

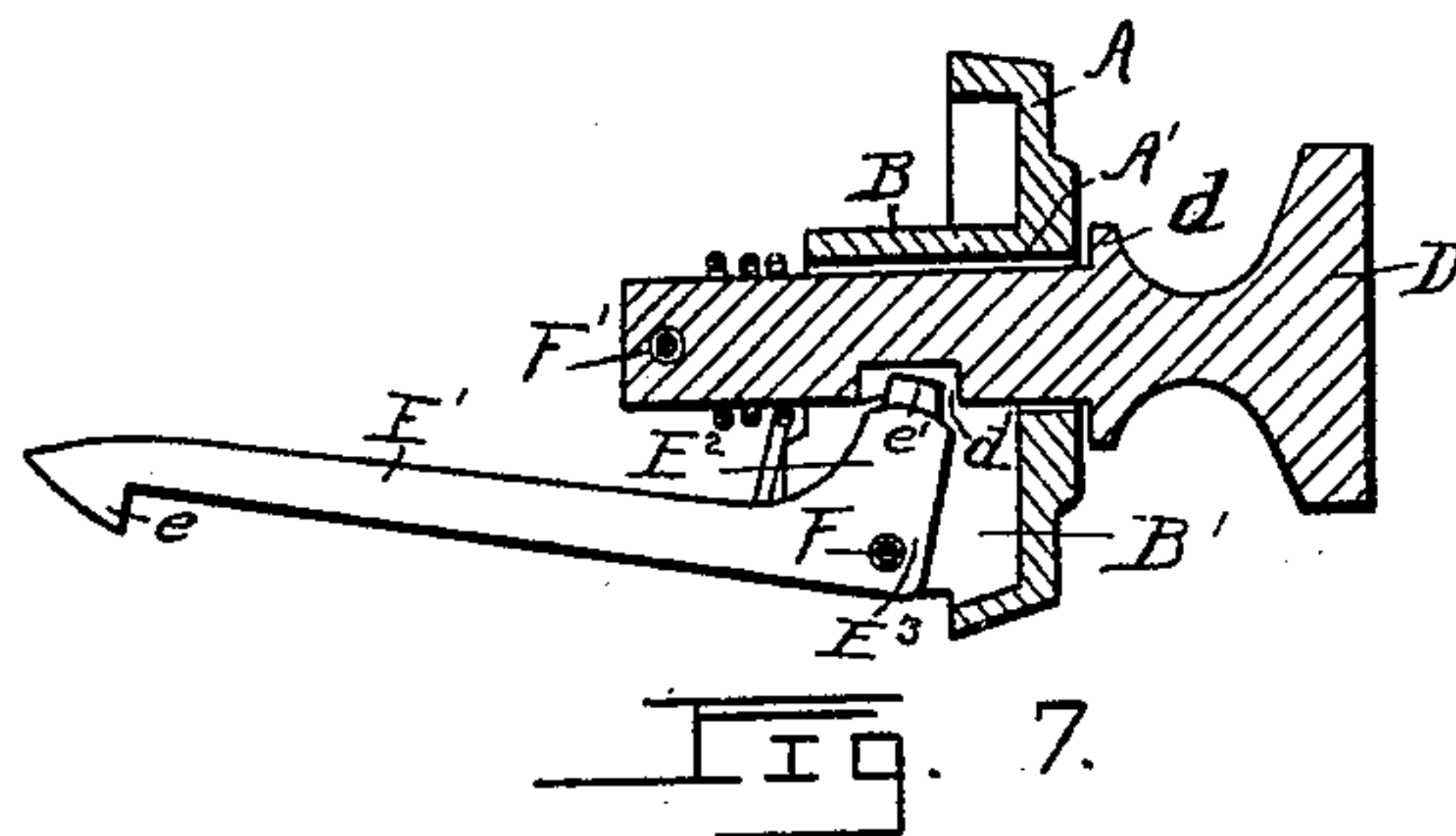
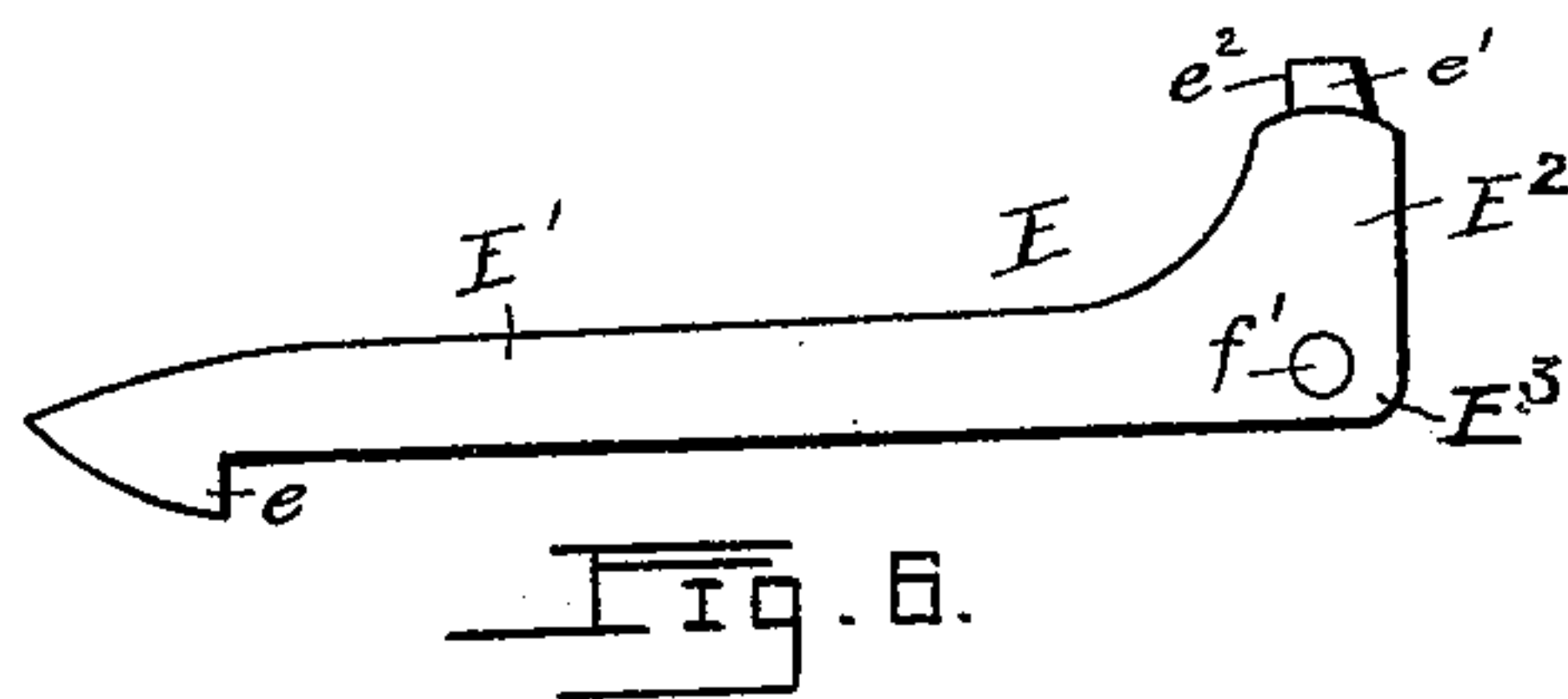
