

(No Model.)

3 Sheets—Sheet 1.

G. W. BAKER.
SEWING MACHINE RUFFLER.

No. 271,679.

Patented Feb. 6, 1883.

Fig. 1.

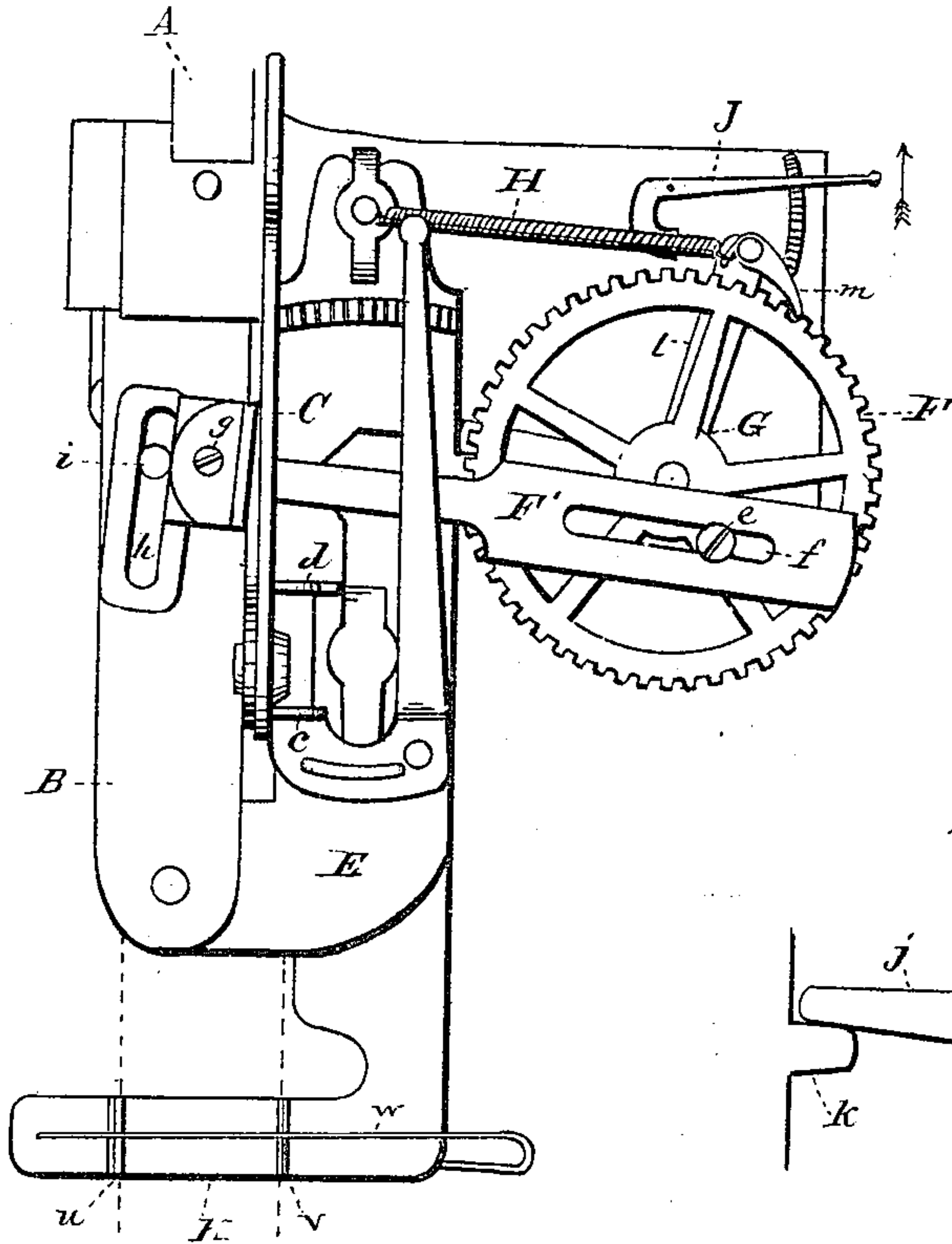


Fig. 6

