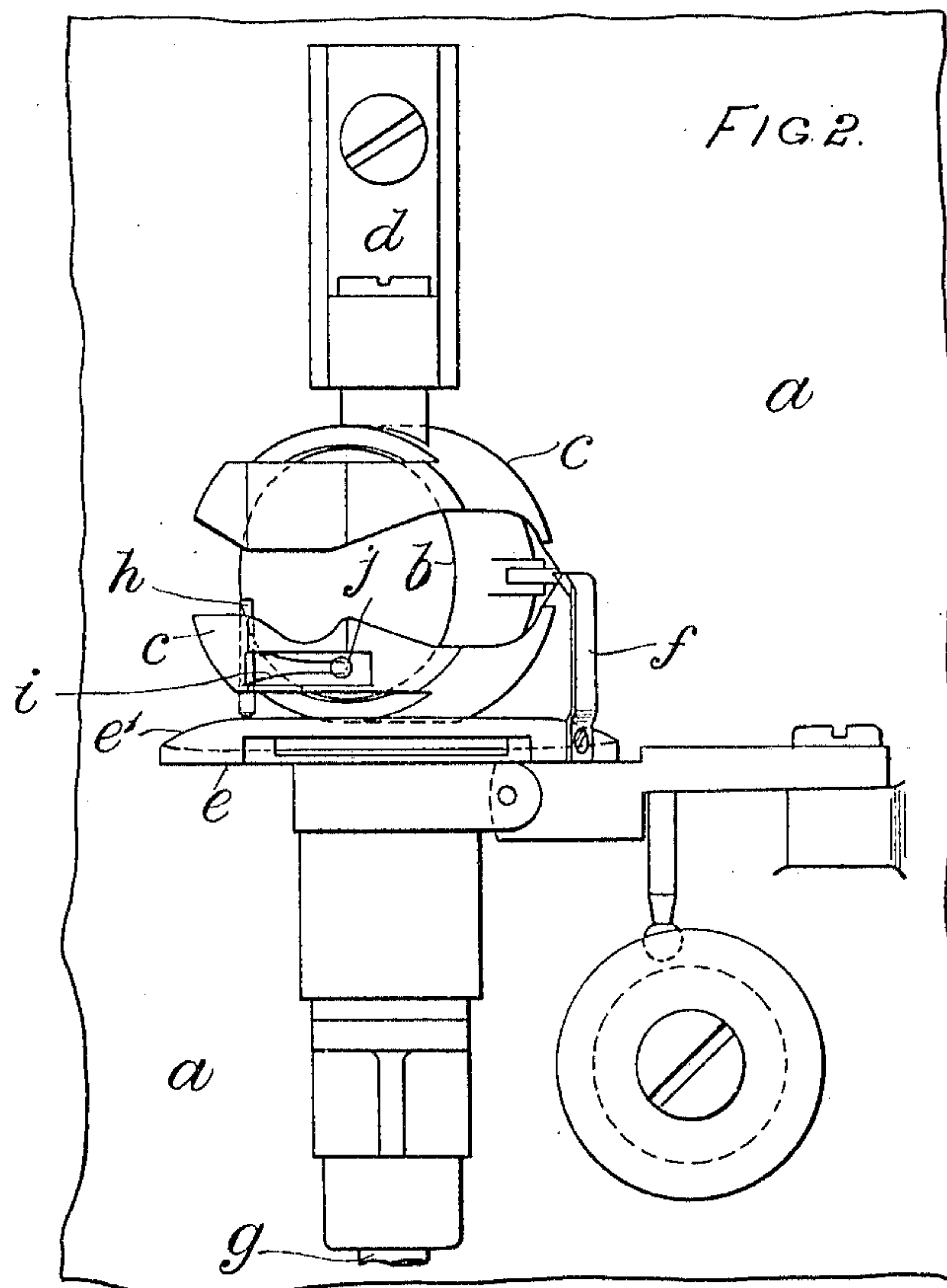
