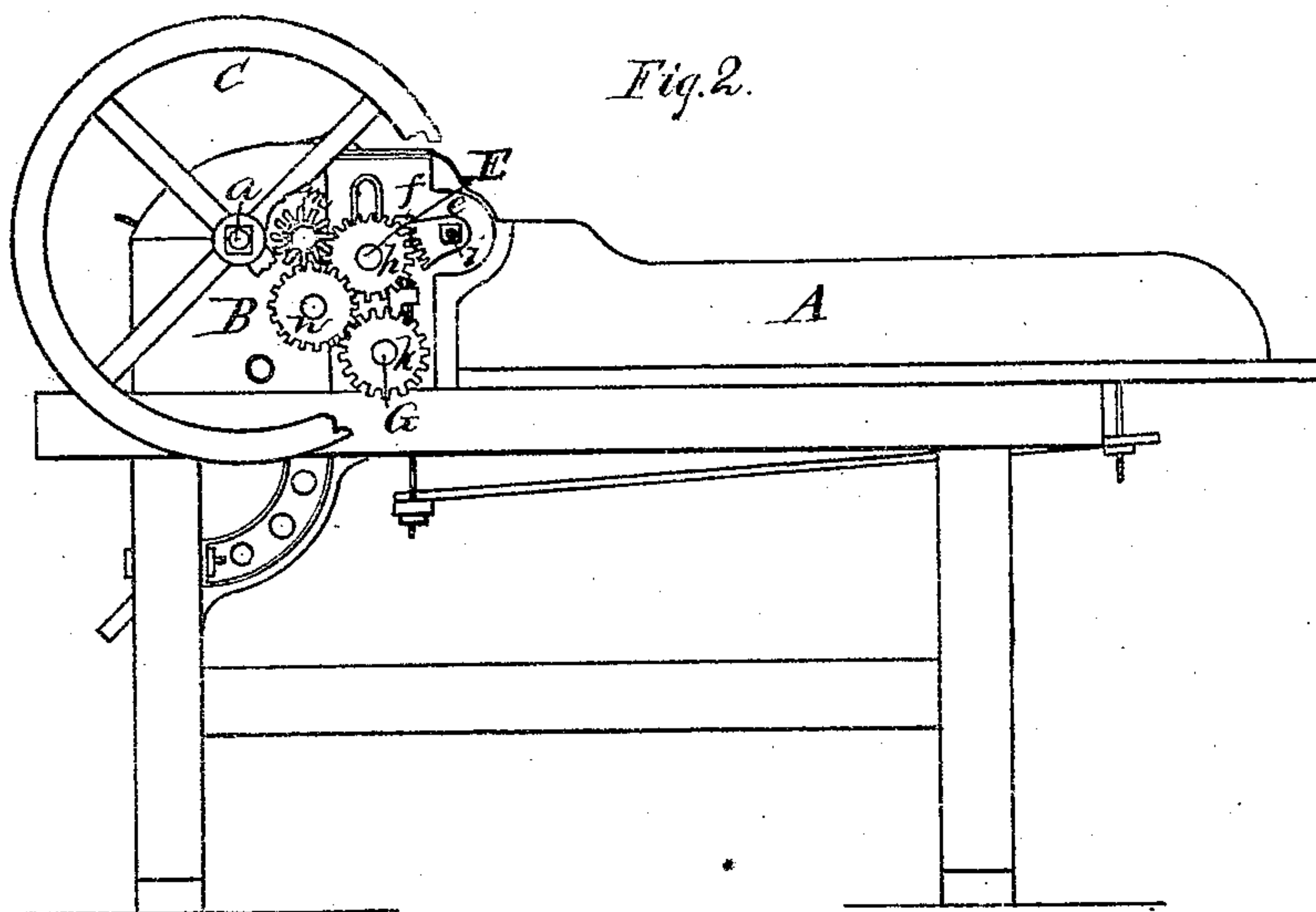