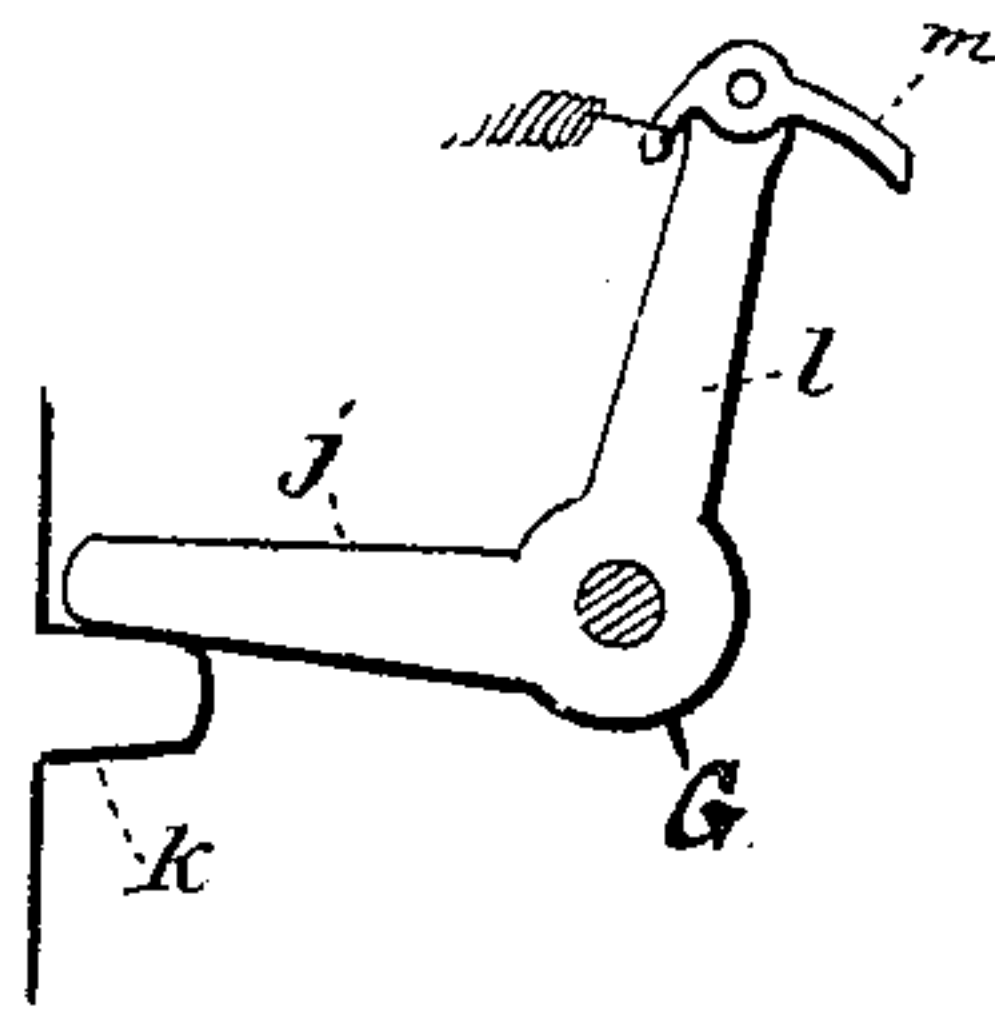
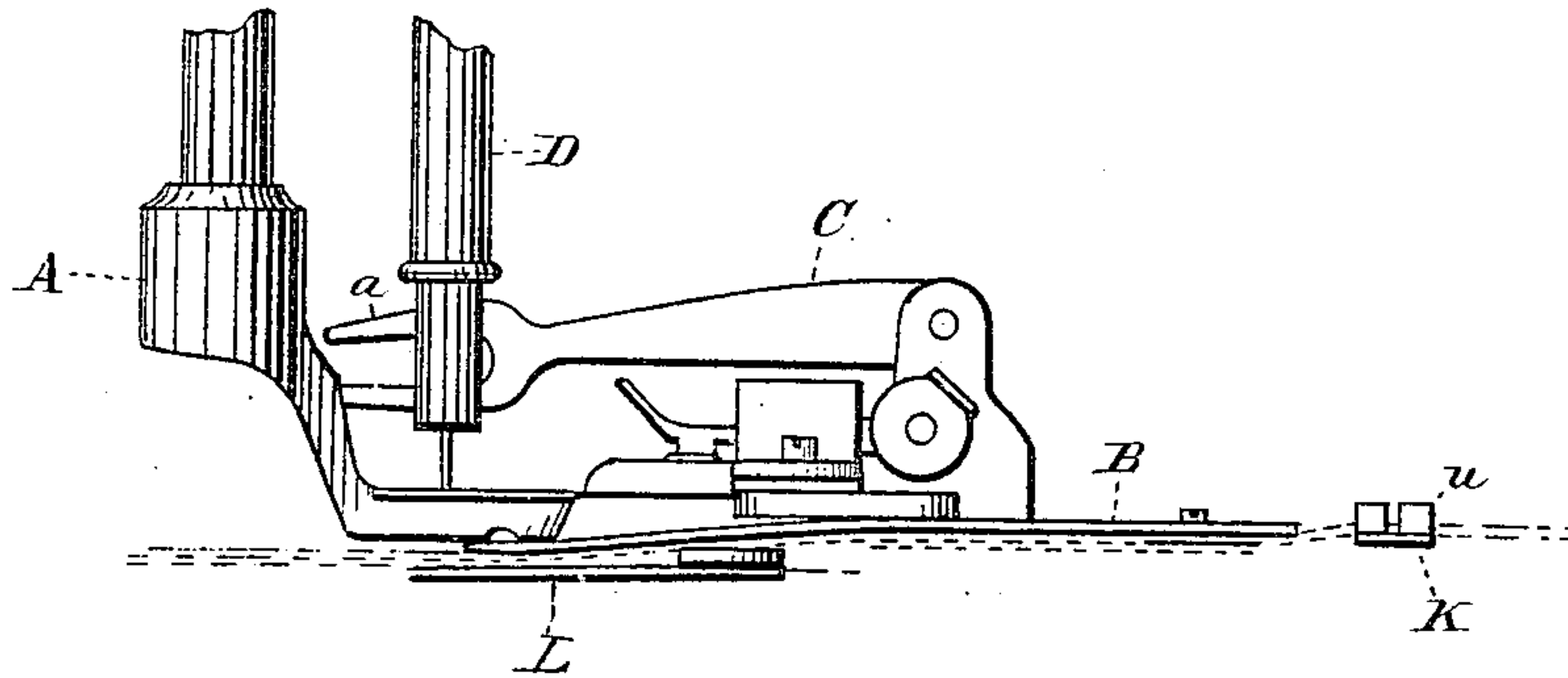


