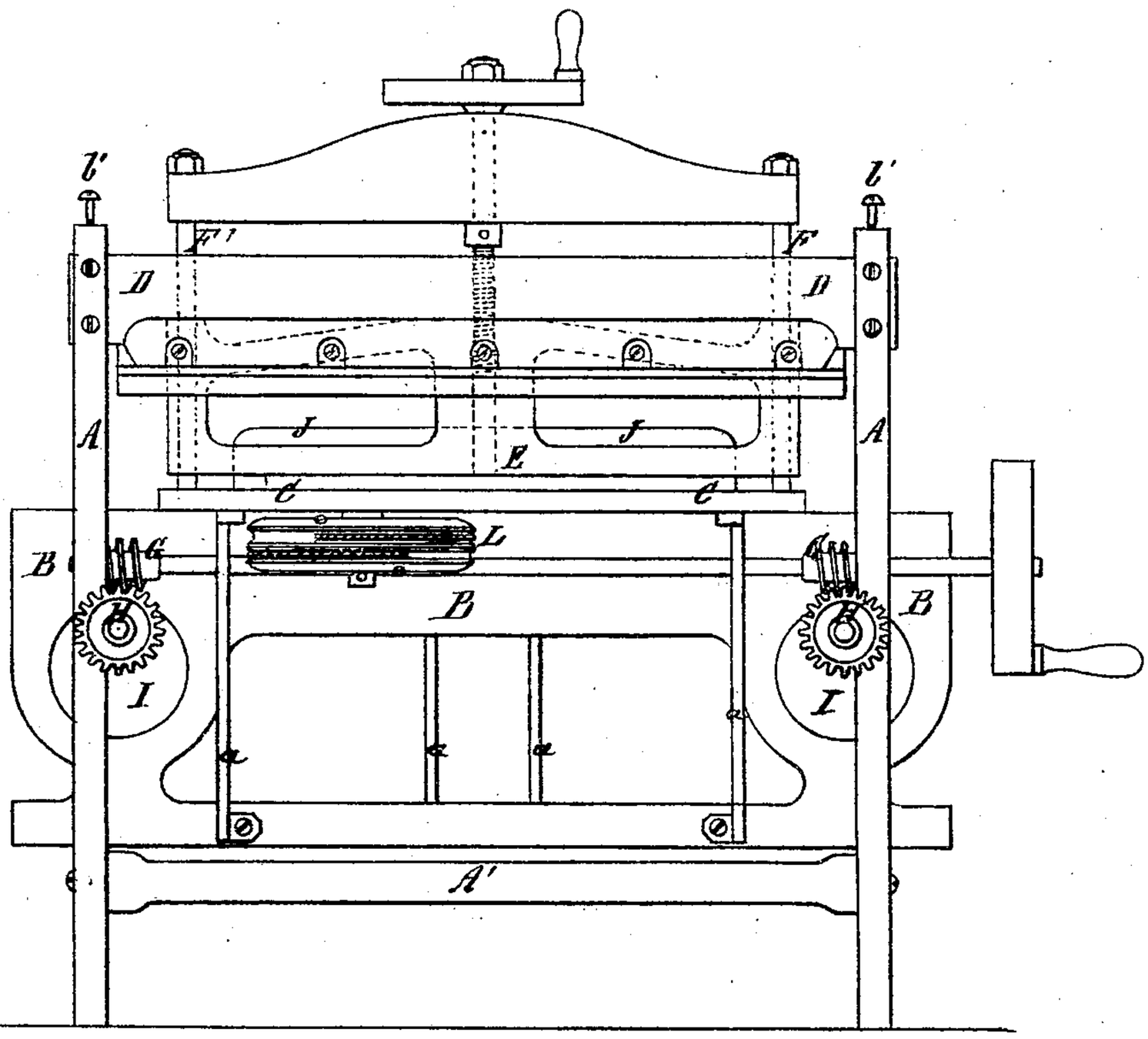
2 Sheets--Sheet 1.

G. A. WALKER.

Machines for Cutting Paper.

No. 145,464. Patented Dec. 9, 1873.

Fig. 1



WITNESSES:

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Atty.

2 Sheets--Sheet 2.

G. A. WALKER.

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No. 145,464. Patented Dec. 9, 1873.

Fig. 3.

