

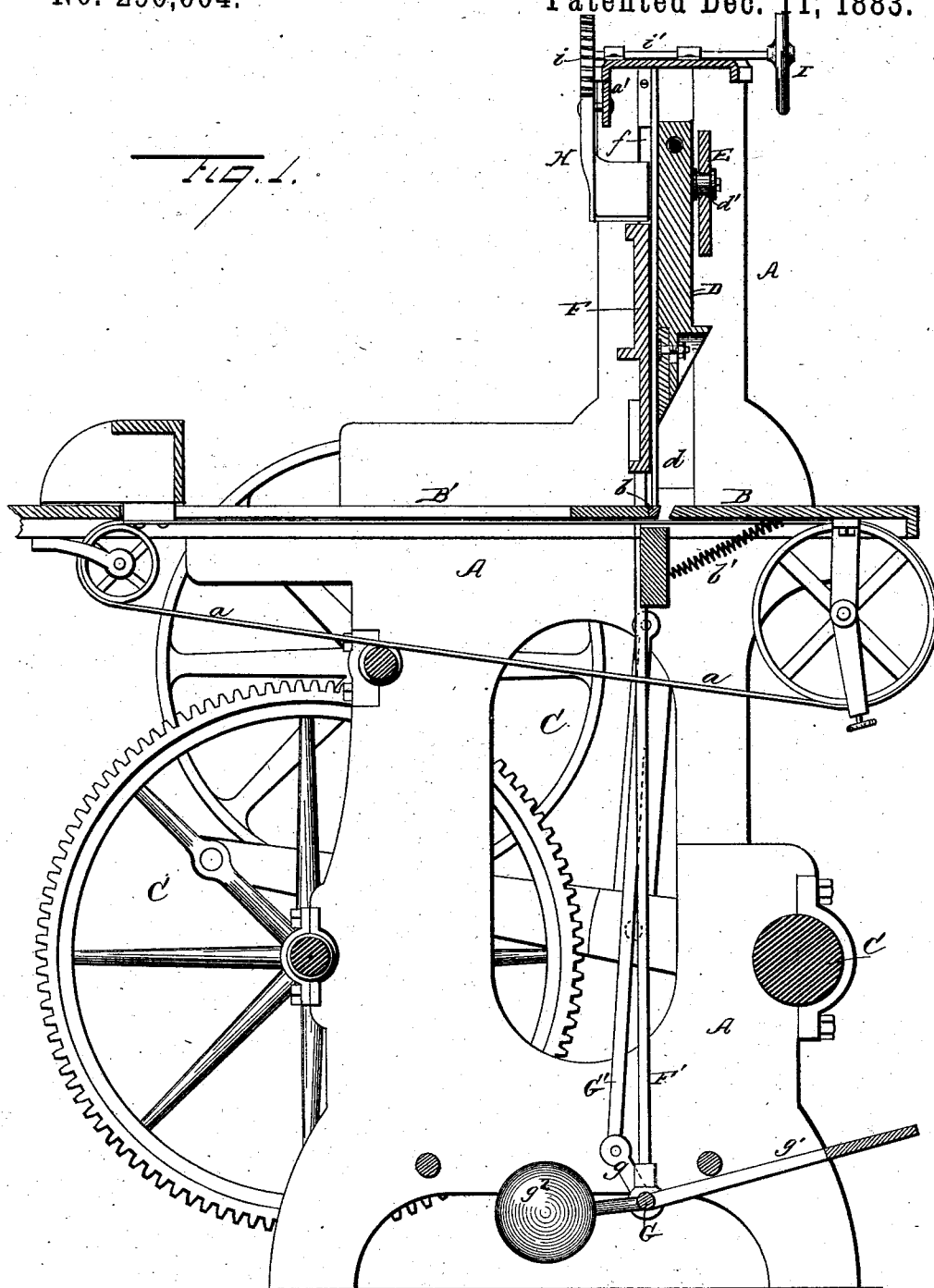
(No Model.)

2 Sheets—Sheet 1.

E. P. DONNELL.
PAPER CUTTING MACHINE.

No. 290,004.

Patented Dec. 11, 1883.



WITNESSES:
A. C. McArthur
Francis Johnson

Inventor.
Edward P. Leouelle
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Attorney.