Fig. 2.



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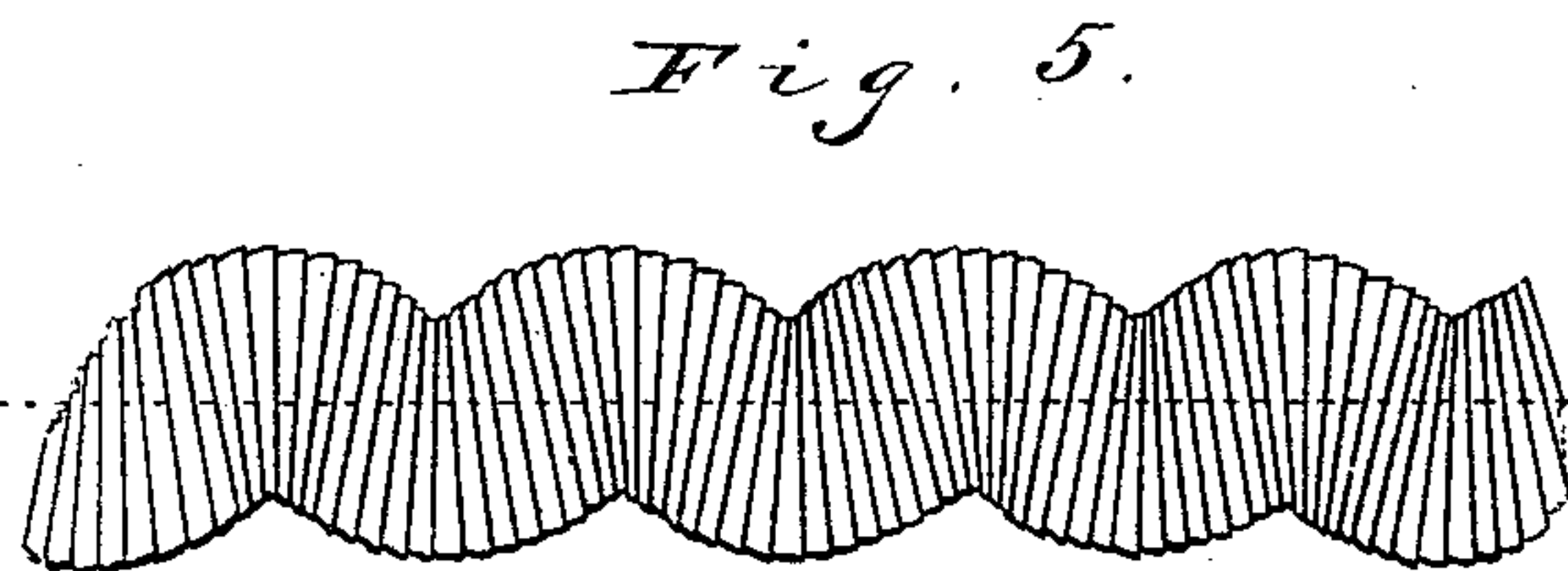
