting Machines; and I do hereby declare that the following is a clear, full, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, forming a part of this specification, in which—

Figure 1 represents a side view, and Fig. 2 an end view.

A represents the frame of the machine, and which is usually made of cast iron.

B is a base to which the frame A, in this instance, is attached by means of screws *j*, passing through the feet *k* of the frame A.

The paper to be cut, is placed upon the top of the frame, (which is covered to form a table,) as shown at *d* in the drawings. The paper is held down firm on the table while being cut by means of a platen or pressing plate F.

The platen or pressing plate F, is operated by means of the handle or lever E and screw D the lower end of screw D being fitted into the lower part of platen F, as shown in dotted lines Fig. 1, so that while the screw D is free to turn, its connection with the platen F is such that its ascent or descent causes the platen to rise or fall.

The upper end of D is smooth, where it works through F, but by turning the handle or lever E the screw D is made to rise or fall together with the platen or pressing plate F, in consequence of screw D working in a female screw in the top piece C, which is fastened permanently to the frame A, as shown in Fig. 1, and braced as shown at C', Fig. 2. It will thus be seen that by simply turning the handle E, after the paper has been placed in the proper position to be cut, the platen or pressing plate F can be forced down onto the paper, so as to hold it firm in place.

A gage *b* is attached to the table part of the machine and is provided with a set or thumb screw *c*, whereby the paper can be gaged before being cut. The paper is cut by means of a knife H, which is attached to

slides I, I, or to a cross head fitted to said slides, and so arranged as to work close up against the plate F.

The necessary motion is communicated to knife H by means of power applied to shaft *g*, to which is attached a gear N, which works into gear M on shaft K, both shafts *g* and K being properly supported in bearings in the frame A. As the shaft K is revolved a reciprocating motion is imparted to the slides I, I, to which the knife H is attached by means of eccentrics *f*, *f*, (which are rigidly keyed to shaft K, and arranged as shown in Fig. 1) and coupling arms or links J, J, the lower ends of coupling arms J, J, being fitted to turn loosely at *i*, *i*, on the connecting bar L, which unites the lower ends of the slides I, I, as shown in dotted and full lines Fig. 1.

The slides I, I, are fitted to slide up and down on the inside of the ends of the frame A, while the ends of the frame are slotted out so as to permit the ends of the connecting bar L, together with the nuts, by which the slides I, I, are fastened to it, to have free play up and down. The coupling arms J, J, are vibrated by the action of the eccentrics *f*, *f*, while at the same time they are raised and lowered.

It will be seen that the machine above described is not only simple in construction, but at the same time a very powerful and effective one.

The knife H is so connected with the slides I, I, that it can be adjusted by means of the nuts *e*, *e*, to set the edge thereof nearer to or farther from the cutting plate *a*, of soft metal, which is supported on bed plate G. The knife is to be set so as to just cut through the paper into the soft metal, and thus allow the gearing and shafts for working the slides to be revolved continuously in one direction. In this way the power applied to cut the paper continues to act to raise the knife for another cut, while at the same time the power of the eccentrics just at the moment of the final cut, is very great and does not fail to produce a clean and perfect cut of the bottom sheets.

The machine may be operated by the handle *h* in the side of the balance wheel O or in any other manner.

The gears N, M, may be varied in size to suit the general character of the work to be performed.

5 Having described my improved paper cutting machine, what I claim therein as new and desire to secure by Letters Patent, is:

The combination and arrangement of the knife H, slides I, I, and connecting bar L,

with coupling arms J, J, eccentrics *f*, *f*, and shaft K, substantially as and for the purposes set forth. 10

THOS. W. HOUCHIN.

Witnesses:

APPLETON DARTMOORE,
Jos. H. WHITNEY.