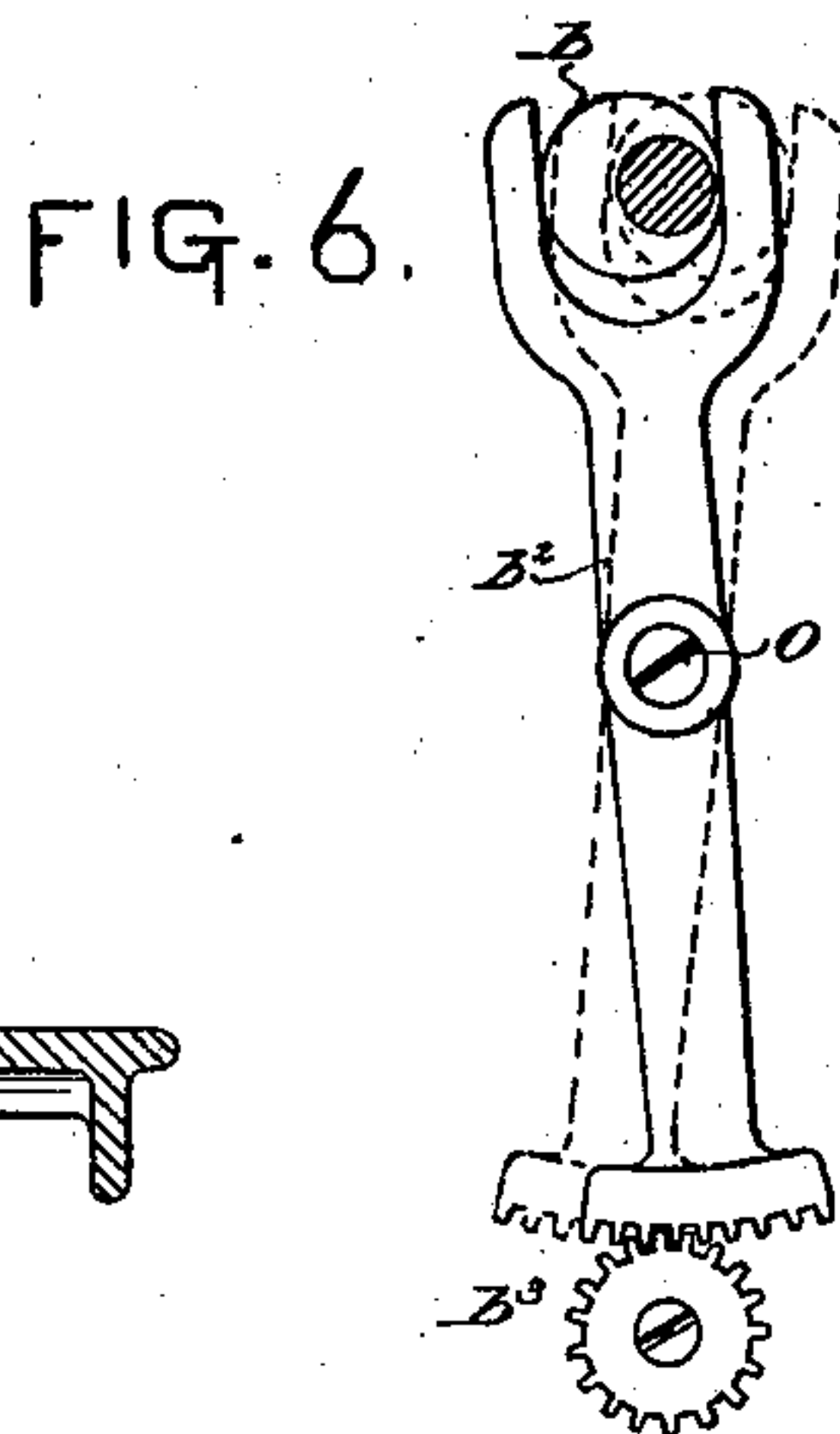