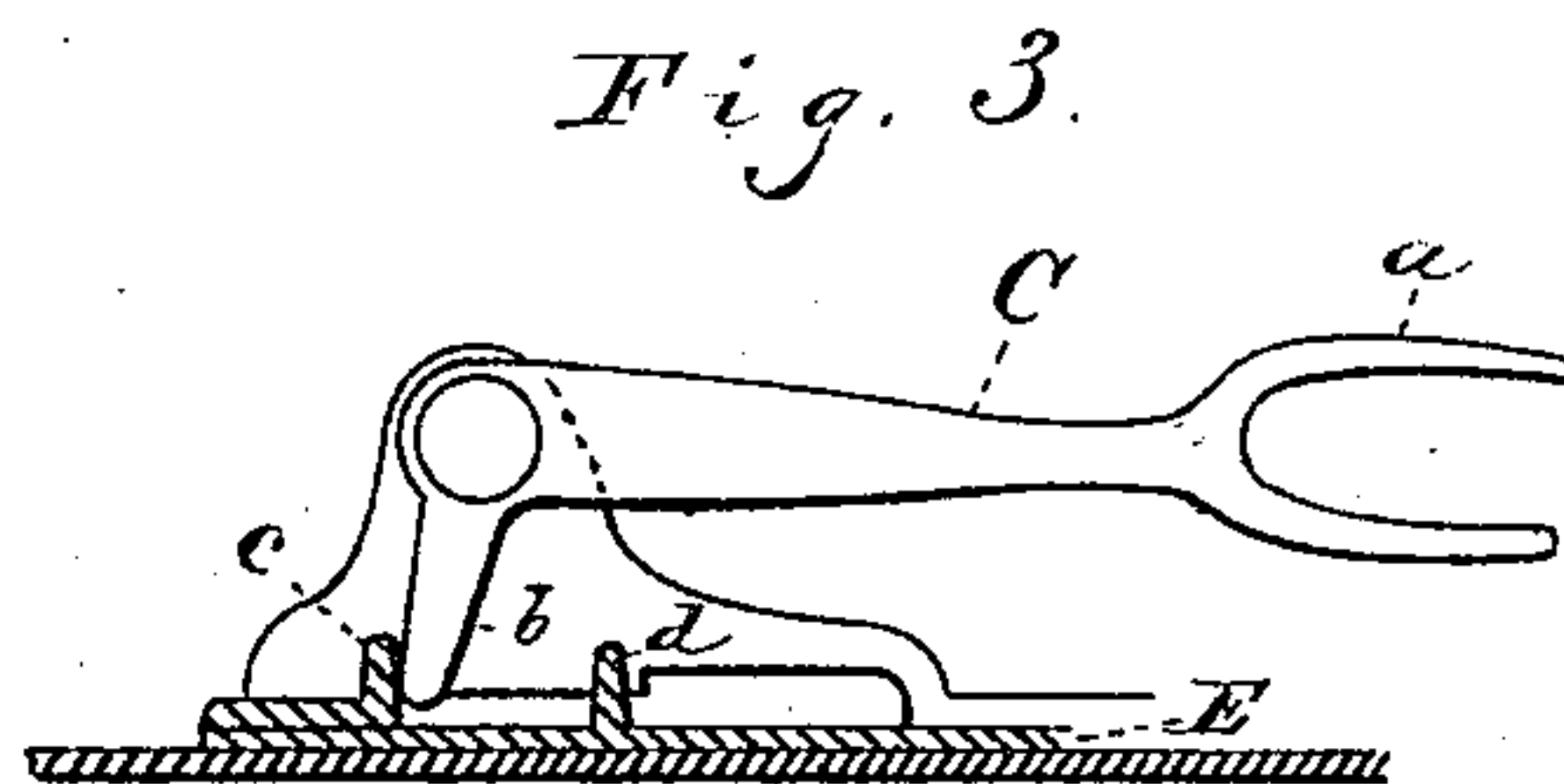
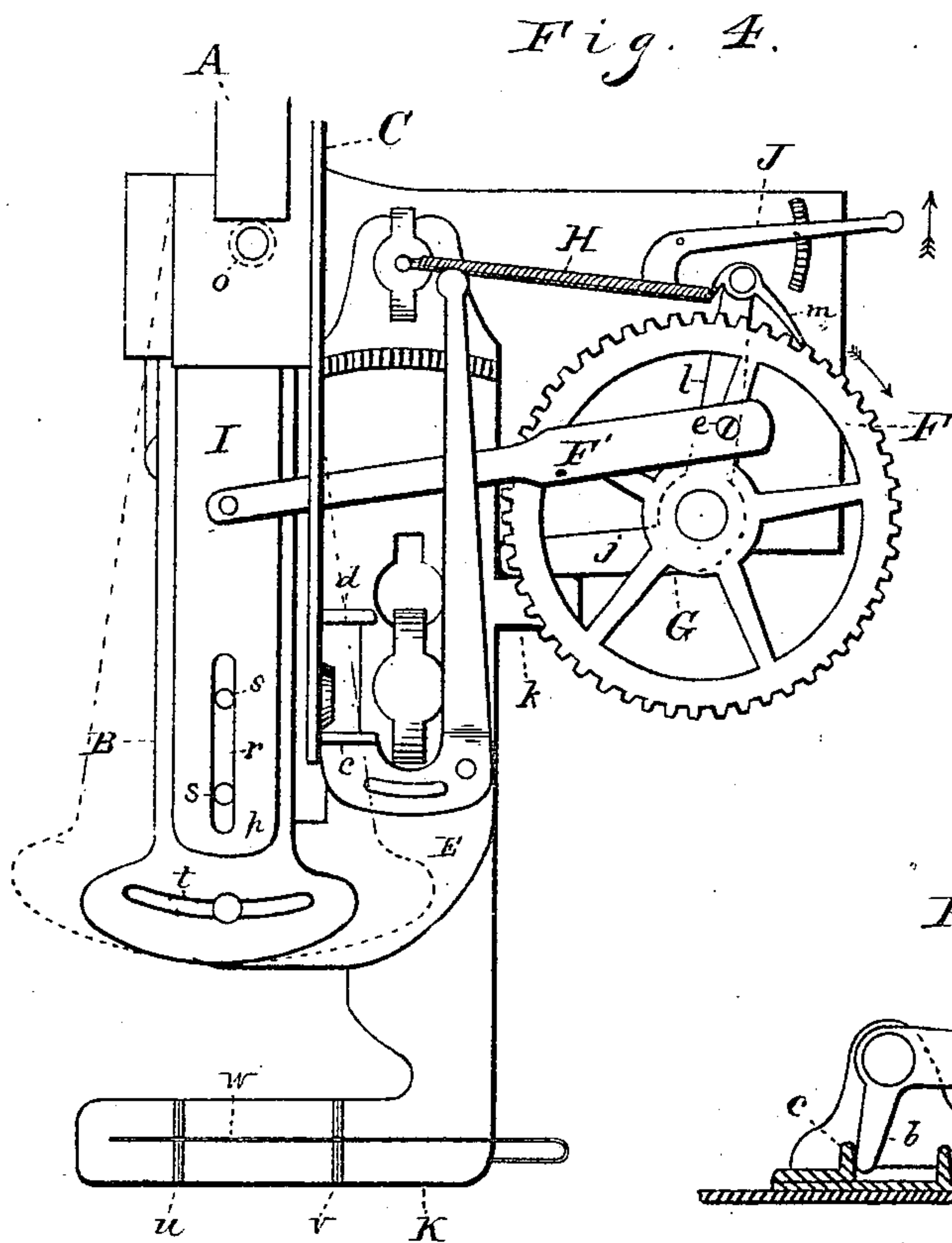
W. Engel
W. E. Dornally