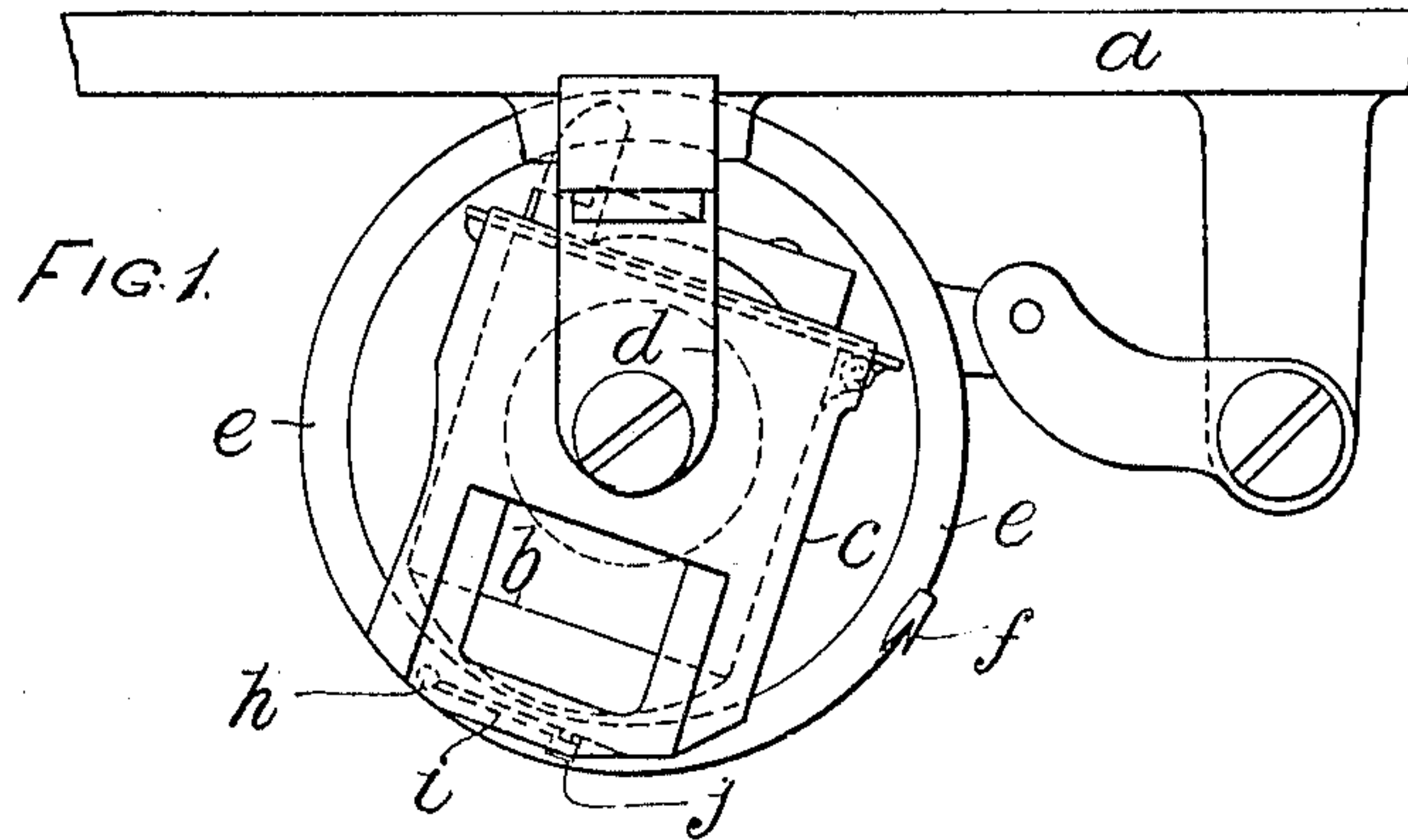