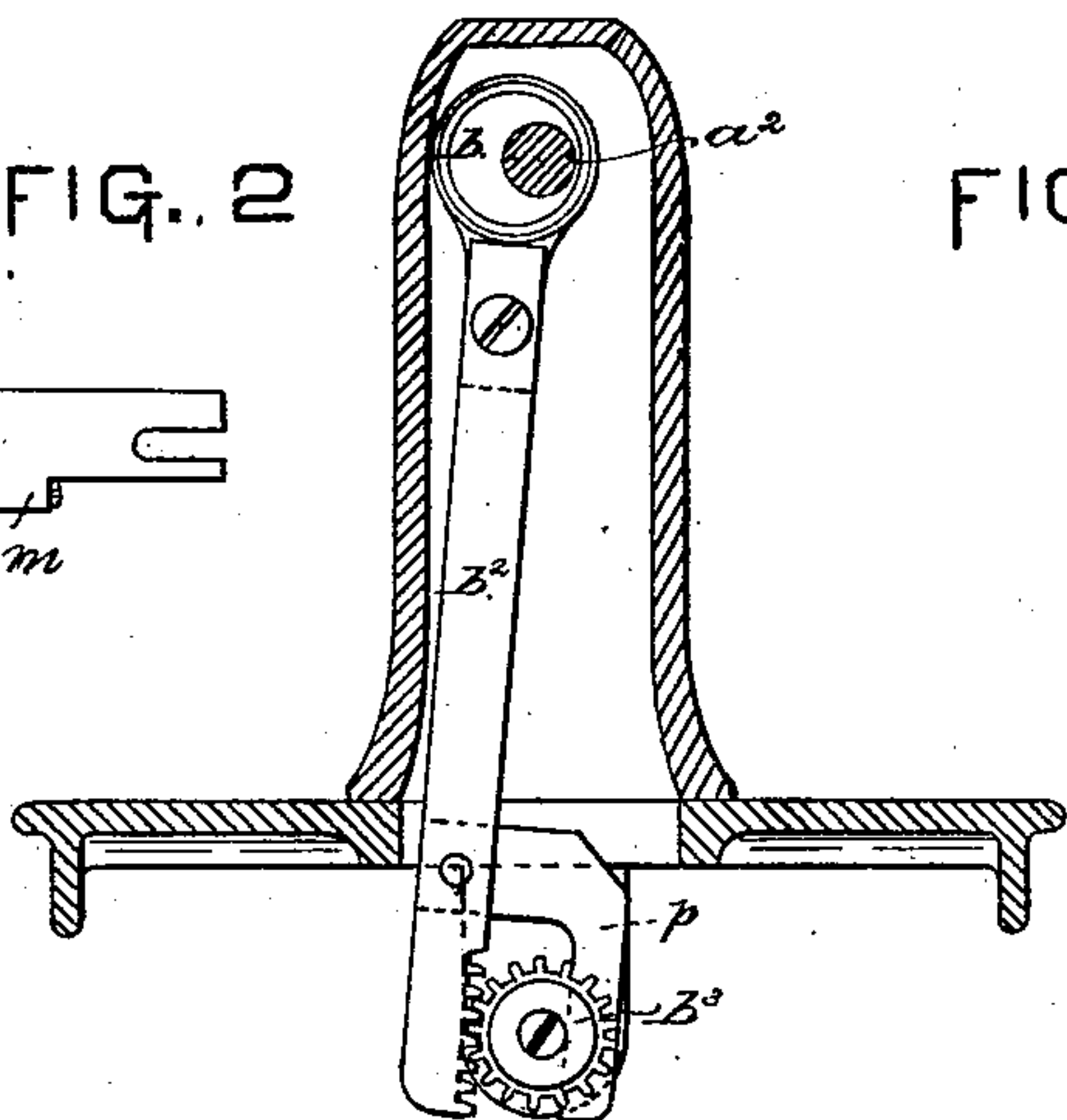
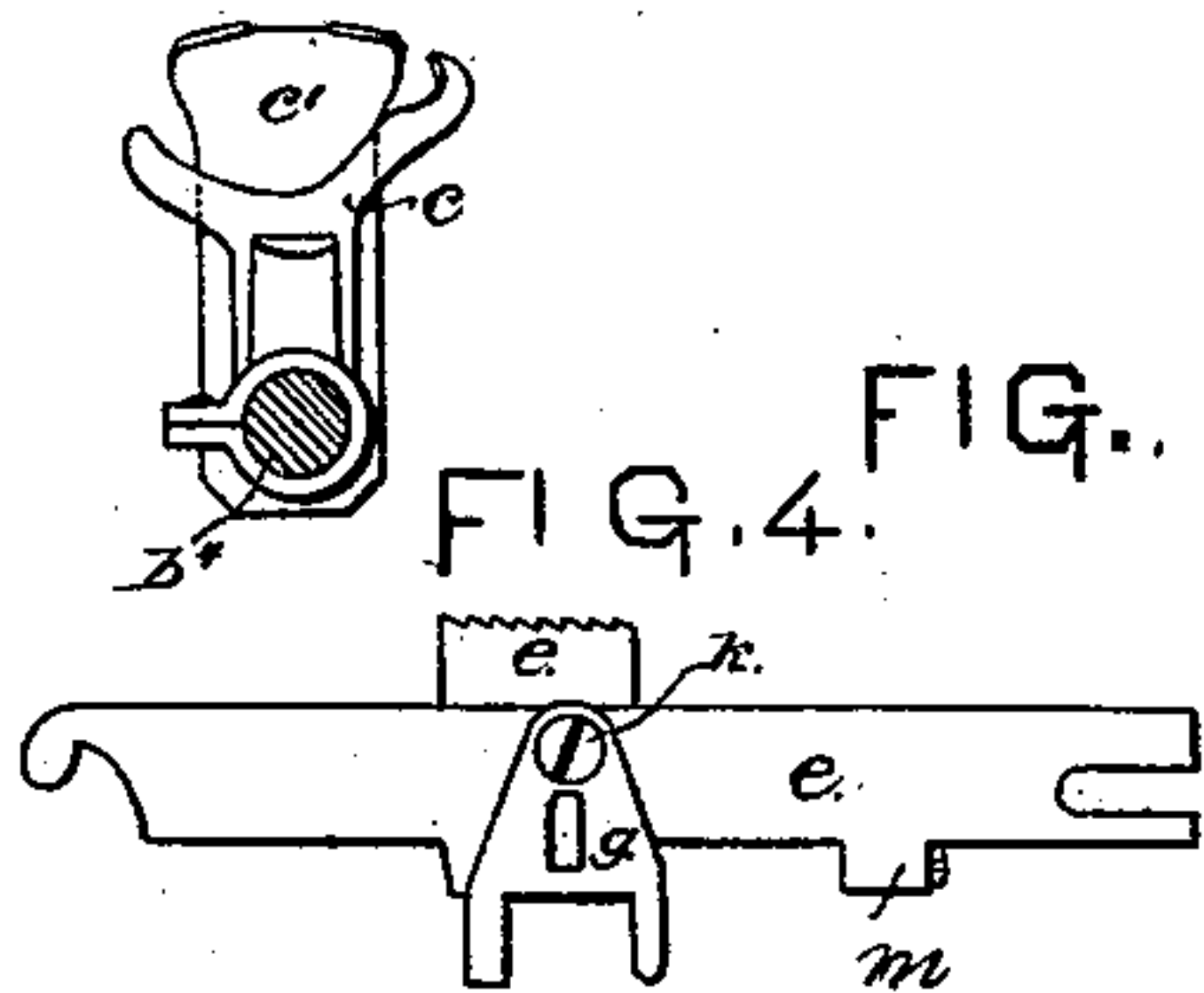