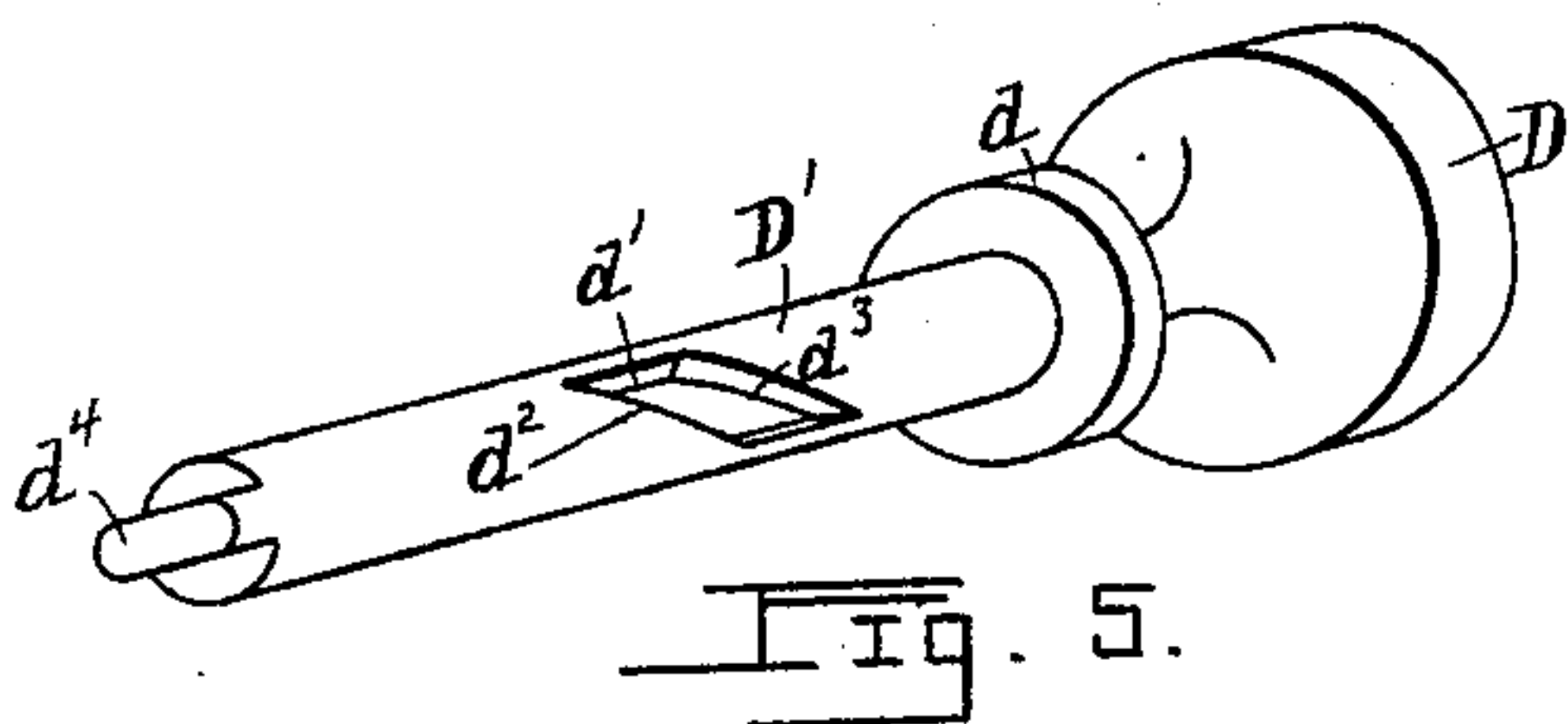
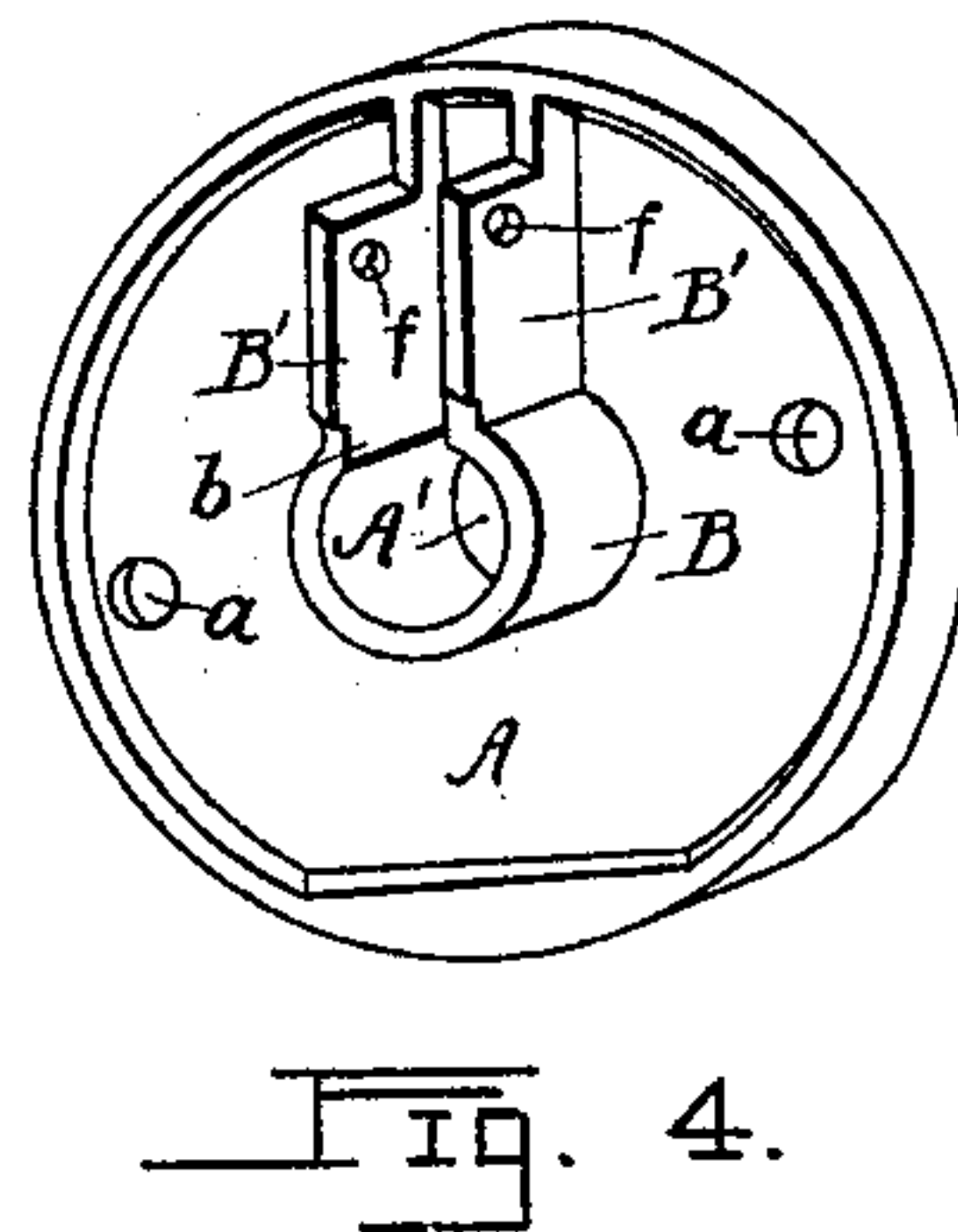