George W. Baker INVENTOR
by
Leggett & Leggett ATTORNEYS

3 Sheets—Sheet 2.

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W. Engel
W. E. Connelly

George W. Baker INVENTOR
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Leggett & Leggett ATTORNEYS

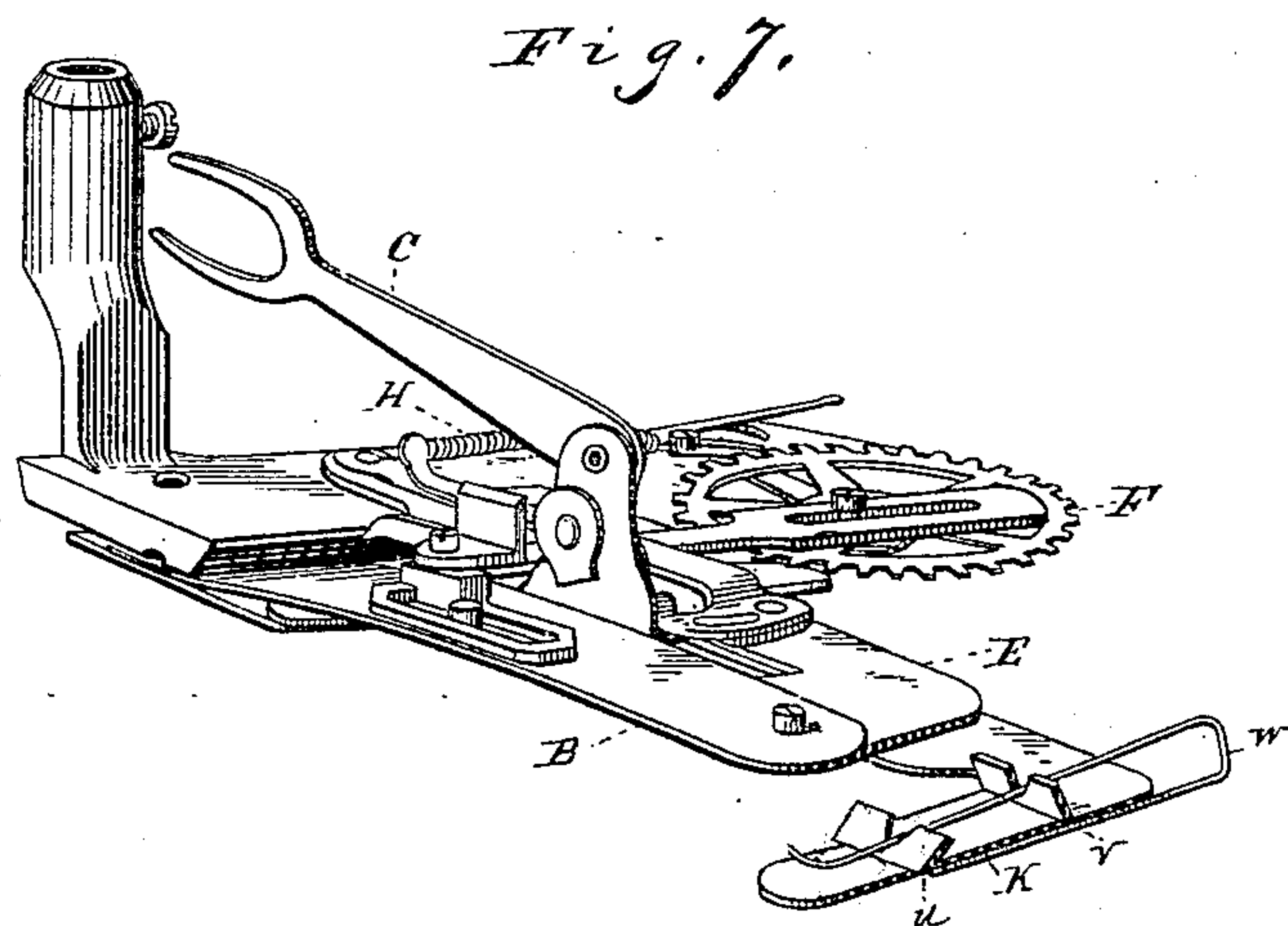
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WITNESSES