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TWO REEL SEWING MACHINE.  
APPLICATION FILED MAR. 15, 1909.

947,381.

Patented Jan. 25, 1910.

3 SHEETS—SHEET 1.



WITNESSES

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3 SHEETS—SHEET 2.

FIG. 3.

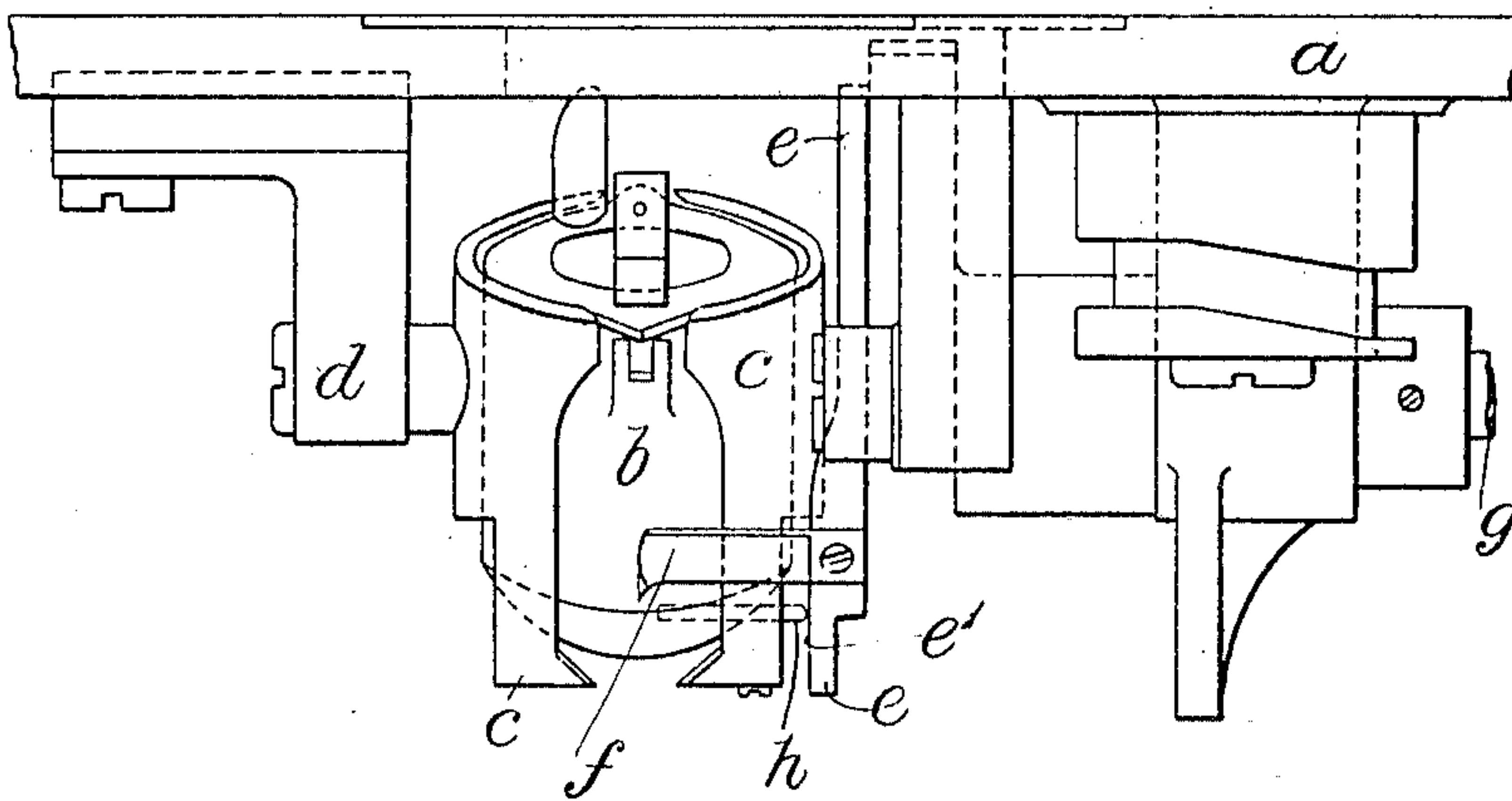
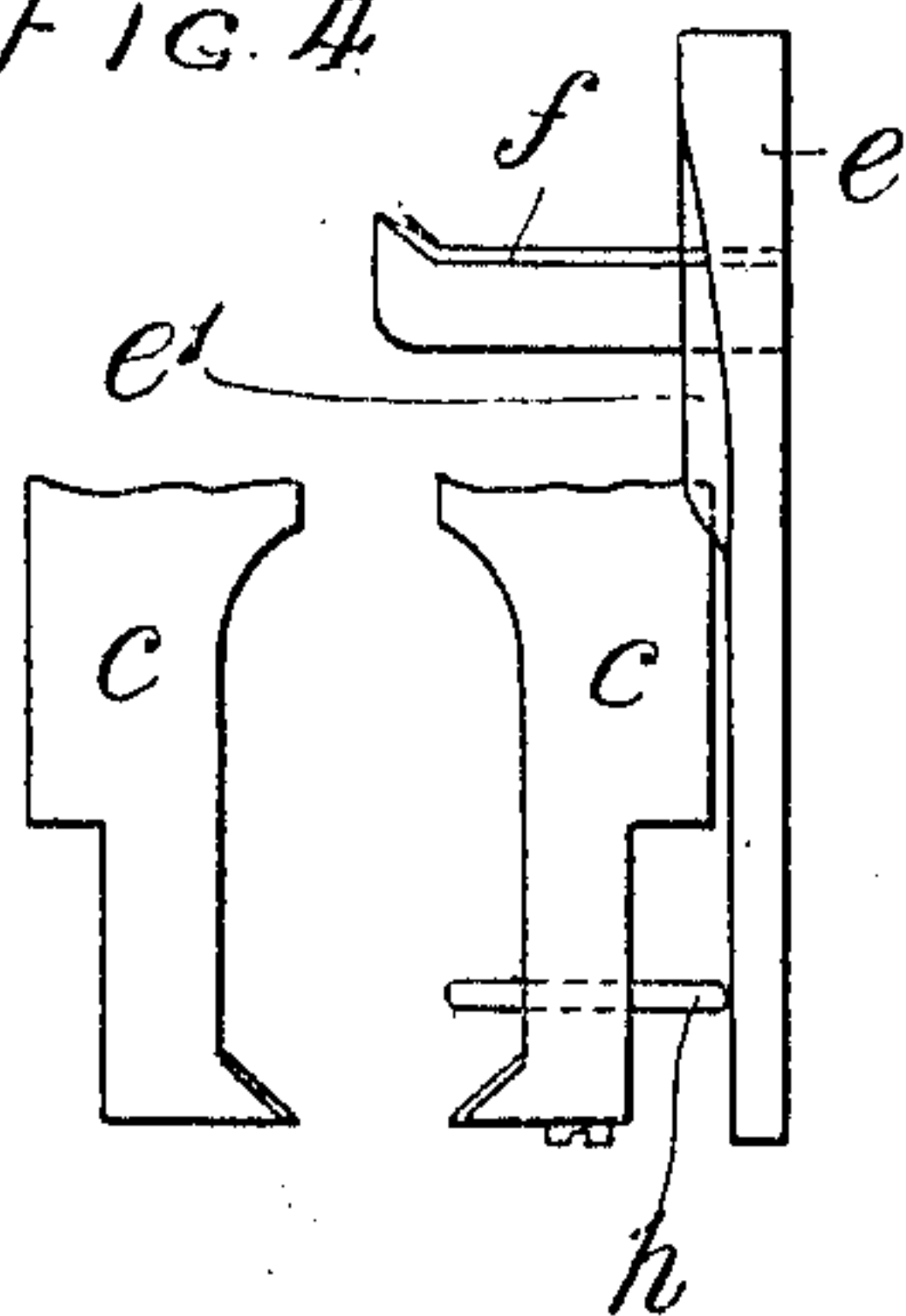