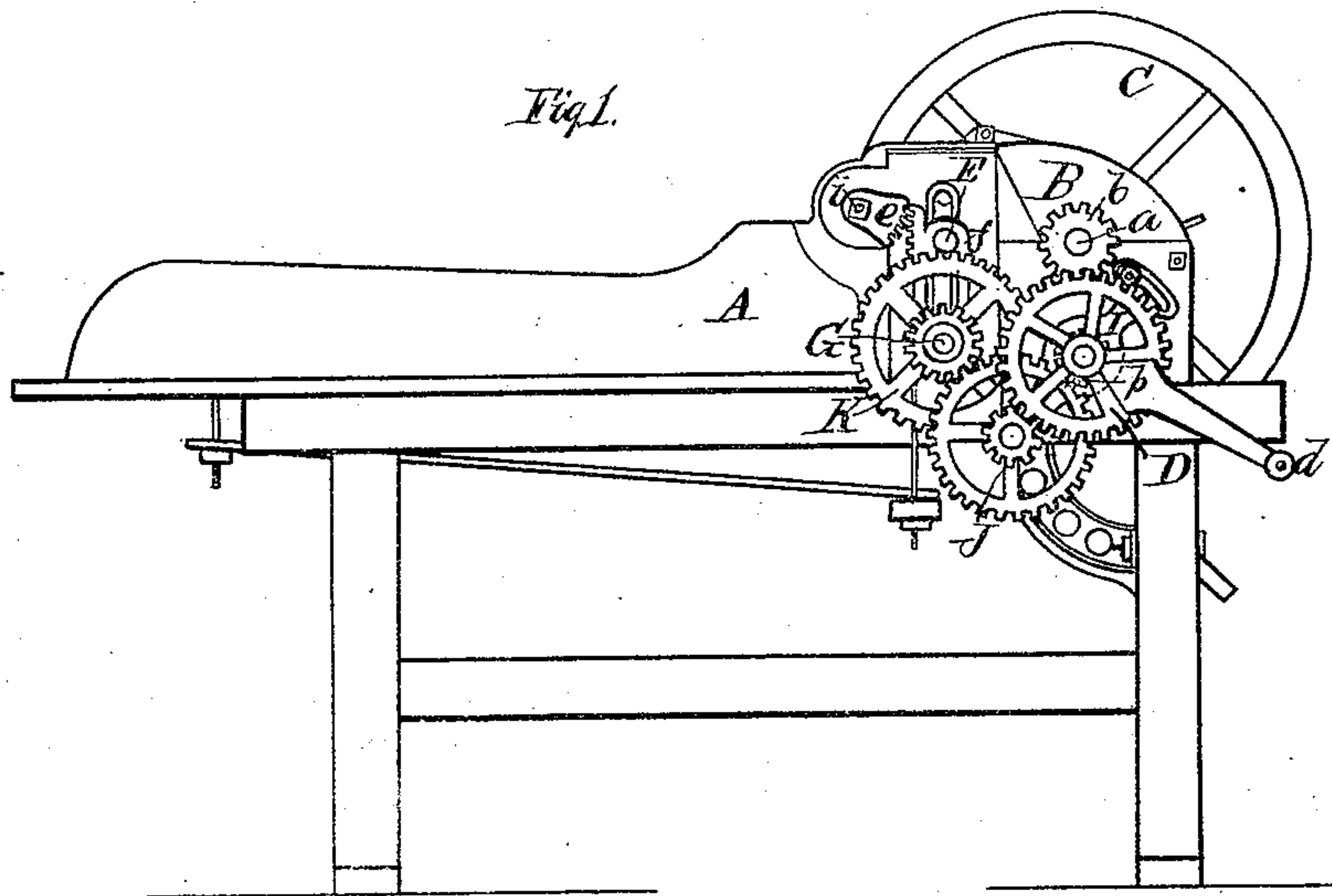