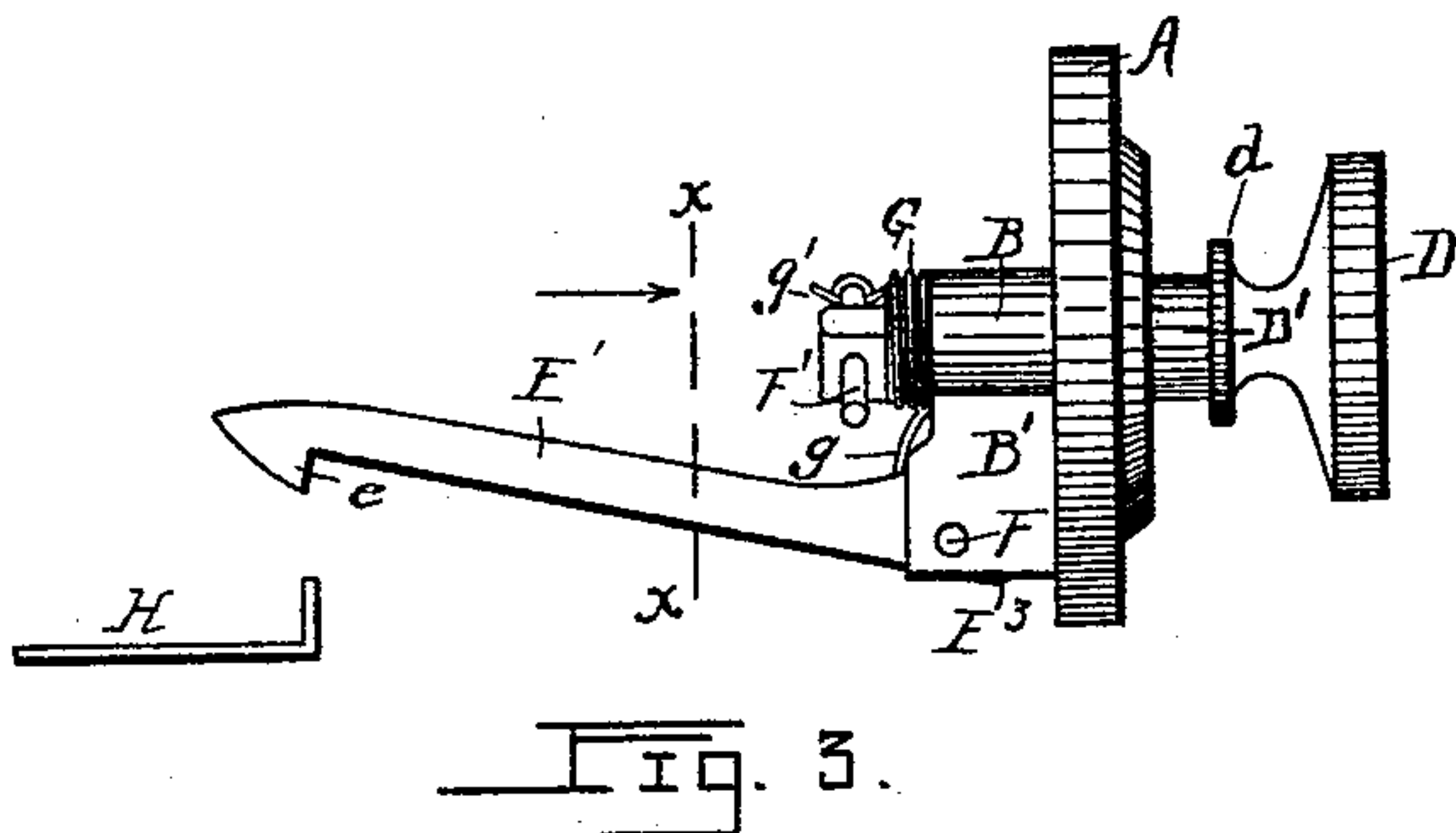
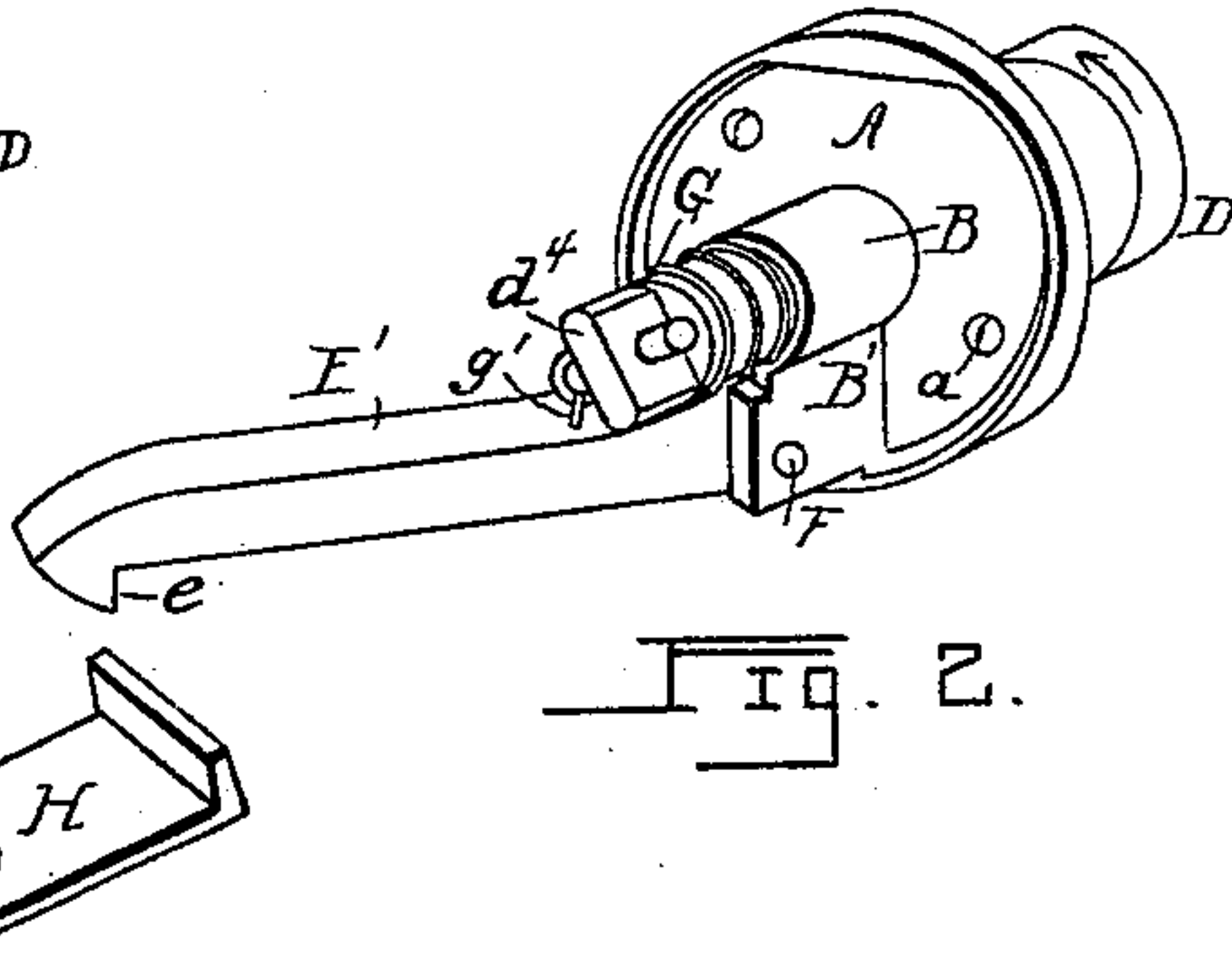
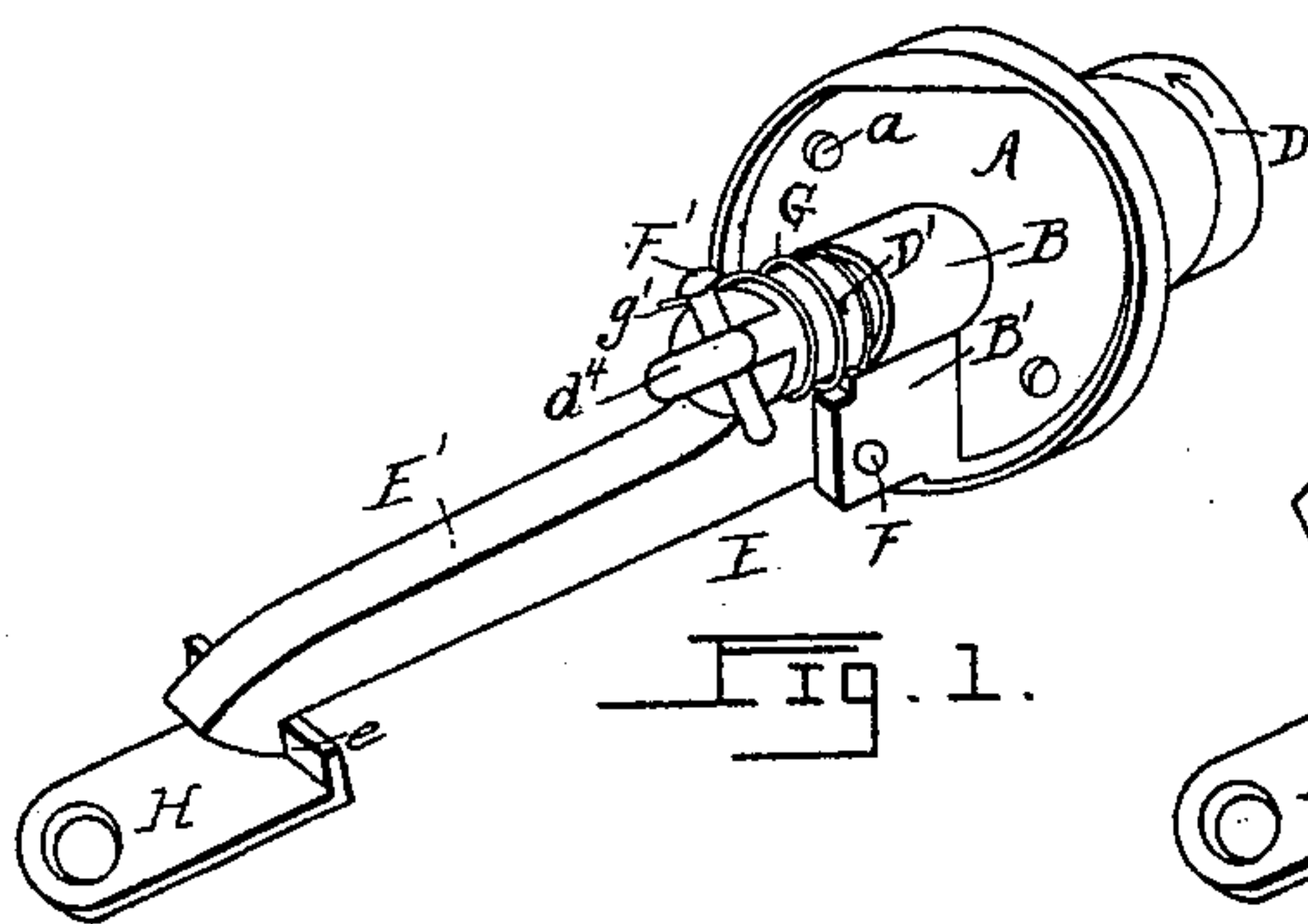
(No Model.)

2 Sheets—Sheet 1.

W. F. TROAST.  
LATCH.

No. 583,271.

Patented May 25, 1897.



Witnesses  
W. M. Hall.  
C. B. Brainerd

Inventor  
Wm. F. Troast.