FIG. 4.



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3 SHEETS—SHEET 3.

FIG. 5.

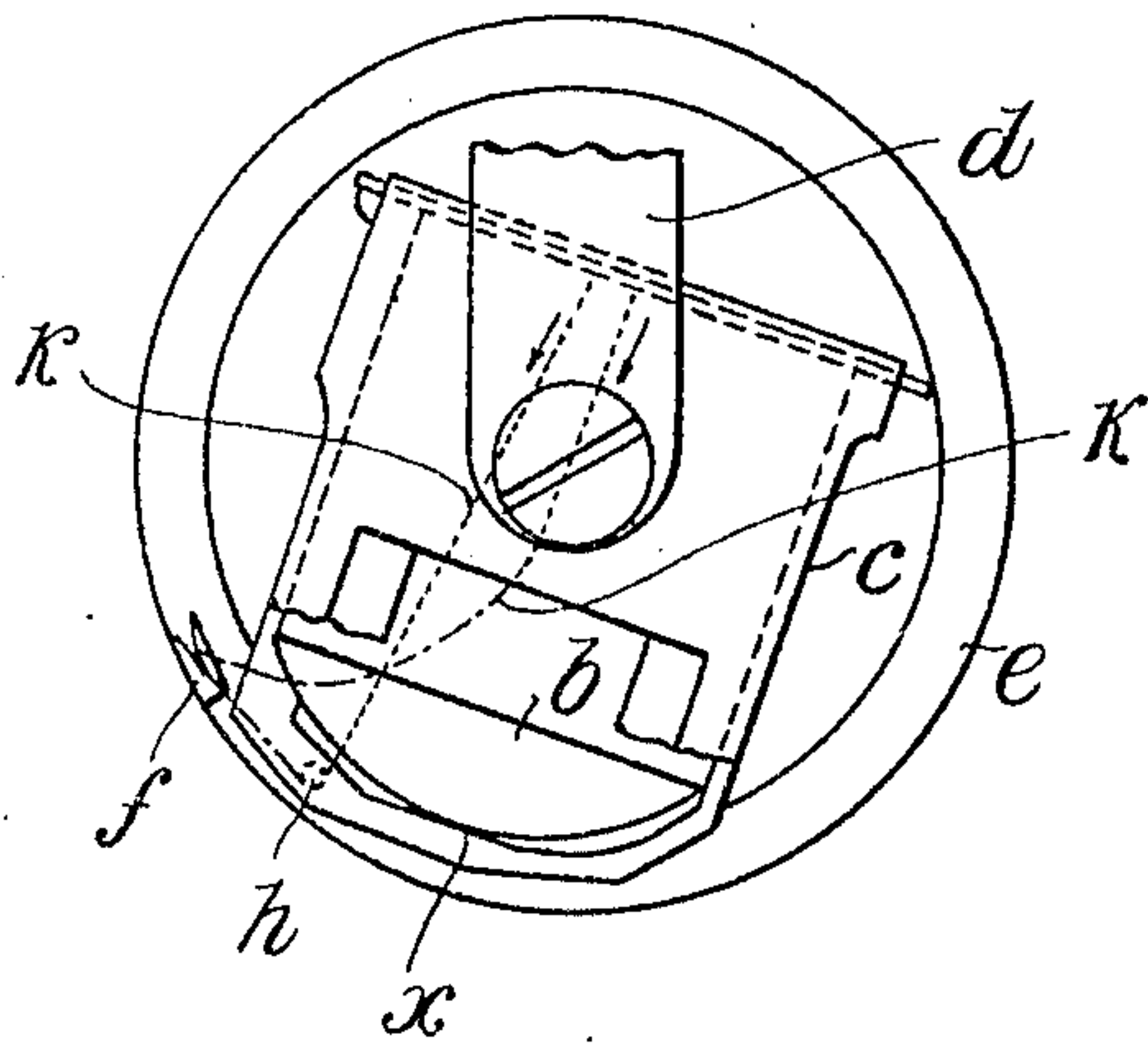


FIG. 7.