W. Engel
C. H. Moore

George W. Baker INVENTOR
By Leggett & Leggett ATTORNEYS

UNITED STATES PATENT OFFICE.

GEORGE W. BAKER, OF CLEVELAND, OHIO, ASSIGNOR TO THE WHITE SEWING MACHINE COMPANY, OF SAME PLACE.

SEWING-MACHINE RUFFLER.

SPECIFICATION forming part of Letters Patent No. 271,679, dated February 6, 1883.

Application filed August 7, 1882. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. BAKER, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and
5 useful Improvements in Sewing-Machine Rufflers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use
10 the same.

My invention relates to rufflers; and it consists in the parts and combination of parts, as will be hereinafter fully set forth and claimed.

In the drawings, Figure 1 is a plan view of a
15 device embodying my invention. Fig. 2 is a view in elevation of the same, looking at it from the front. Fig. 3 is a view in longitudinal section, looking at it from the rear. Fig. 4 is a plan view, showing another manner of
20 constructing my device. Fig. 5 is a plan view of a piece of goods after it has been operated upon by the ruffler. Fig. 6 is a detached view of the lever G. Fig. 7 is a perspective view of the ruffler.

25 A is a presser-foot, to which is secured the ruffler, which I prefer to construct similar to the well-known "Johnson ruffler."

The ruffling-blade B is reciprocated by means of the pivoted crank-lever C, one end of the
30 arm *a* of which engages with a set-screw on the needle-bar D, and the end of the other vertical arm, *b*, engaging with lugs *c* and *d*, extending upward from the sliding plate E. The sliding plate E is in turn pivotally attached to
35 the ruffling-blade B. Thus it will be seen that as the arm *a* of the crank-lever C is reciprocated vertically by the needle-bar D vertical arm *b* will be reciprocated horizontally, and impart through the lugs *c* and *d* a horizontal
40 reciprocating motion to the plate E and blade B.

F is a ratchet-wheel journaled on an extension to the ruffler-frame.

e is a wrist or pin secured to the ratchet-wheel F, which acts to operate the lever F' by
45 engaging with a slot, *f*, as shown in Fig. 1. The lever F' is pivoted near its other end, at *g*, and provided with a slot, *h*, running at a right angle to the said lever. Thus it will be seen that as the wheel F is revolved the lever F' is

50 moved from one side to the other, and causes the slot *h* to occupy different positions, either parallel with the blade B or at different angles to it.

i is a stud or pin which is secured to the blade B, and extends upward through the slot
55 *h*, and serves to guide the forward end of the blade B in the direction of the slot *h*.

