

(No Model.)

A. MALM.  
PAPER CUTTING MACHINE.

No. 258,862.

Patented May 30, 1882.

Fig. 1.

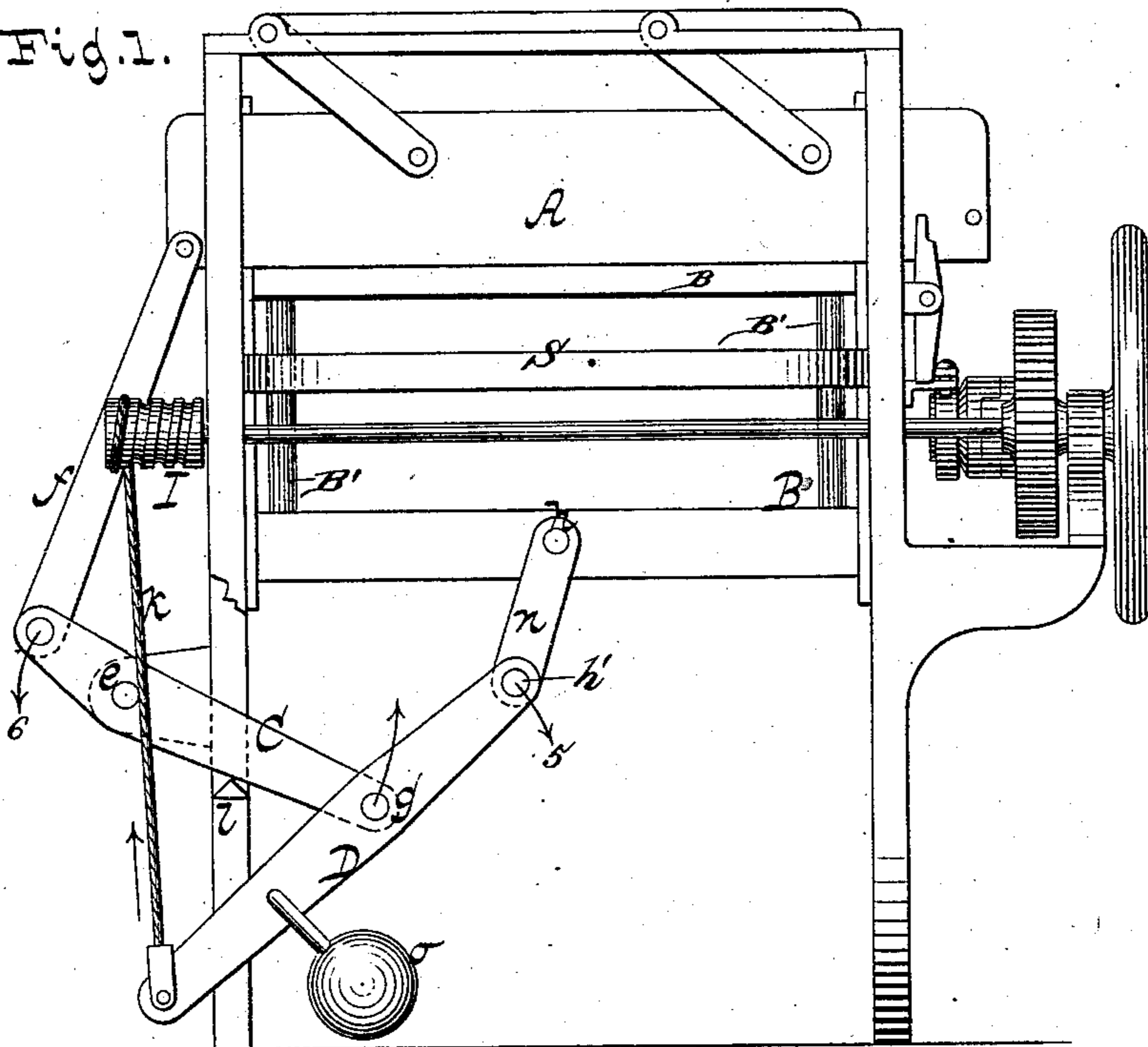


Fig. 2.