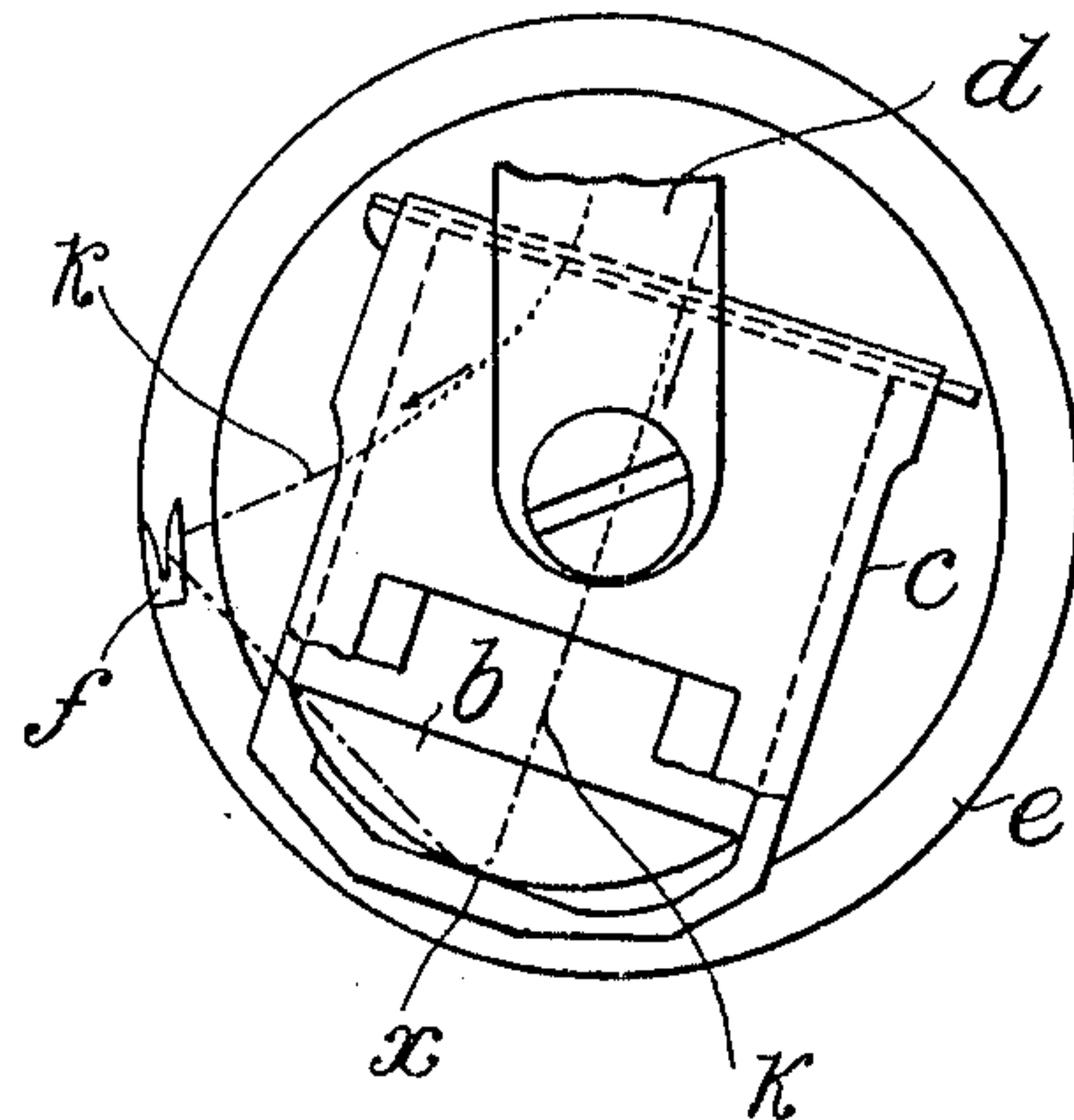