E. W. FAWCETT.
Straw-Cutter.

No. 162,637.

Patented April 27, 1875.



Witnesses;

Jas. J. Duhamel.
Thomas. Pyrene,

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Attorney.

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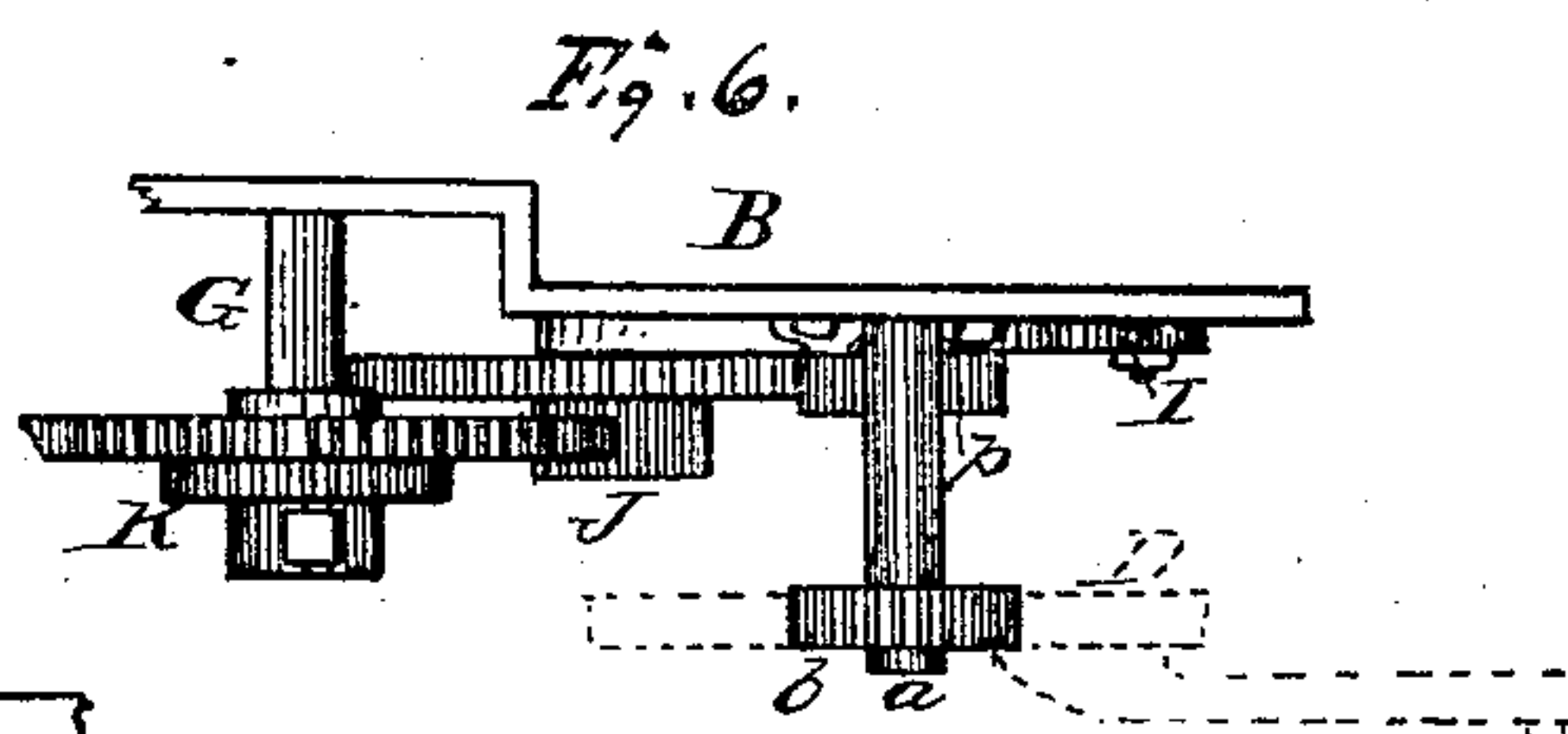