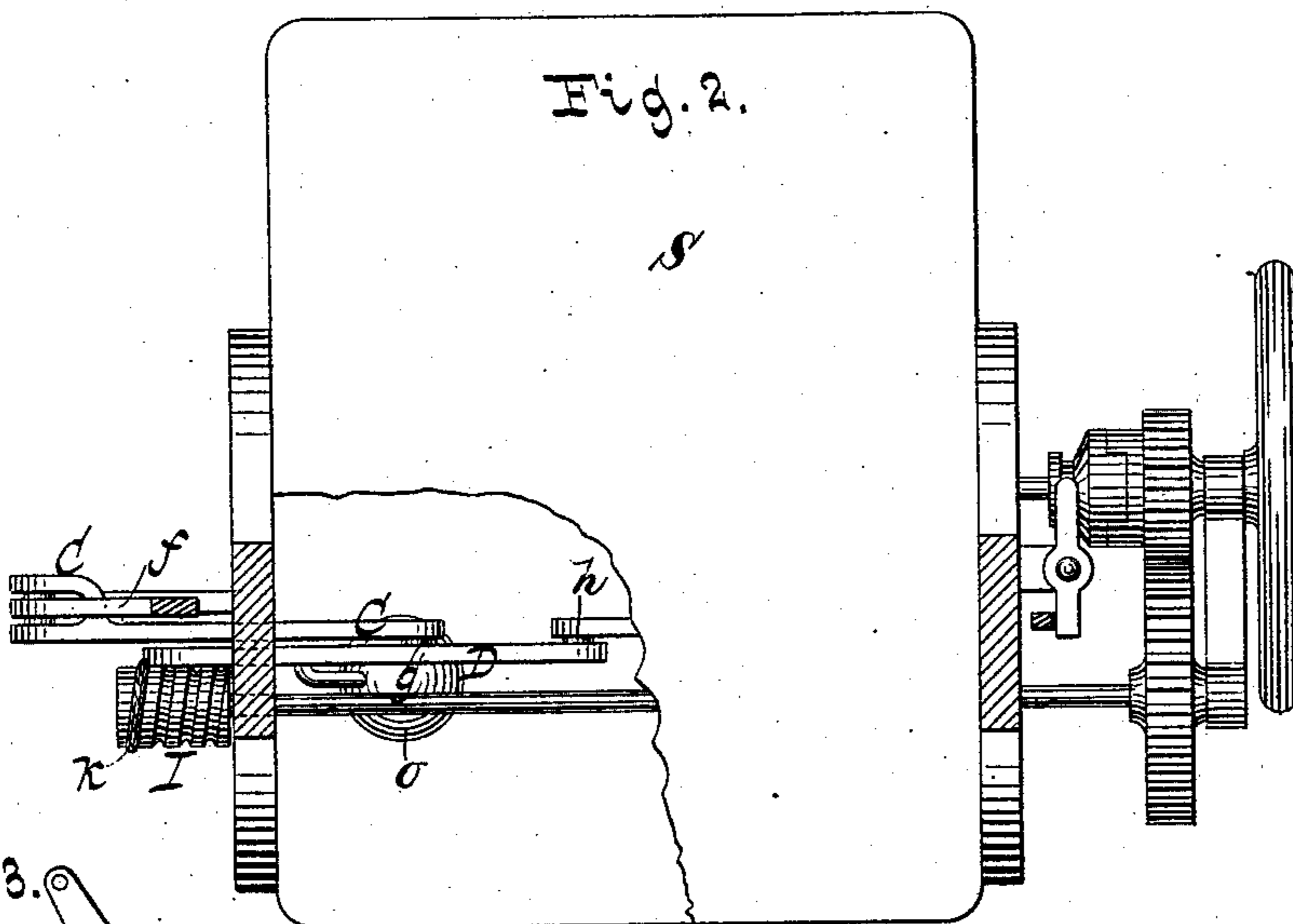


Fig. 3.