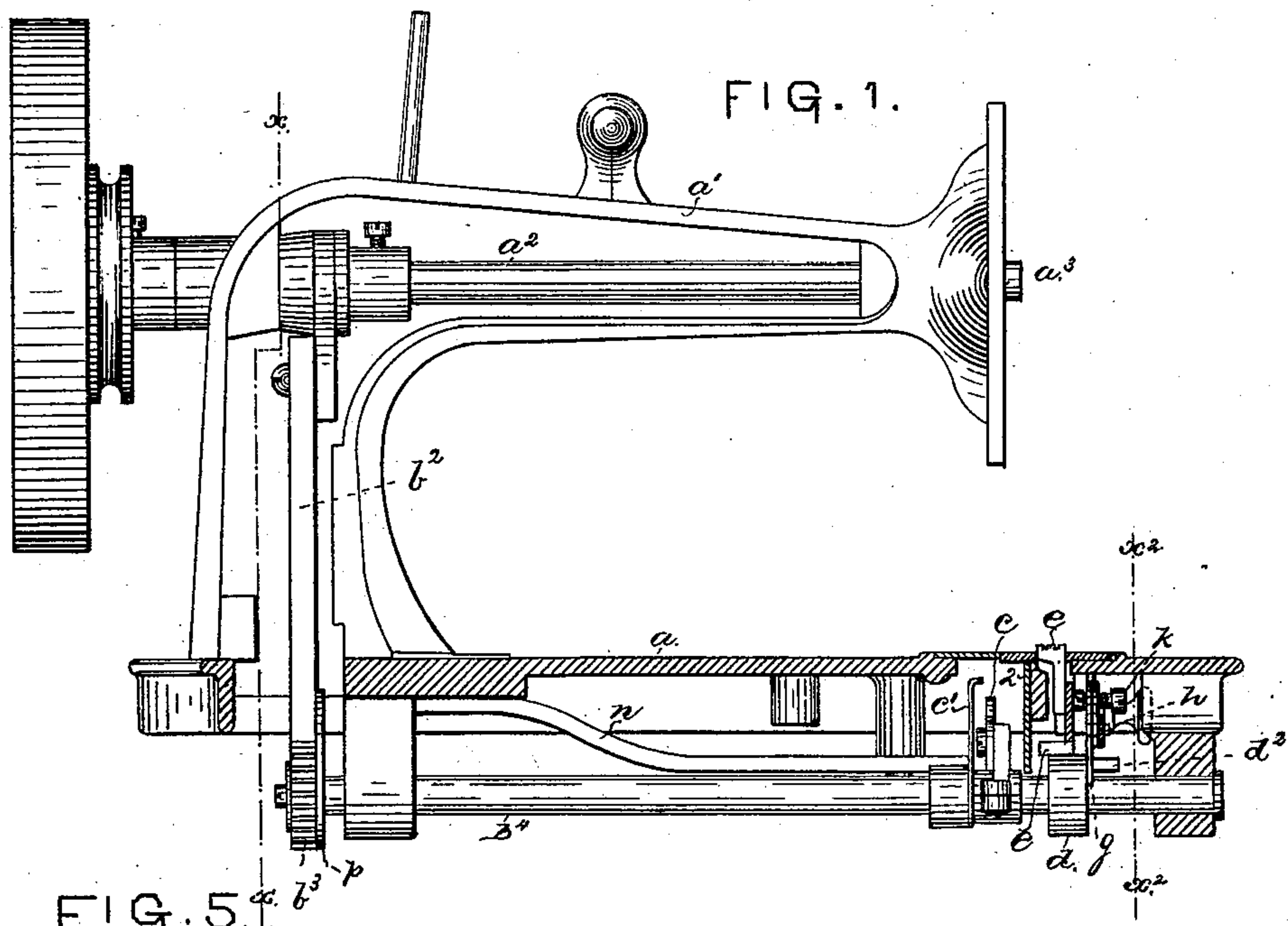