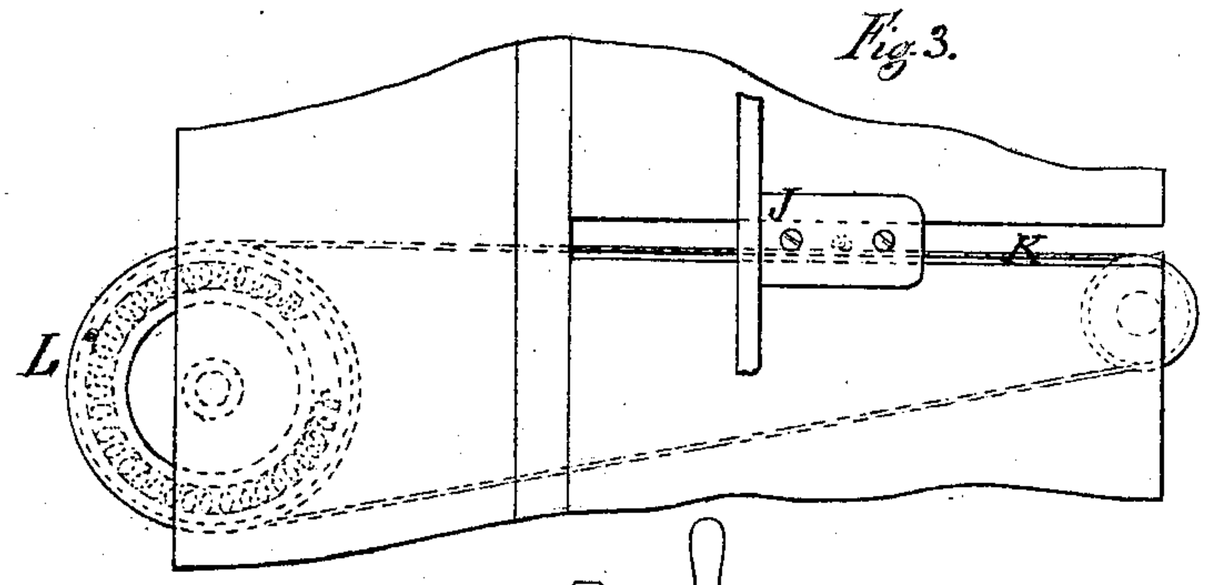
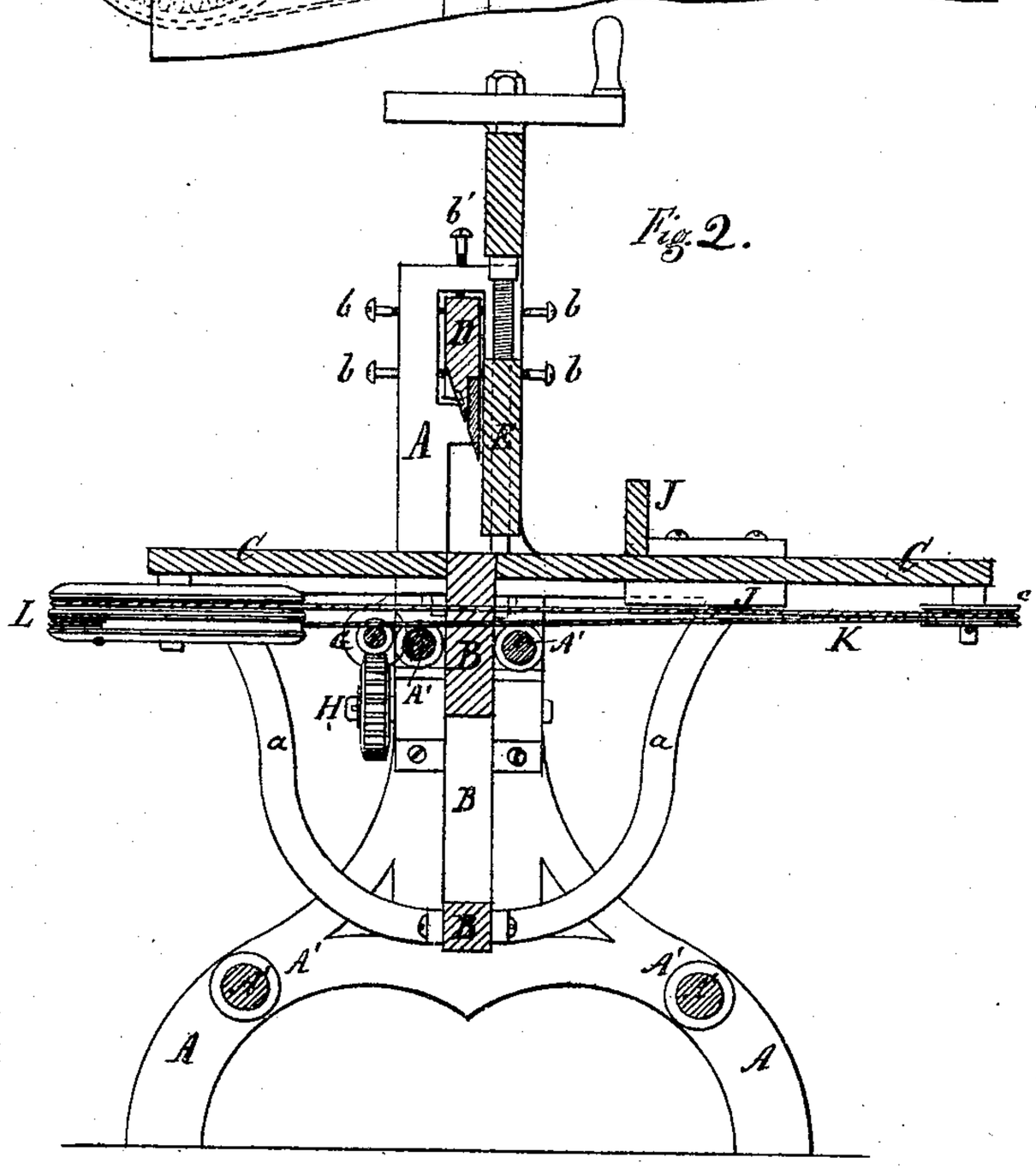