By Attorney  
Wm. R. Gerhardt

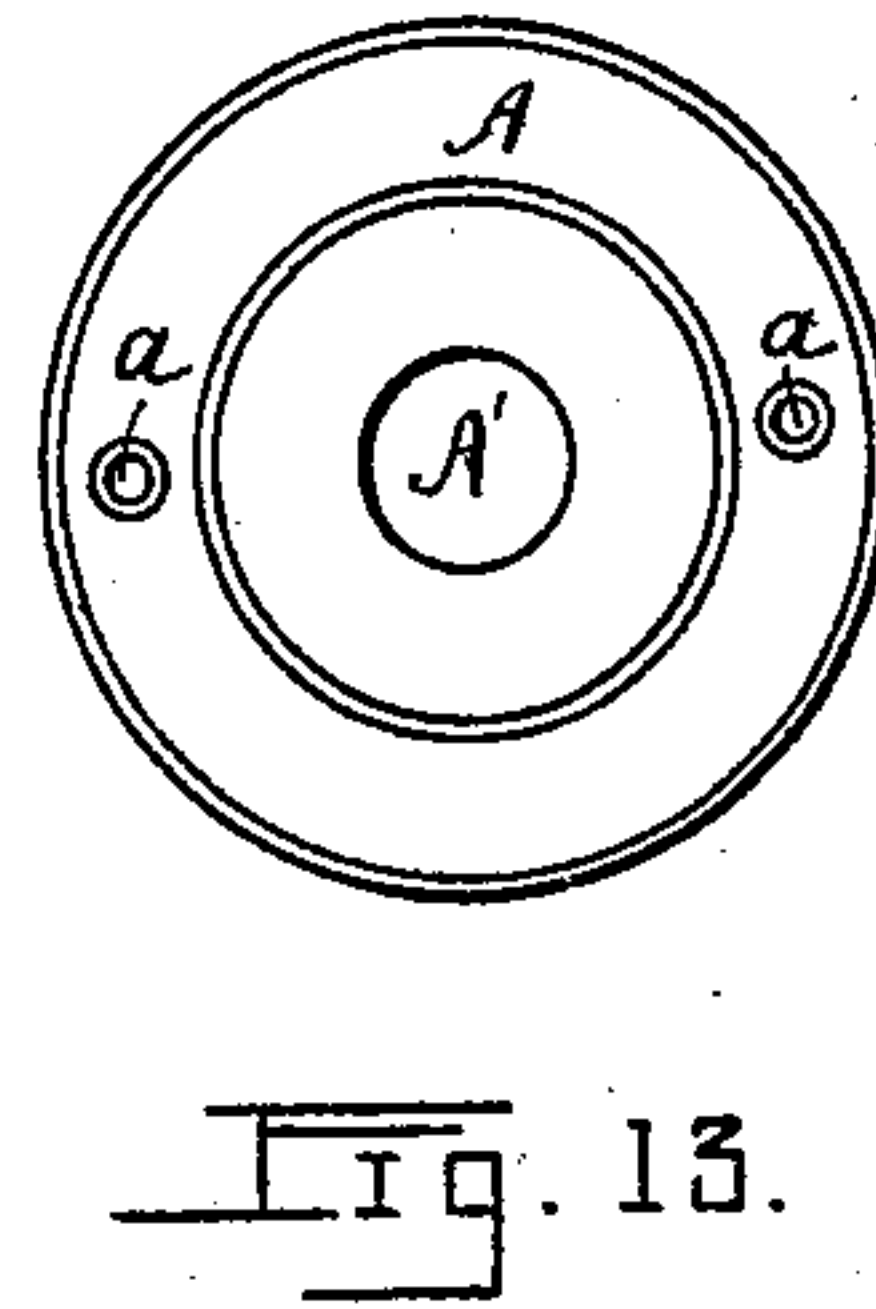