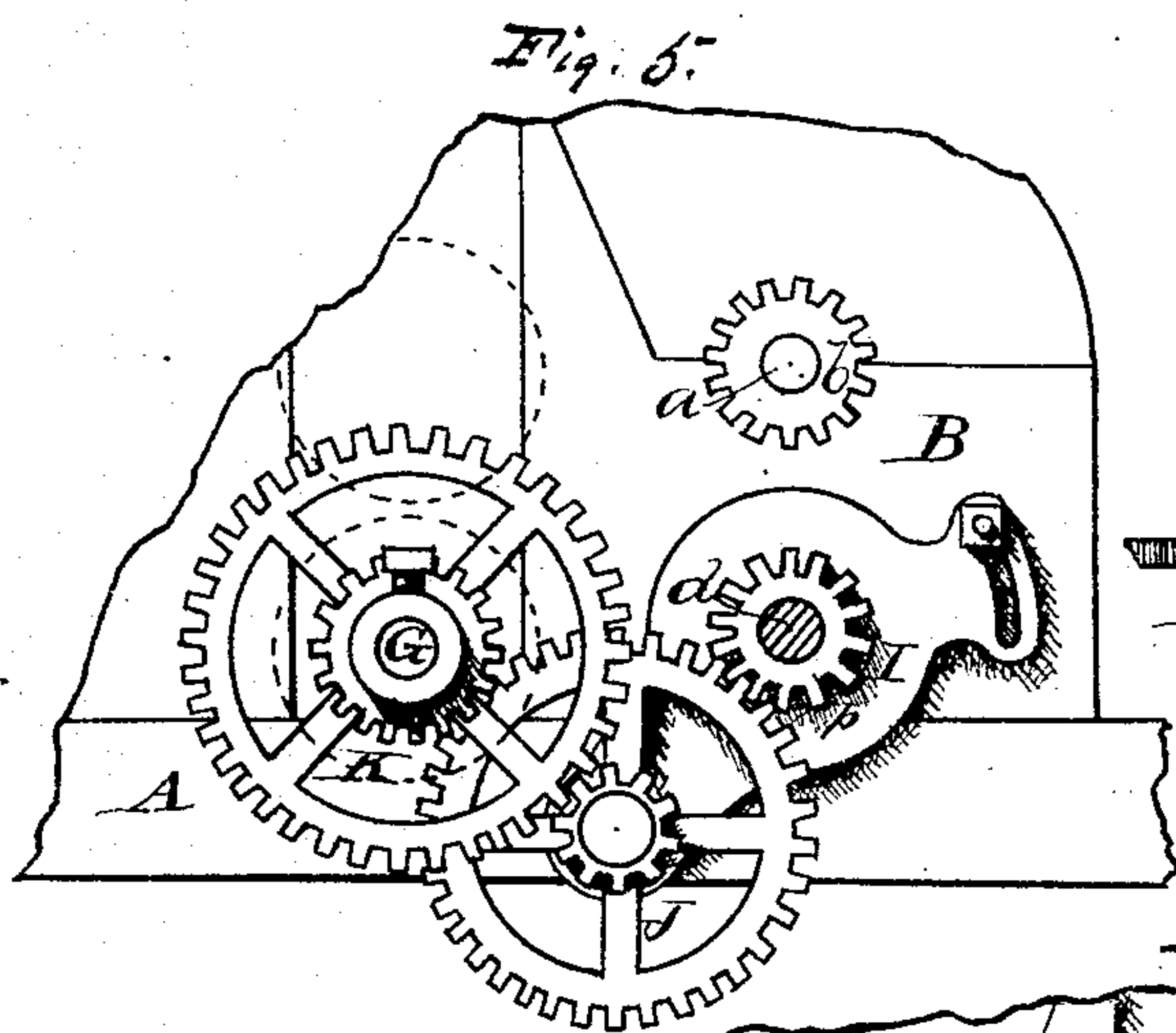
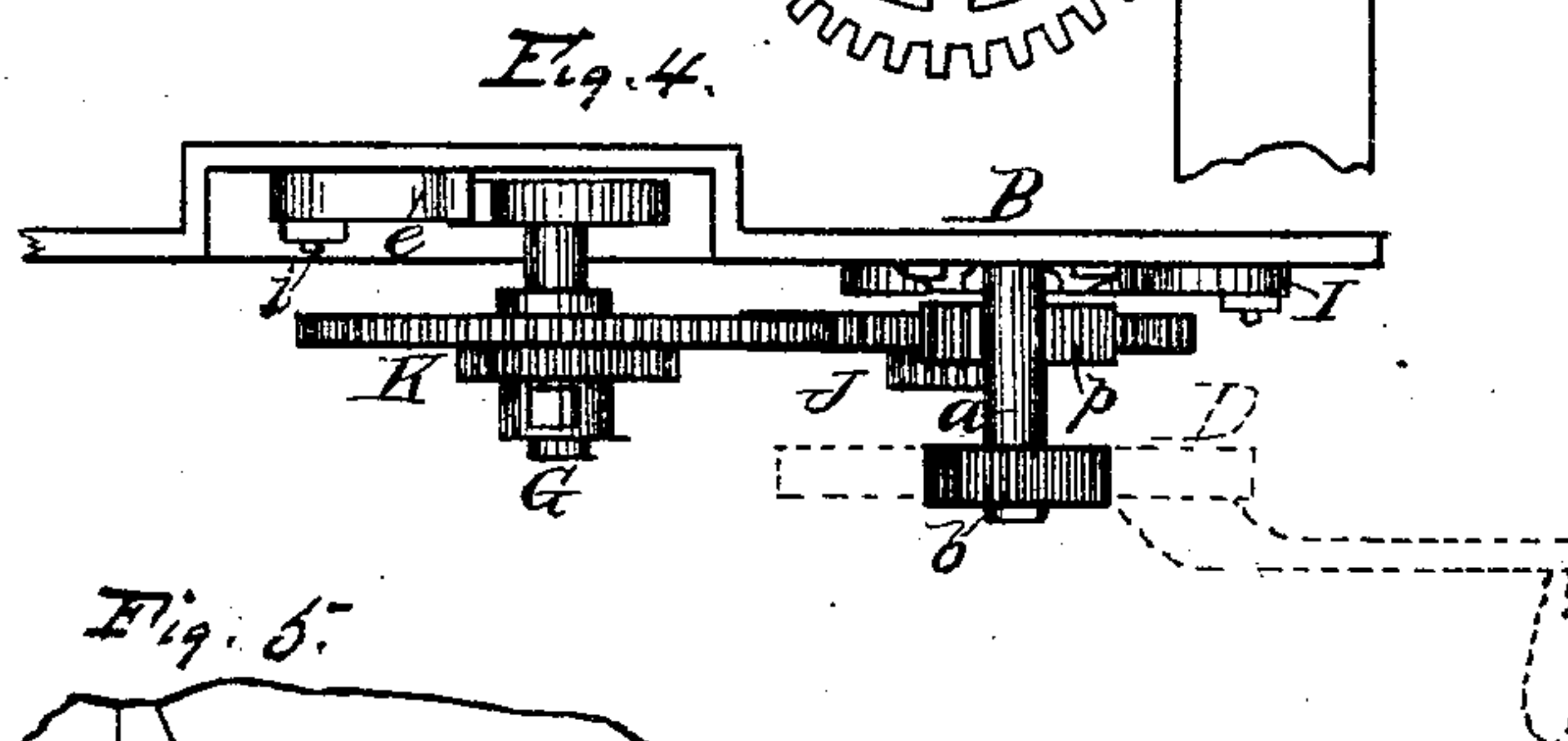
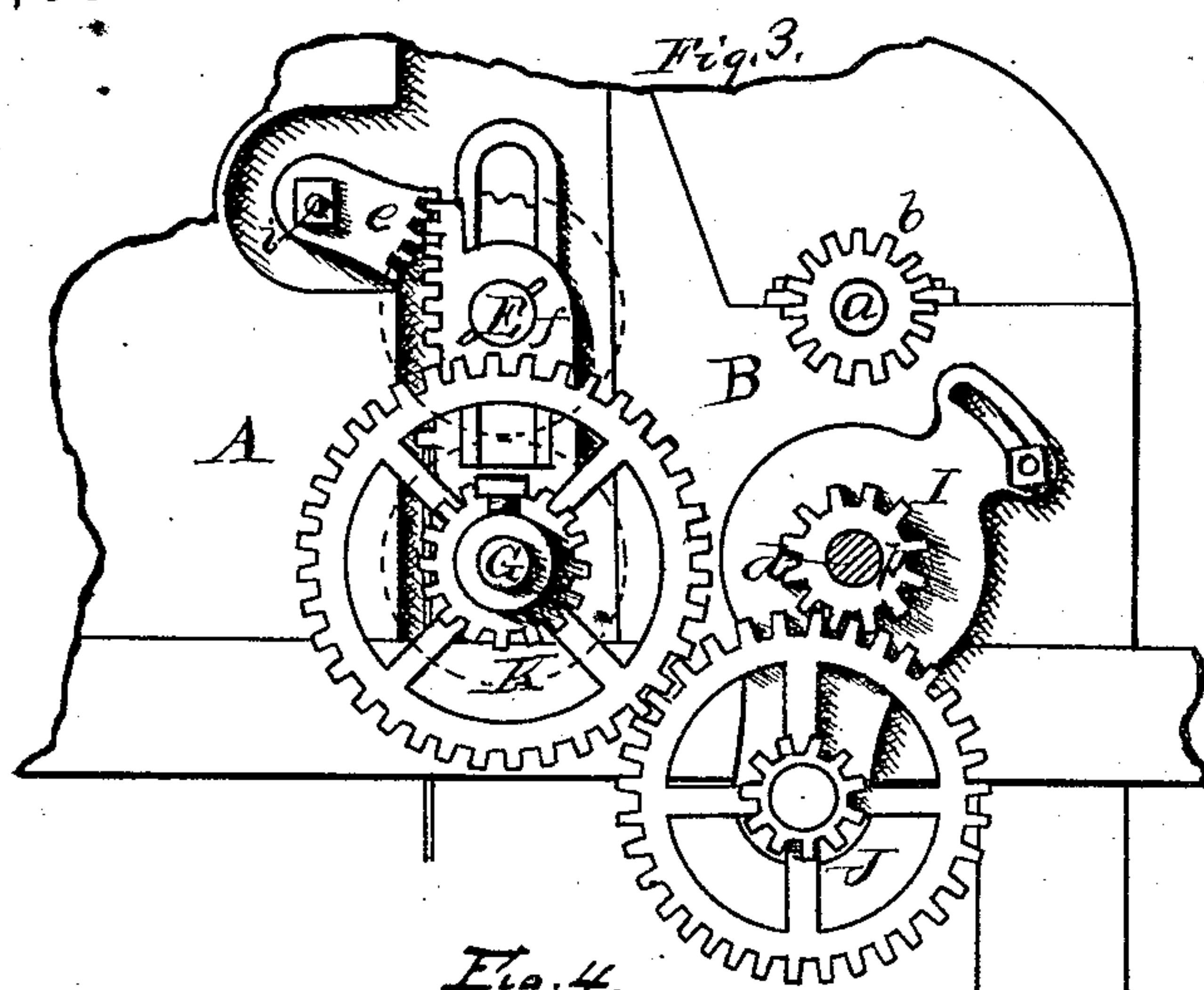