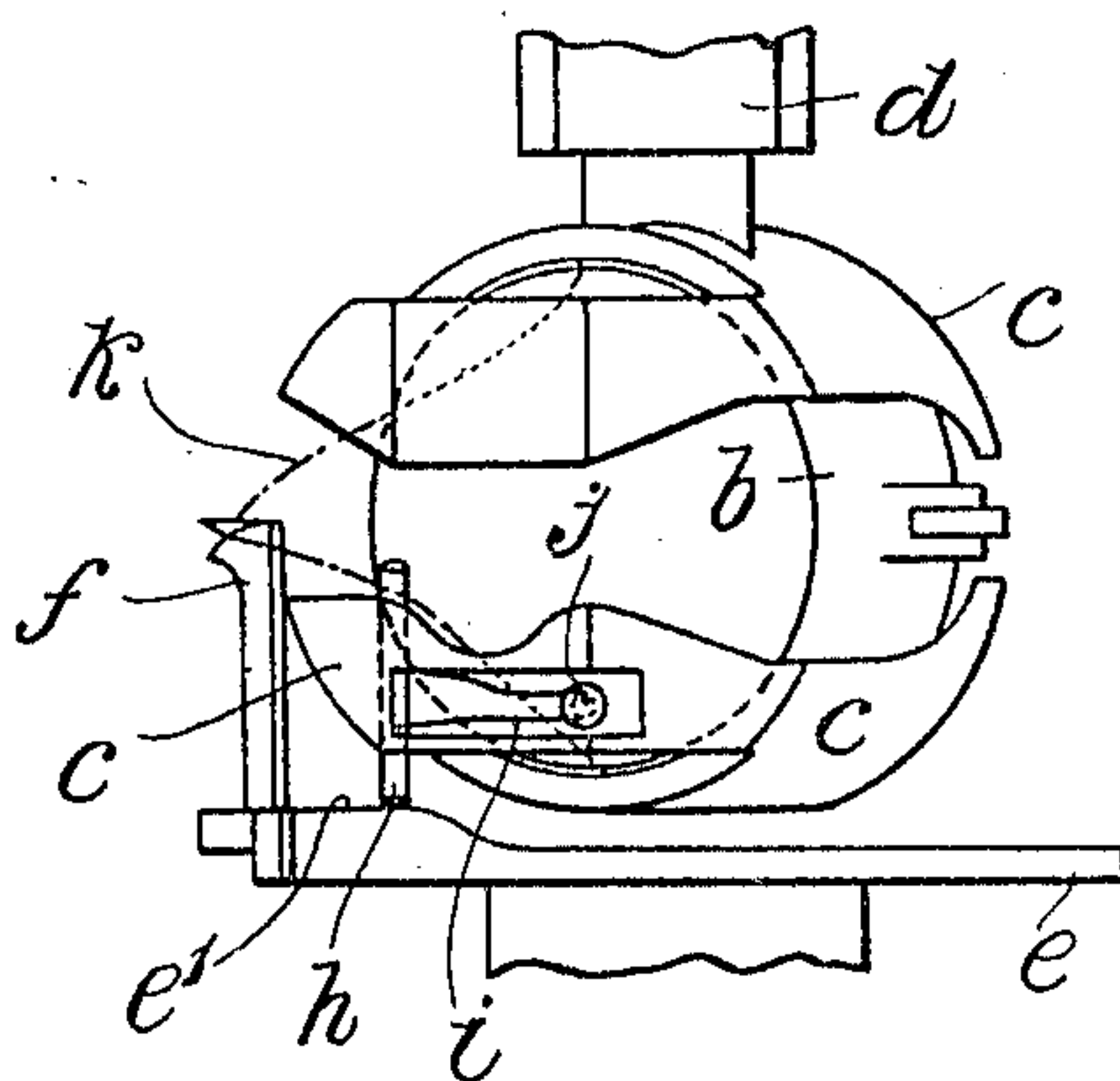