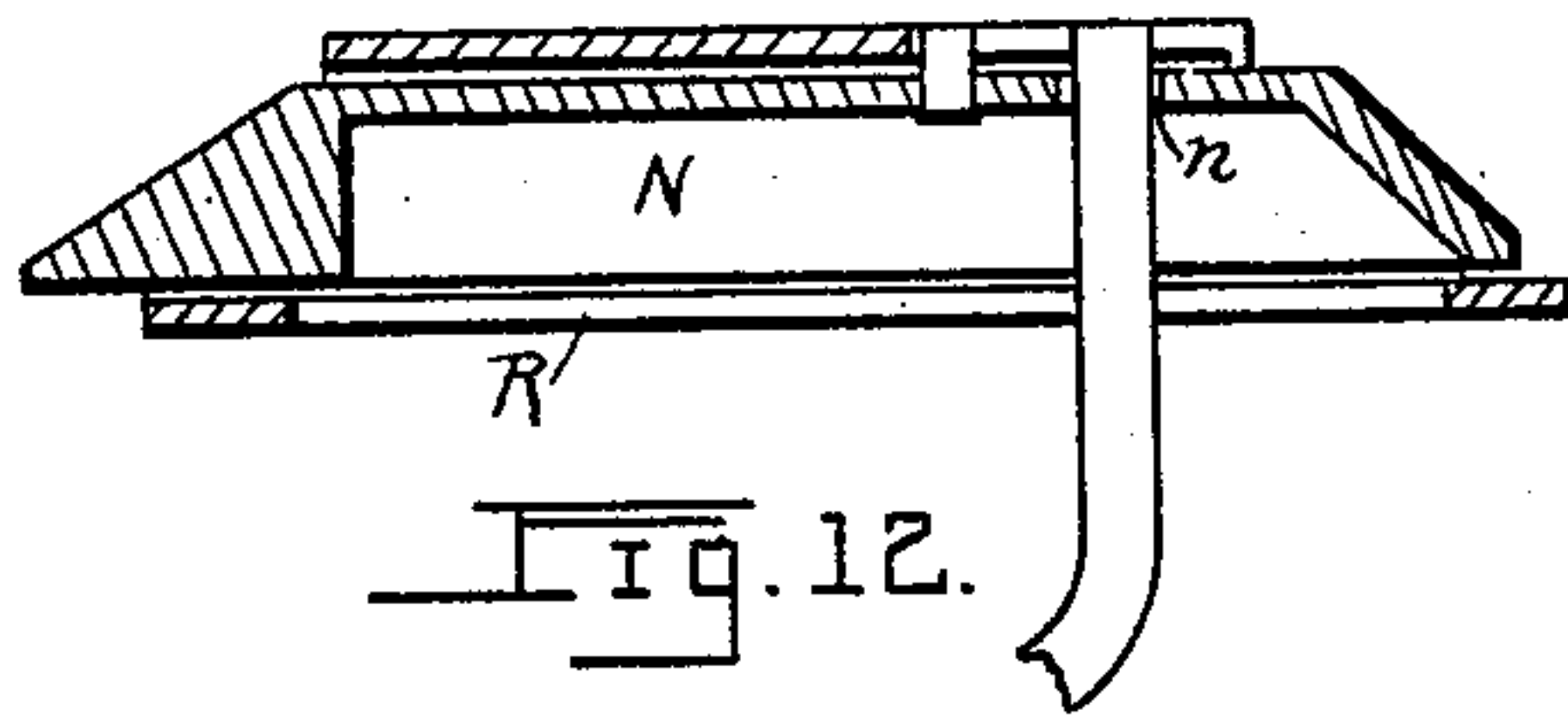
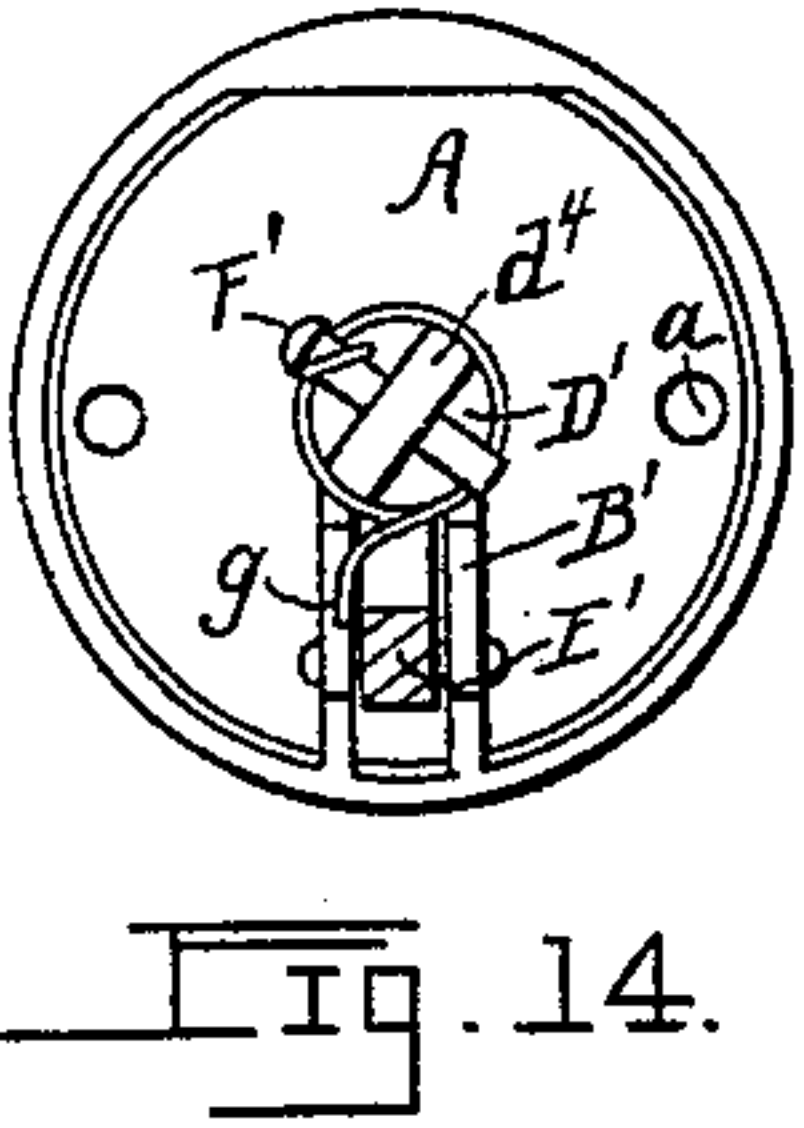