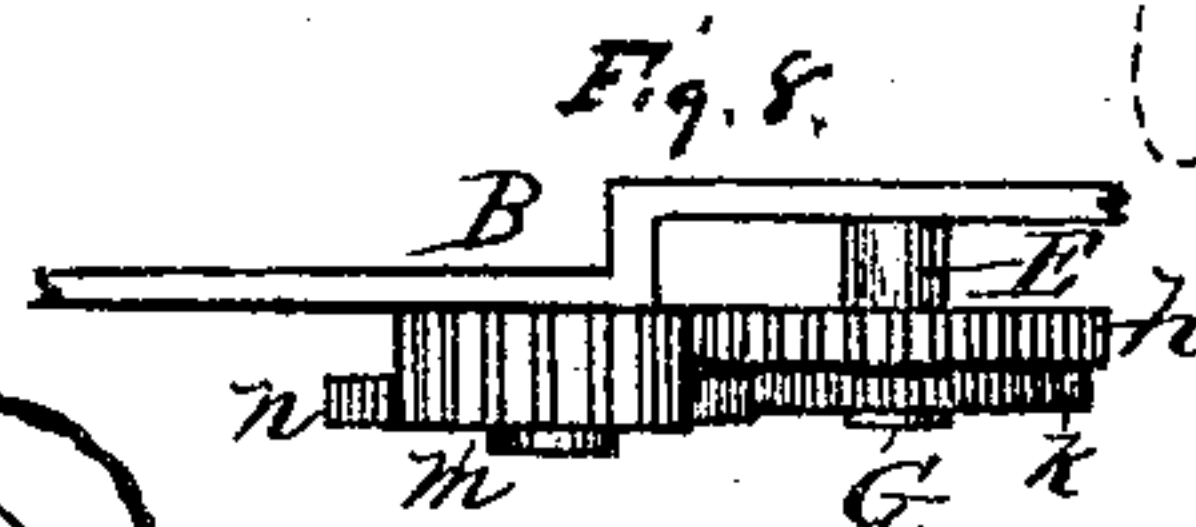
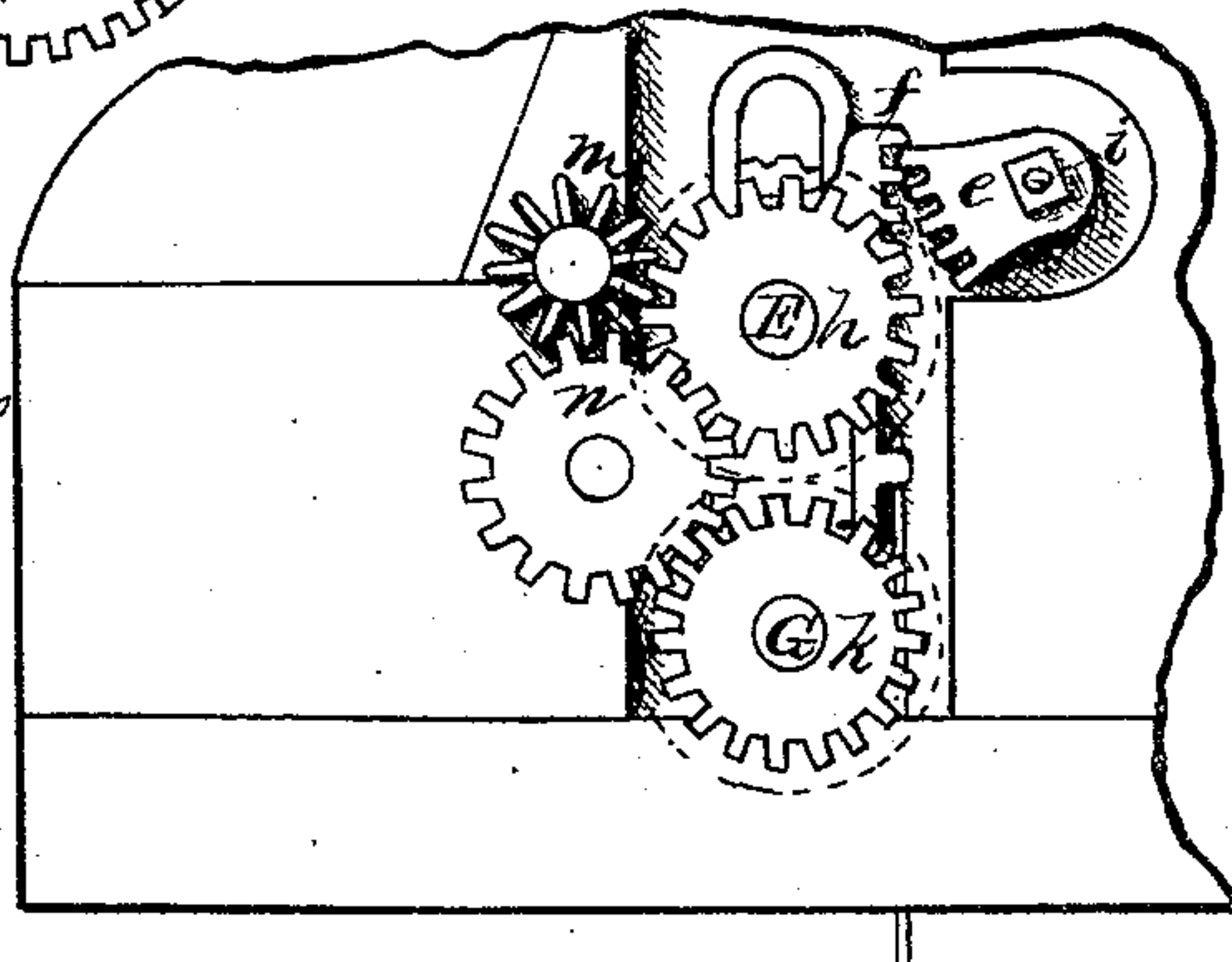