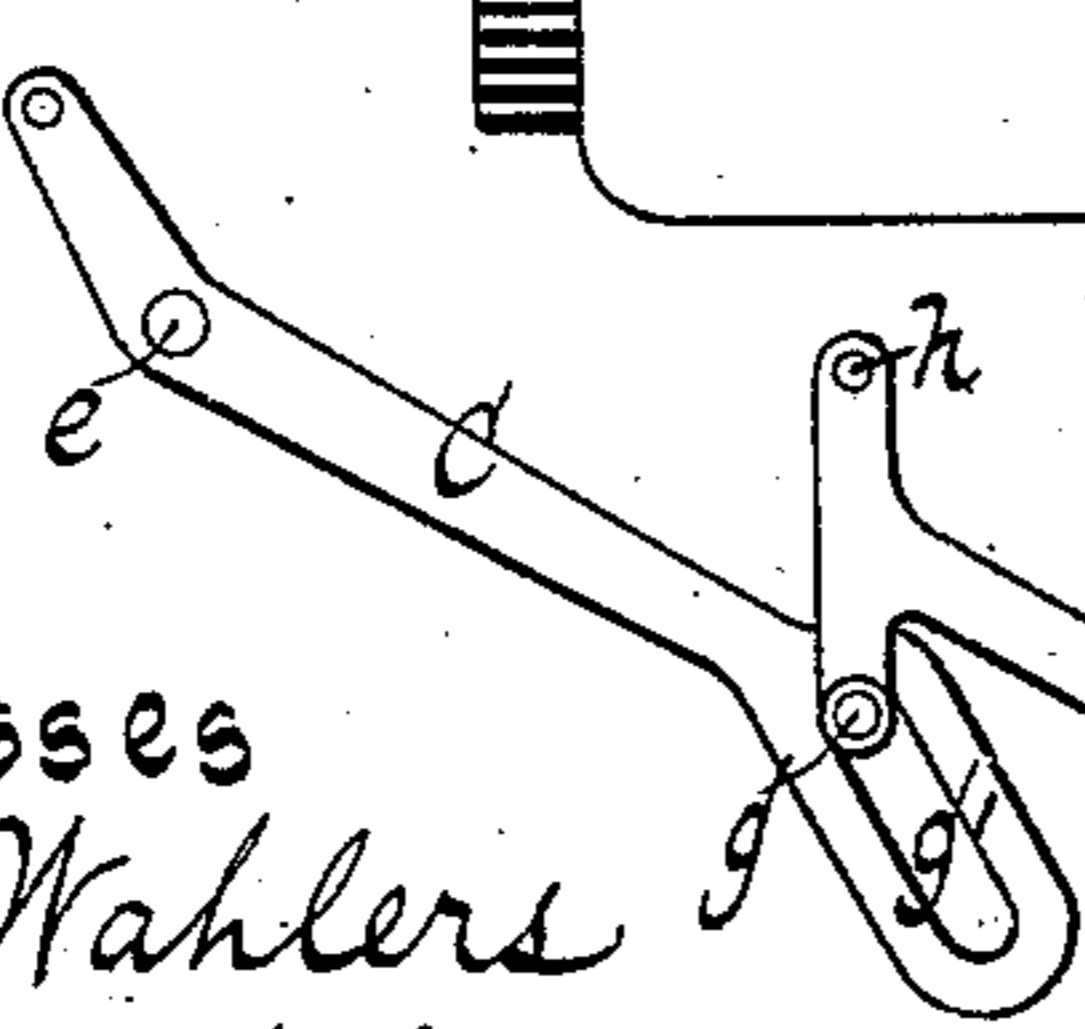