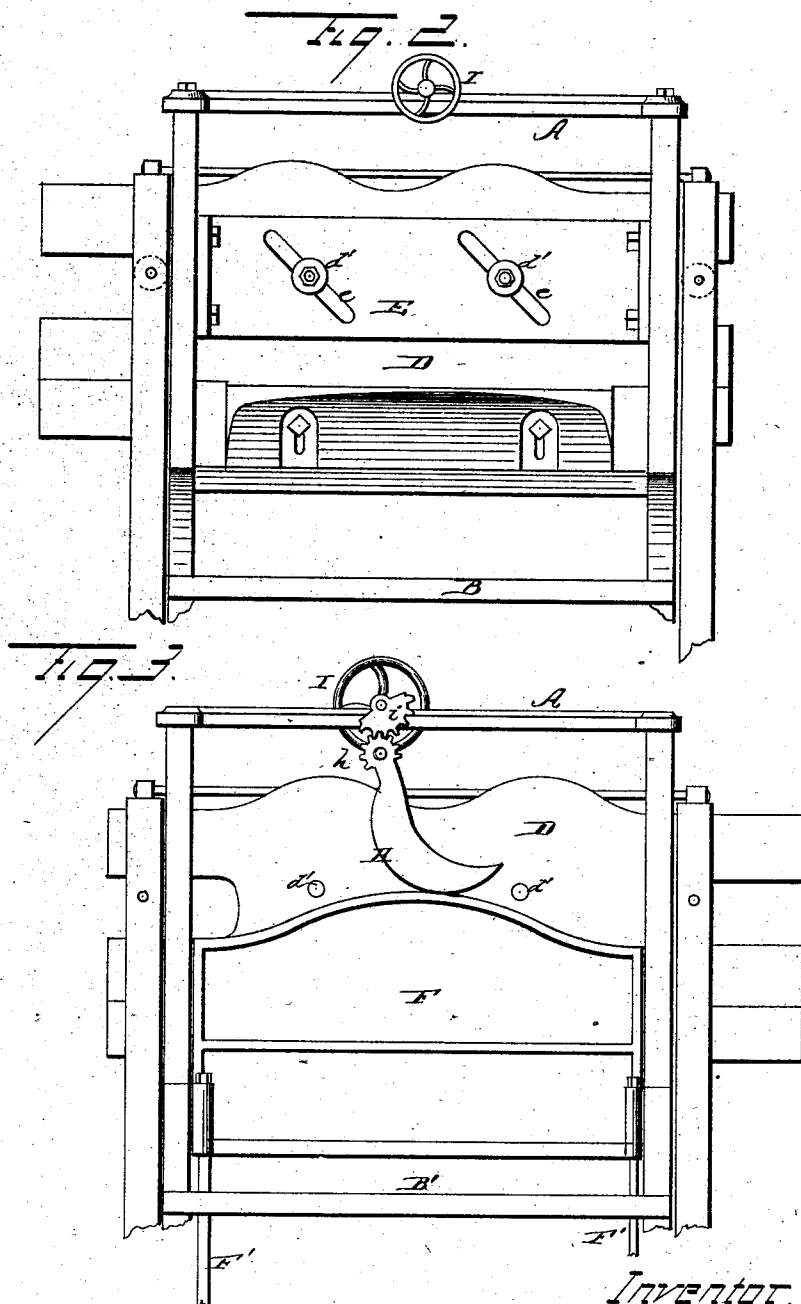
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Edward P. Donnell

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H. Harrison
Attorney.

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H. C. McArthur,
Frank Johnson

UNITED STATES PATENT OFFICE.

EDWARD P. DONNELL, OF CHICAGO, ILLINOIS.

PAPER-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 290,004, dated December 11, 1883.

Application filed April 14, 1883. (No model.)

To all whom it may concern:

Be it known that I, EDWARD P. DONNELL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Paper-Cutting Machines, of which the following is a specification, to wit:

This invention relates to improvements in paper-cutting machines; and it consists in certain peculiarities of the adjustable self-locking clamp and other points, which will be hereinafter more fully described, and pointed out in the claims.

In order to enable others skilled in the art to which my invention relates to make and use the same, I will now proceed to describe its construction and operation, referring to the accompanying drawings, in which—

Figure 1 is a longitudinal vertical section of a paper-cutter having my improvement attached. Fig. 2 is a front elevation, and Fig. 3 a rear elevation, of the upper part of the same.

A represents the frame of the machine, which is formed in the usual or any desired manner, and provided with the usual band-gage, *a*, two-part table B B', and gearing C, for operating the knife either by hand or steam power. The knife-bar D operates in slots *d* in the end frames, as usual, and is given a transverse motion through said frames by means of the friction-rollers *d'*, carried by the knife-bar and running in inclined slots *e e* in a casting or cross-bar, E, secured to the frame in front of the knife, thus greatly strengthening the knife-bar where it is usually weakened by slotting to admit of rollers carried by the clamp, and also leaving the clamp perfectly free to rise and fall independent of the knife, as will be readily understood by reference to the drawings.

The clamp F is also arranged to slide vertically in grooves *ff* in the side frames just in rear of the knife-bar D, and to the outer ends of this clamp are secured rods F', passing down through the table B', and carrying in their lower end a shaft, G. This shaft is formed or provided at either end with a short arm, *g*, inclining backward and connected by a rod, G', with the main frame A, which connection forms a toggle, which, when the shaft G is turned, forces down the rods F' and clamp F.