(No Model.)

E. T. THOMAS.  
Sewing Machine.

No. 243,326.

Patented June 21, 1881.



WITNESSES.

L. F. Connor  
Arthur Reynolds.

INVENTOR.  
Eddy T. Thomas.  
by Crosby & Gregory, Attys.



# UNITED STATES PATENT OFFICE.

EDDY T. THOMAS, OF NEW YORK, N. Y., ASSIGNOR TO THE GOLD MEDAL SEWING MACHINE COMPANY, OF ORANGE, MASSACHUSETTS.

## SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 243,326, dated June 21, 1881.

Application filed January 24, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, EDDY T. THOMAS, of New York, county of New York, and State of New York, have invented Improvements in Sewing-Machines, of which the following description, in connection with the accompanying drawings, is a specification.

This invention relates to improvements in sewing-machines of that class employing an eye-pointed needle and shuttle and making the lock or shuttle stitch; and my invention has for its object to simplify the construction of the same, as will be hereinafter described.

My invention consists in the combination, with the rotary needle-bar-actuating shaft in the overhanging arm, eccentric thereon, and rack-bar actuated by the said eccentric, of a rocker-shaft and a pinion thereon engaged by the said rack-bar, and a shuttle-carrier secured to the said rocker-shaft. I make this same rocker-shaft which vibrates the shuttle-carrier the means for imparting movement to the four-motioned feed-bar, by providing it with a cam which raises the said feed-bar and permits it to fall, while a lateral pin or projection on the said cam, working on a forked lever having an adjustable fulcrum, imparts to the feed-bar its backward and forward movement.