The ratchet-wheel F is operated by means of the pivoted crank-lever G, which is journaled on the same screw or shaft with the
60 ratchet-wheel F. One arm, *j*, of said crank-lever G is in such a position as to be operated by a lug, *k*, which extends out from the side of the sliding plate E. (See Figs. 4 and 6.) The other arm, *l*, of the crank-lever G is pro-
65 vided with a pawl, *m*, which engages with the teeth of the ratchet-wheel F and imparts intermittent rotary motion to the said wheel F.

H is a spiral spring, one end of which is secured to the ruffler-frame, and the other end is
70 secured to the pawl *m* in such a manner as to keep the said pawl in contact with the teeth of the ratchet-wheel F, and also to keep the arm *j* in contact with the lug *k*.

Instead of employing a pivoted lever, F', with
75 a slot, *f*, for the wrist or pin *e* to operate in, as shown in Fig. 1, I may employ a pitman, F', as shown in Fig. 4, which is pivotally secured to the wrist or pin *e*, the other end of the pitman being pivoted to the plate I, which in
80 turn is pivoted at *o*, Fig. 4, by means of a hollow pivot, through which the needle passes, and its free end *p* is provided with a slot, *r*, into which fit two pins, *s s*, which extend upward from the ruffling-blade B.
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Instead of pivoting the end of the blade B to the plate E, as in Fig. 1, I provide a slot, *t*, which allows this end to slide as the blade B is guided by the slot *r*.

The length of the stroke or movement of the
90 arm *l* and pawl *m* is regulated by means of the pivoted lever J, which acts, when moved in the direction of the arrow, Figs. 1 and 4, to limit the distance to which the spring H shall pull the arm *l* back. K is a guide, through
95 which the piece of goods to be ruffled passes, and it consists of the two lugs *u* and *v*, which extend upward from the frame K of the guide,

and a spring, *w*, which extends into slots formed in the lugs. The goods are passed between the lugs *u* and *v* and under the spring *w*.

L is a spring-shield which extends over the feed of the sewing-machine, and on the upper side of which rests the feeding-edge of the ruffling-blade B.

The operation of my device is as follows: The piece of goods to which the ruffle is attached or sewed is placed under the shield L, so as to be operated upon by the feed of the sewing-machine. The piece to be ruffled is then passed under the spring *w* of the guide K, and also along under the ruffling-blade B and over the shield L, so as to be operated upon only by the ruffling-blade B. The machine is now started, and as the needle-bar is driven up and down the blade B is reciprocated by means of the crank-lever and sliding plate, as hereinbefore mentioned, and acts to feed the piece of goods to be ruffled. Now, at every forward stroke of the blade B and plate E the lug *k* acts to move the arm *j* of the crank-lever G, and cause the pawl *m* on the arm *l* to engage with the teeth of the ratchet-wheel F and move it a short distance, which in turn causes the wrist or pin *e* to operate on the lever or pitman F', which acts to change the direction of the slot in which the pin or pins extending upward from the blade B slide, and thus the direction in which the forward end of the blade B moves is changed as the ratchet-

wheel F is rotated. This causes the blade to feed the cloth of which the ruffle is to be formed at an angle corresponding to the angle of the slot in which the pin or pins slide, and as this angle is changed at every forward stroke of the blade B the scalloped ruffle shown in Fig. 5 is formed.

What I claim is—

1. In a sewing-machine ruffler, the combination, with a ruffling-blade, of devices, substantially as described, whereby the line of motion of said blade is changed at each stroke and the blade reciprocated at different angles for the purpose of forming scalloped ruffling.

2. In a sewing-machine ruffler, the combination, with the ruffling-blade, of devices for guiding the blade and changing its line of motion while in operation, substantially as set forth.

3. In a sewing-machine ruffler, the combination, with the ruffling-blade, of devices for guiding the blade and changing its line of motion at each stroke thereof, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE W. BAKER.

Witnesses:

JNO. CROWELL, Jr.,
CHAS. A. FRYE.