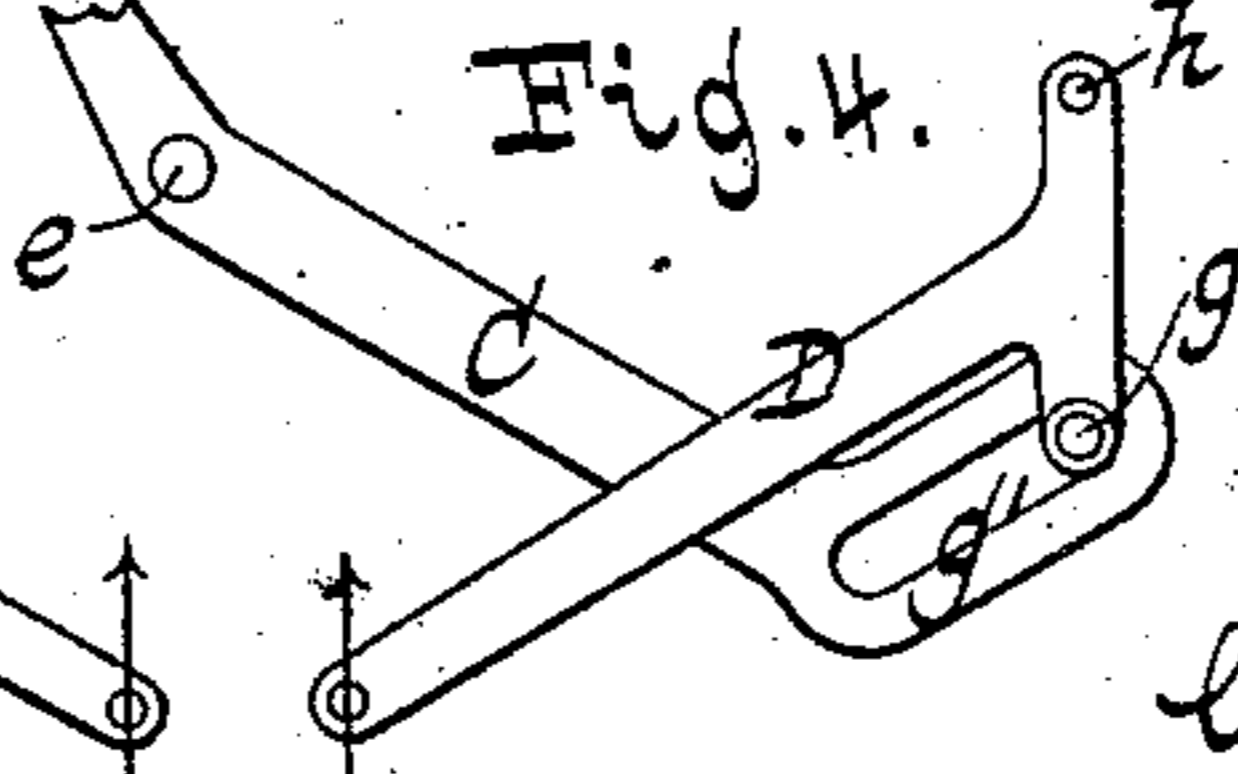