Figure 1 represents, in side elevation and partial section, a sufficient portion of a sewing-machine to illustrate my invention. Fig. 2 is a section of Fig. 1 on the dotted lines  $xx$ . Fig. 3 is a section on the dotted line  $x^2x^2$ , Fig. 1, to show the feeding mechanism. Fig. 4 is a detail of the feed-bar. Fig. 5 is a detail of the shuttle-carrier and its connected parts, and Fig. 6 is a modification representing a different form of rack-bar.

The frame-work  $a$ , overhanging arm  $a'$ , rotating shaft  $a^2$  therein, and crank-pin  $a^3$ , which is to enter the so-called "heart-shaped" groove in a plate connected, as usual, with the needle-bar, but not shown, are supposed to be the same as in the well-known "New Home" sewing-machine. The shaft  $a^2$  has upon it an eccentric,  $b$ , which actuates the rack-bar  $b^2$ , the teeth of which engage the pinion  $b^3$  on the shuttle-carrier rock-shaft  $b^4$  and impart to the said shaft a rotary reciprocating movement, causing the shuttle-carrier  $c$ , provided with suitable horns, to carry the shuttle through the loop, which will

be formed in the usual manner on the needle-thread. The face of the shuttle will be kept pressed up against the face of the shuttle-race 2, and down on the carrier by the carrier-spring  $c'$ . The shuttle (not shown in the drawings, to avoid confusion of lines) will be of usual construction.

The shaft  $b^4$  has connected with it a cam,  $d$ , of proper shape to lift the feed-bar  $e$  at the proper time to engage the material to be fed along under the usual presser-foot and needle, (not shown,) and to permit the said feed-bar to fall at the proper time under the pressure of the spring 3. At its front side this cam  $d$  has extended laterally from it a stud or projection,  $d^2$ , (see Fig. 3,) which at proper times during the movements of the rocking-shaft  $b^4$  acts upon one or the other of the two legs of the forked feed-moving lever  $g$ , pivoted at its upper end, as at  $k$ , to the feed-bar  $e$ . This forked lever is slotted, as shown in Fig. 4, to surround the fulcrum 4 on the movable fulcrum-bar  $h$ , pivoted at one end, at 5, to a lug, 6, of the frame-work, while its other end is suitably slotted, so that it may be adjusted and held in adjusted position by the set-screw  $i$ . Elevation or depression of the said fulcrum-bar will vary the position of the fulcrum 4, and consequently change the throw of the lever  $g$  and feed-bar.

In connection with the feed-bar I have shown a back-stop,  $l$ , which regulates the backward movement of the feed, and consequently the length of the stitch, the lug  $m$  of the feed-bar striking against the said stop. This back-stop is of usual construction, and, as herein shown, is the forward end of the pivoted lever  $n$ .

In Fig. 6, I have shown the rack-bar arranged to vibrate about the center  $o$ , instead of to reciprocate, as in Fig. 2. The rack-bar in Fig. 2 is kept in engagement with the teeth of the pinion by means of the arm  $p$ , which bears against the right-hand side of shaft  $b^4$ , while the rack and pinion engage on the left-hand side.

I claim—

1. In a sewing-machine for making a lock or shuttle stitch, the frame-work, rotating needle-bar-actuating shaft, eccentric thereon, and vertically-reciprocating rack-bar provided with the arm  $p$  and actuated from the said eccentric, combined with the rocker-shaft  $b^4$ , its pinion  $b^3$ ,

and vibrating shuttle-carrier connected therewith, substantially as described.

2. The frame-work, rotating needle-bar-actuating shaft, and eccentric thereon, the rack-bar  
5 actuated thereby, and the rocker-shaft  $b^4$ , its pinion  $b^3$ , and vibrating shuttle-carrier  $c$ , connected therewith, combined with the feed-cam  $d$ , the stud  $d^2$  thereon, feed-bar  $e$ , forked feed-moving lever pivoted thereon, and the ad-  
10 justable fulcrum therefor, substantially as described.

3. The rocker-shaft  $b^4$ , cam  $d$  and its stud

$d^2$ , and feed-bar and forked feed-moving lever pivoted thereon, combined with the movable bar  $h$  and fulcrum 4 for the said feed-moving  
15 lever, to operate as and for the purpose described.

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

EDDY TAYLOR THOMAS.

Witnesses:

BERNARD J. KELLY,  
SAML. D. TOMPKINS.