FIG. 6.



WITNESSES

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# UNITED STATES PATENT OFFICE.

DENIS FLANAGAN, OF CLAYTON-LE-MOORS, ENGLAND.

## TWO-REEL SEWING-MACHINE.

947,381.

Specification of Letters Patent.

Patented Jan. 25, 1910.

Application filed March 15, 1909. Serial No. 483,536.

*To all whom it may concern:*

Be it known that I, DENIS FLANAGAN, a subject of the King of Great Britain, residing at 26 Oswald street, Clayton-le-Moors, in the county of Lancaster, England, have invented certain new and useful Improvements in Two-Reel Sewing-Machines, of which the following is a specification.

My invention relates to improvements in two-reel sewing machines and the object of my invention is to control the needle thread as it passes between the reel case and the reel case holder and is particularly applicable to the machine described in the specification to British Letters Patent numbered 11667 of 1903.

In carrying my invention into effect I employ a reel case, reel case holder and looper similar to those therein described but according to my present invention I form a cam upon one face of this looper disk, and in combination with this cam I fit in a hole in the lower portion of the reel case holder a small pin or thread controller which lies parallel with the bottom driving shaft of the machine. The rear end of this pin is held against the face of the looper disk by a spring.

In the accompanying 3 sheets of drawings,—Figure 1 is a side elevation, Fig. 2 a plan view of the under side, and Fig. 3 a front view of part of a two-reel sewing machine to which my improvements are applied. Fig. 4 is a detail view of the looper cam and pin. Fig. 5 is a side elevation and Fig. 6 a plan to illustrate the course of the needle thread around the reel case, Fig. 7 is a similar side elevation to Fig. 5, but illustrating the ordinary course taken by the needle thread when the pin is not employed.

In the drawings, *a* designates the bed-plate of the sewing machine; *b* the reel case; *c* the reel case holder; *d* a bracket upon which the reel case holder is free to swivel; *e* the looper disk; *f* the hook secured to the looper disk; *g* the bottom driving shaft of the machine upon one end of which the looper disk *e* is secured.

The foregoing parts are substantially the same and operate in the manner described in my aforesaid patent specification.

According to my present invention I form a cam surface *e'* upon the looper disk *e*, and in combination with this cam I make a small hole, parallel with the shaft *g*, through the

lower portion of the reel case holder *c* opposite the looper disk, and fit a small pin or thread controller *h* in this hole. A suitable spring such as a bent wire spring *i* secured by a screw *j* in a recess in the reel case holder has one end resting in a hole in the pin *h*, and so holds the end of the pin in constant contact with the side face of the rotating looper disk *e*, the cam surface *e'* of which, acting upon the pin moves it in one direction, while the spring *i* presses it back again.

When the machine is in operation the needle thread *k* is carried around by the hook *f* on the rotating looper disk *e*; but previous to the hook *f* reaching the pin *h*, the latter will have been pushed outward and forward into the path of the thread, as shown in Figs. 5 and 6, by the cam surface *e'*, and as the thread on the hook *f* on the rotating looper disk *e* is carried forward it is brought over and against the pin *h* and is held for a moment in that position until the hook *f* has traveled far enough to take up the slack in the thread and thereby draw it out from between the base of the reel case *b* and the point *x* see Fig. 5, where the reel case is supported on the reel case holder *c*. The continuous forward movement of the rotary looper withdraws its cam surface from the pin *h* which is pushed back by the spring *i* and this allows the thread to be freely drawn up into the fabric in the usual way by the take-up levers of the machine.

In Fig. 7 there is no pin *h* and although the hook *f* has traveled farther than shown in Fig. 5 the needle thread is shown still caught between the reel case and the point *x* on the reel case holder where it rests, and this alters the tension on the thread between the hook *f* and the point *x* where the thread is caught, and is liable to break the thread or to unduly affect the tension, these difficulties being obviated by the use of the pin *h* as described.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed I declare that what I claim is:—

In a two-reel sewing machine, in combination the rotary looper disk having a thread hook and a cam surface formed thereon, the reel case, reel case holder, and means for momentarily detaining the needle thread until the hook upon the looper disk takes up

the slack and draws the thread from under the base of the reel case, said means consisting of the hook upon the rotary looper disk and a spring controlled pin fitted in  
5 the reel case holder and actuated by the cam upon the looper disk substantially as and for the purposes herein set forth.

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

DENIS FLANAGAN.

Witnesses:

HENRY BERNOULLI BARLOW,  
HERBERT ROWLAND ABBEY.