Fig. 2.



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UNITED STATES PATENT OFFICE.

GEORGE A. WALKER, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN MACHINES FOR CUTTING PAPER.

Specification forming part of Letters Patent No. **145,464**, dated December 9, 1873; application filed November 9, 1871.

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 certain Improvements in Machines for Cutting Paper, of which the following is a specification:

In the drawings, Figure 1 is a side elevation; Fig. 2, a section; Fig. 3, a sketch explanatory of the mode of operating the gage.

The frame of the machine is marked A A and A′ A′. Each of the uprights A A of the frame is slotted, so as to receive the ends of the main part B. The table proper C is secured to this part B and moves with it. *a a′* are brackets serving to secure the parts C and B together. The ends of the part B are fitted to the slots in the uprights, so that they can move not only up and down in them, but also endwise to a certain extent. This part B should be made solid and strong, and care should be taken to fit its ends snugly into the slots.

In practice, I make it of cast-iron, and insert a strip of wood in it where it comes in contact with the knife-edge.

The knife-blade is mounted upon a holder, D, in the usual way, and the holder is inserted in slots in the uprights of the frame. These slots are made larger than the ends of the knife-holder D, so that the position of the knife can be very accurately adjusted by means of the screws *b b′*. The clamp E moves with the table, and is actuated to clamp the paper by means of a screw in the well-known manner. It is guided by two uprights, F F′, firmly secured to the table, and passing through holes through the ends of the clamps.

The mechanism for actuating the table consists of two worms, G G, and their gears, H H, and the two eccentrics I I upon the shafts of the gears H H. These eccentrics work in bearings in the part B, moving it endwise as well as up and down. The gage J is moved upon the table in the usual way, but is actuated by the cord K, which passes around the pulley *c*, and whose ends are secured one to the upper and one to the lower part of the double wheel L. This double wheel has a spring between its two parts, one end of which is secured to the upper part and the other to the lower part, so as to tend to turn the two parts on their common axis in opposite directions, and this motion is prevented by the cord K, which is thus always kept.

The operation of the mechanism will be plain without further description.

The main feature of my invention consists in the manner of combining the eccentrics directly with the bar B and with the ways which guide the bar B.

I am aware that the combination of the eccentrics or equivalent actuators with the bar B is not new, for a similar combination is shown in the English patent No. 668 of 1862; but in my paper-cutter holes are reamed in the bar B itself. These holes are made to fit the eccentrics, which have a diameter equal to that of the holes, and a thickness equal to that of the bar B. The revolution of the eccentric shafts imparts a reciprocating motion to the bar B, by which the paper is cut. At the same time all longitudinal motion of the eccentric shafts is prevented by the revolution of the eccentrics between the ways which guide the bar B.

The practical result of this manner of combining the eccentrics directly with the bar B and the ways is a strong and compact mechanism, which is easily and cheaply constructed, and is better adapted than that of any machine in the market to withstand the immense strain which is necessary to force the knife through the paper.

The other minor feature of my invention consists in the means for actuating the gage, which feature is clear without further description.

What I claim as my invention is—

1. The special combination above described of the bar B with the eccentrics I I and the uprights A A, when arranged relatively to each other as specified, and so that the slots in the uprights shall serve as guides not only for the bar B, but also for the eccentrics.

2. The combination of the gage J, cord K, and double wheel L, when constructed and operating substantially as described.

G. A. WALKER.

Witnesses:

J. E. MAYNADIER,

O. P. GREENE.