Fig. 7.



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UNITED STATES PATENT OFFICE.

EDWARD W. FAWCETT, OF SALEM, OHIO.

IMPROVEMENT IN STRAW-CUTTERS.

Specification forming part of Letters Patent No. **162,637**, dated April 27, 1875; application filed April 12, 1875.

To all whom it may concern:

Be it known that I, EDWARD W. FAWCETT, of Salem, county of Columbiana and State of Ohio, have invented certain new and useful Improvements in Feed-Cutters, of which the following is a specification:

My invention relates to that class of feed-cutters in which are two revolving feed-rollers and two or more curved knives with inclined edges, attached to arms secured on a shaft parallel with and in front of the feed-rolls; and the nature of my invention consists in the construction of the gearing connecting the feed-rolls, in the devices for regulating the length of the cut, and in the devices for maintaining the feed-rollers parallel with each other, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, which forms a part of this specification, and in which—

Figure 1 is a side elevation of a feed-cutter embodying my invention. Fig. 2 is a view of the opposite side of the feed-cutter.

A represents the ordinary feed-box of this class of feed-cutters, provided at its front end with a metallic frame, B, in and on which the operating parts are attached. *a* is the shaft carrying the cutting-knives within the frame B, said shaft having at one end the fly-wheel C, and at the other end the pinion *b*, to gear with the crank-wheel D on the end of the driving-shaft *d*. E and G are the upper and lower feed-rollers, respectively. The axle of the upper feed-roller E has its bearings in racks *f*, connecting with and being controlled by segmental gears *e*, attached to either end of a shaft, *i*, whereby the upper roller, in its movement either up or down, is maintained parallel with the lower roller G. On one side of the machine the axles or shafts of the feed-rolls are provided with gear-wheels *h* and *k*, respectively, on the axles of the upper and lower roller, which gear-wheels are so arranged that they may overlap or pass each other; or, in other words, one of these wheels is farther

out from the frame than the other. The gear-wheels *h* *k* are connected by two intermediate wheels, *m* and *n*, the wheel *m* having sufficient width of face to admit of the other intermediate *n*, and its connecting feed-roll gear *h*, working and overlapping the other feed-roll gear *k*. The wide-faced pinion *m* is placed relative to the upper feed-roll, so that when the upper feed-roll has attained one-half the elevation allowed, the axis of the pinion and that of the roll will be in the same horizontal plane, thereby allowing the roll to rise in a right line without materially affecting the mesh of the gear. On the other side of the machine an arm or plate, I, is pivoted on the crank or driving shaft *d*, which arm may be adjusted and held by means of a curved slot at one end, and a bolt passing through the same and through the frame B. This arm or plate I has at its other end a stud carrying one or more gear-wheels, J, which are operated by a pinion, *p*, on said shaft *d*, and the wheels J are engaged at will with corresponding wheels K on the shaft of the lower feed-roller G. The wheels J—whether two or more—are of different diameter, and concentric with each other. The wheels K are constructed in similar manner.

By swinging the lower end of the arm or plate I back, the wheels K on the lower feed-roll may so adjusted that the large wheel J on the arm may engage the large one on the roll, the large one on the arm the small on the roll, or the small one on the arm the large one on the roll, thereby giving three different speeds to the feed-rolls, enabling the operator to adjust it to cut either of three lengths at will.

By an increase of the gear-wheels on either the arm or on the feed-roll, or both, any desired number of lengths of cut may be obtained.

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

1. In a feed-cutter, the combination of the upper yielding feed-roller E, the racks *f* *f*, forming bearings for the axle of the roller, and the segmental gears *ee* attached to a shaft, *i*, and meshing with said racks, substantially as and for the purposes herein set forth.

2. The combination, with the feed-rollers E and G, the gear-wheels *h k*, arranged on their axles to overlap each other, and the intermediate wheels *m* and *n*, all constructed substantially as and for the purposes herein set forth.

3. The combination, with the driving-shaft *d* and its pinion *p*, of the adjustable arm or plate I, carrying two or more concentric gear-wheels, J, and two or more concentric gear-wheels, K, secured on the journal of the lower

feed-roller G, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing as my invention I hereunto affix my signature this 26th day of March, 1875.

EDWARD W. FAWCETT.

Witnesses:

THOMAS KENNETT,
PETER AMBLER.