The shaft G is also provided with a foot-treadle, *g'*, upon its forward side and a short-weighted arm, *g''*, upon its rear side, as shown clearly by Fig. 1.

The upper part of the frame A is provided on its rear side with a projection or lug, *a'*, to which is pivoted a cam bar or arm, H, formed with teeth *h* upon its upper end, and having its lower end adapted to rest upon the clamp, as shown in Fig. 3, in such a manner as to lock it in any position when down, and so hold the paper tightly clamped. The toothed segment *h* upon the upper end of this cam-bar H meshes with a segment-gear, *i*, upon the end of a shaft, *i'*, journaled in the frame A, and provided with a hand-wheel or crank-handle, I, within easy reach of the operator, by means of which the bar H may be raised to allow the use of the clamp. It is obvious that the same result may be had by connecting the shaft *i'* directly to the clamp-bar and dispensing with the gear.

The two parts B B' of the table are secured to the frame, with a slight space between them immediately below the knife, as usual; but this space, instead of being filled with wood, as at present, I leave entirely open, as shown in Fig. 1, and to the forward edge of the rear portion, B', of this table I secure a steel bar, *b*, having its face and side slightly underbeveled, as represented, and so placed with reference to the knife that when the latter descends it will pass the cutting-edge of this bar, thus enabling the machine to make a much cleaner cut of the paper, and preventing the trouble of frequently replacing the wooden cutting-block usually used at this point. The forward part, B, of the table is placed in horizontal grooves in the side frame, and provided with a spring, *b'*, adapted to retain it in position with its inner edge nearly in contact with the cutting-edge *b*. This edge of the sliding table is also beveled to correspond with the bevel on the knife-blade, and by this arrangement the space between the two parts is reduced to the smallest practicable extent, and the knife is free to push the part B aside as it descends. This also enables the table to be drawn back at any time to allow clippings to be dropped through beneath the machine.

In operation the paper to be cut is placed

upon the table B B' in proper adjustment, and by means of the foot-treadle and its toggle the clamp is drawn down tightly upon it and held in that position by the cam-bar, which follows the clamp and locks it by its own weight. The gearing C is then started, and the knife-bar drawn down, and it is at the same time given a transverse motion by the slots in the casting or cross-bar E, the knife-blade descending until it has shoved past the cutting-edge of the bar *b*. The hand-wheel I is then turned, throwing up the cam-bar or locking-arm H, and the clamp F is then thrown up by reason of the weighted arm *g*², which breaks the toggle *g* G', and lifts by the rods F'. It will thus be seen that when clamping the work both hands may be used in holding it in place, and when clamped it is automatically locked by the cam, but is easily and quickly unlocked by means of the hand-wheel and segment.

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

1. In a paper-cutter, the combination, with the clamp-bar, of a locking arm or cam falling behind the clamp as it is drawn down, and provided with means for unlocking it, when desired, substantially as and for the purpose set forth.

2. In a paper-cutter, the combination, with the clamp-bar having rods extending downward through the frame, of a foot-treadle journaled in the lower ends of this rod, and connected by a toggle to the main frame, and provided with a weighted arm adapted to break the toggle, whereby the clamp is drawn down by foot-power and thrown up automatically, as shown and described.

3. In a paper-cutter, the clamp F, in combination with the cam-bar or locking-arm H, adapted to fall by its own weight, and having segment *h* upon its upper end, the segment *i*, shaft *i*', and hand-wheel I, substantially as described and shown.

4. In a paper-cutter, the clamp F, having rods F', in combination with the shaft G, having arms *g*, and toggle-connection G', foot-lever *g*¹, and weighted arm *g*², all constructed and arranged to operate substantially as and for the purpose set forth.

5. In a paper-cutter, the clamp F, with its rods F', locking-cam H, having segment *h*, segment *i*, shaft *i*', and hand-wheel I, in combination with the foot-treadle G *g*¹, toggle *g* G', and weighted arm *g*², all constructed and arranged to operate substantially as and for the purpose set forth.

6. A paper-cutter consisting, essentially, of the main frame A, two-part table B B', having a cutting edge or bar, *b*, the knife-actuating mechanism C, and knife-bar D, provided with rollers *d*', operating in inclined slots *ee* of the bar E, in combination with the vertically-sliding clamp F, having rods F', locking-arm H *h*, segment *i*, and hand-wheel I, foot-treadle G *g*¹, weighted arm *g*², and toggle *g* G', all constructed and arranged to operate substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD P. DONNELL.

Witnesses:

RICHD. NEEL,

FRANK JOHNSON.