Fig. 4.



Witnesses  
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# UNITED STATES PATENT OFFICE.

ALEXANDER MALM, OF BROOKLYN, ASSIGNOR TO T. W. & C. B. SHERIDAN,  
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## PAPER-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 258,862, dated May 30, 1882.

Application filed May 2, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, ALEXANDER MALM, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented new and useful Improvements in Paper-Cutting Machines, of which the following is a specification.

This invention relates to what are known as "self-clamping" paper-cutting machines; and it consists in the combination of a knife-lever pivoted intermediate of its ends to the machine-frame, and having a pivotal connection with the knife-stock at the outer end, a clamp-lever pivoted intermediate of its ends to the inner end of the knife-lever, and having a pivotal connection with the clamp-frame at the inner end, a balance-weight, and a traction device connected to the outer end of the clamp-lever, so that motion may be given to the clamp-lever, whereby it acts on the clamp-frame to lower the clamp, and also acts on the knife-lever to cause the descent of the knife, the parts being returned to an upper position by the action of the weight, as hereinafter more fully set forth.

The invention is illustrated in the accompanying drawings, in which Figure 1 represents a front elevation. Fig. 2 is a horizontal section, omitting the clamp-frame. Figs. 3 and 4 illustrate modifications in the connections of the levers.

The letter A designates the knife-stock, and B the clamp-frame, both arranged in any usual or suitable manner, the upper and lower horizontal bars of the clamp-frame being connected together by vertical slide-rods B', (see Fig. 1,) passing through the machine-table S.

The letter C designates the knife-lever, and D the clamp-lever. A pivot, *e*, fixed directly to the machine-frame, constitutes the fulcrum for the knife-lever C, such pivot being intermediate the ends of the knife-lever, and the latter is connected to the knife-stock A at the outer end by a link, *f*. The clamp-lever D is pivoted intermediate of its ends to the inner end of the knife-lever C, as at *g*, while it is connected to the clamp-frame at the inner end by a pivot, *h*, or *h'*. In the example shown in Figs. 1 and 2, a link, *n*, is interposed between the clamp-lever D and the clamp-frame, while in the example shown in Figs. 3 and 4 the

clamp-lever is shaped to connect directly with the clamp-frame, the pivot *g* being in this case arranged to play in a slot, *g'*, of the knife-lever.

The letter *o* designates the balance-weight, which is arranged on the outer portion of the clamp-lever D.

If desired, a weight may also be applied to the knife-lever C, and, if desired, moreover, a stop, *l*, may be applied to the machine-frame to check the knife-lever (or the clamp-lever) when the parts have been raised to the required extent. The outer end of the clamp-lever D is exterior of the machine-frame, and to such end thereof is connected a rope or chain, *k*, winding on a drum, I, so that the latter forms a traction device for giving motion to the clamp-lever at the outer end.

One of the conditions necessary to the successful operation of the machine is that the clamp shall descend prior to the knife and ascend subsequently thereto, and such condition is preserved in this example by making the clamp-frame heavier than the knife-stock. Thus, when the clamp-lever D is actuated it starts the clamp-frame downward, swinging on the pivot *g* in the direction of the arrow 5, leaving the knife-lever C stationary until the clamp has been brought to bear on the paper lying on the table, when the clamp-lever begins to swing on the pivot *h* or *h'*, and acts on the knife-lever by means of the pivot *g* to swing such lever in the direction of the arrow 6, thus causing the descent of the knife. If the chain *k* is now allowed to unwind from the drum I, the clamp-lever D is released and follows the action of the weight *o*, acting first on the knife-lever C, owing to the inferior weight of the knife-stock, and then on the clamp-frame, to bring both the knife and clamp to an upper position.

What I claim is—

1. In a paper-cutting machine, and in combination with the knife and the clamp-bar of the same, a compound lever composed of bars C D, one member whereof is coupled to the knife and fulcrumed on the frame, and the other member whereof is pivotally-jointed to the first member and coupled to the movable clamp-bar, substantially as shown, and its free end coupled to the driving-power.

2. In a paper-cutting machine, the combina-

tion of a knife-lever fulcrumed on the main frame and having a pivotal traction connection with the knife-stock, a clamp-frame and a clamp-lever having a pivotal connection thereto and pivotally attached intermediate its ends directly to the knife-lever, and a traction device connected to the outer end of the clamp-lever, the said members being arranged in the described relation, to operate as set forth.

10 3. The combination, substantially as hereinbefore set forth, of the knife-lever pivoted intermediate of its ends to the machine-frame and having a pivotal connection with the knife-

stock at the outer end, a clamp-lever pivoted intermediate of its ends to the inner end of the knife-lever and having a pivotal connection with the clamp-frame at the inner end, and the balance-weight and the traction device connected to the outer end of the clamp-lever. 15

In testimony whereof I have hereunto set my hand and seal in the presence of two subscribing witnesses. 20

ALEXANDER MALM. [L. S.]

Witnesses:

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CHAS. WAHLERS.