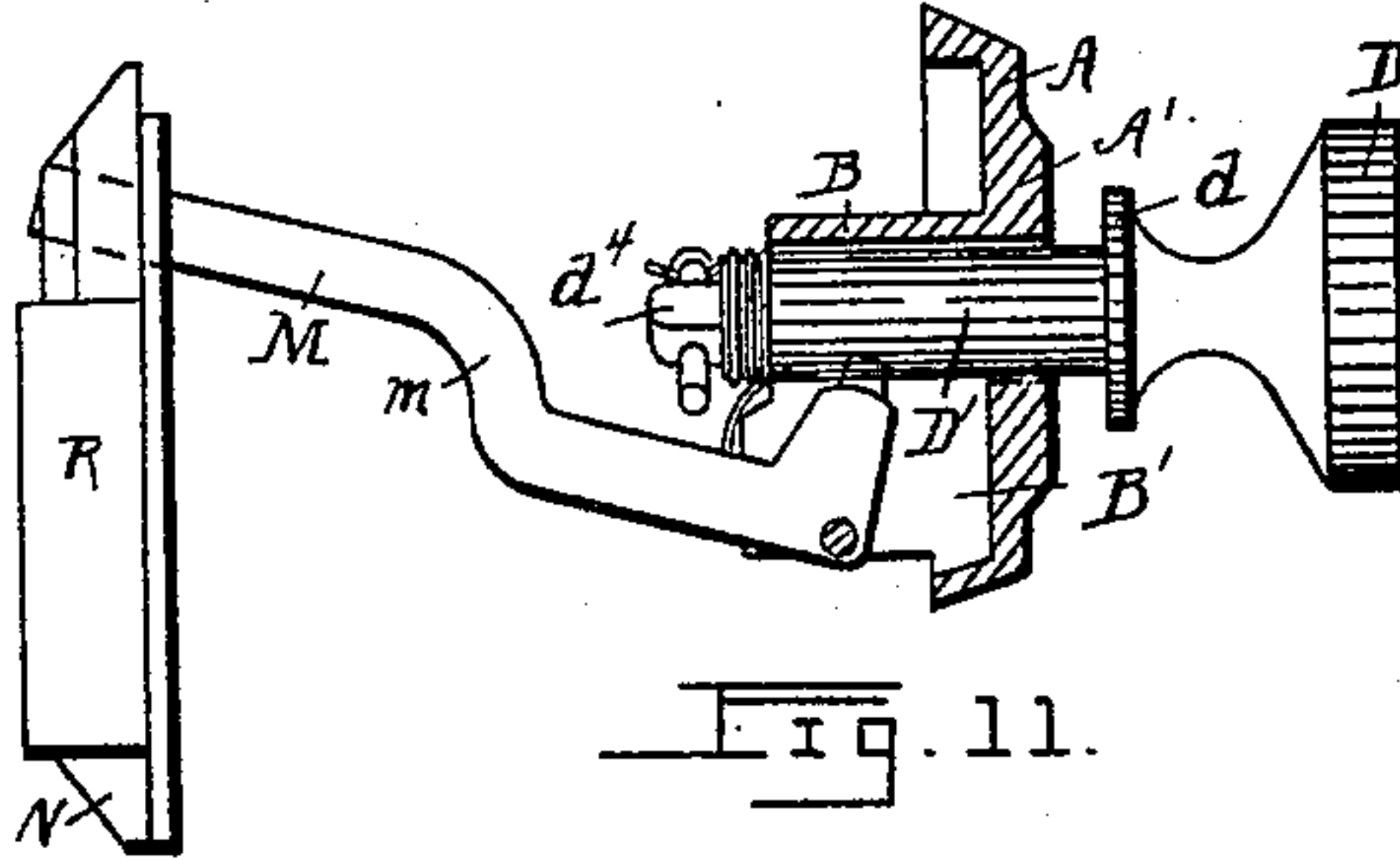
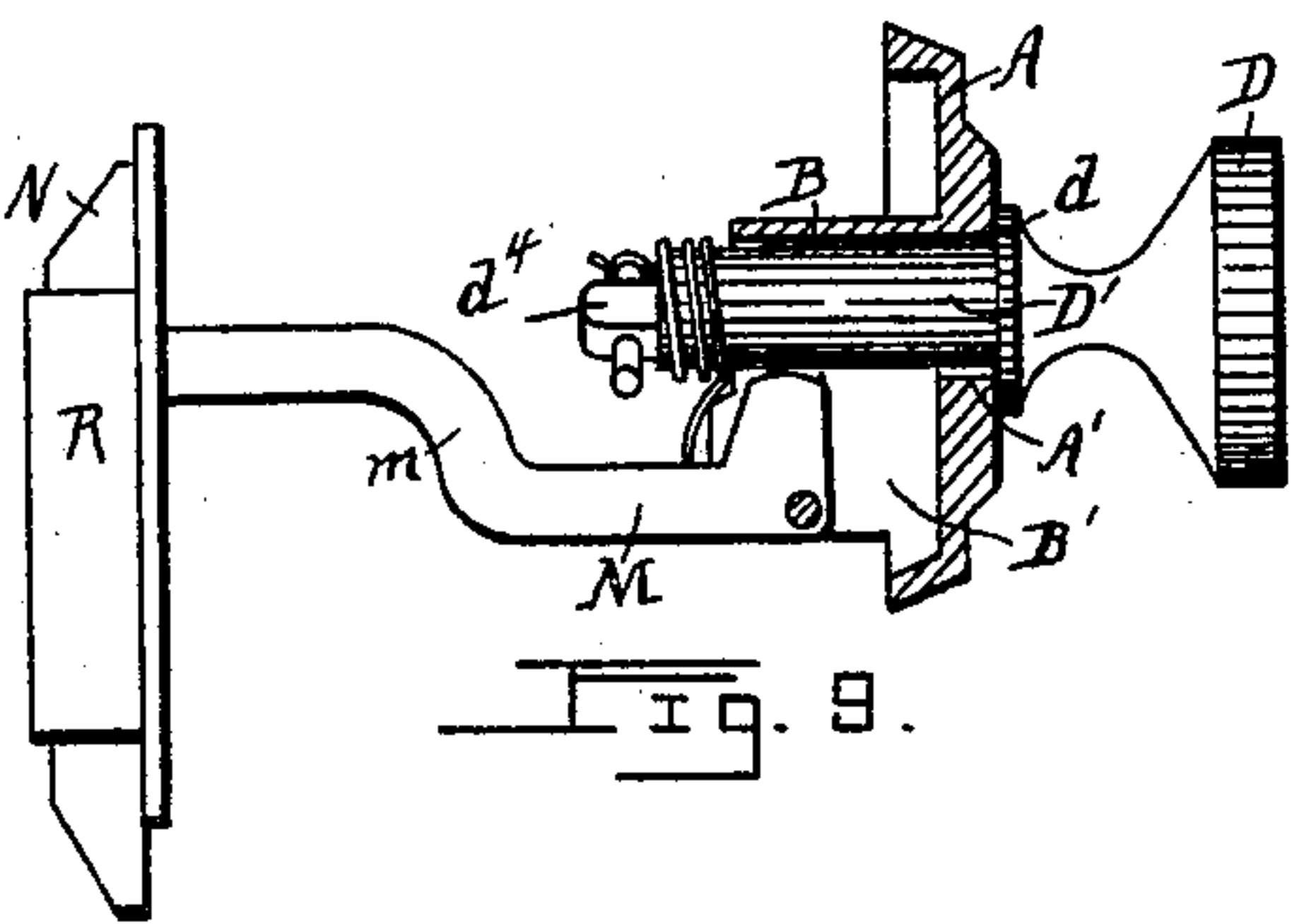
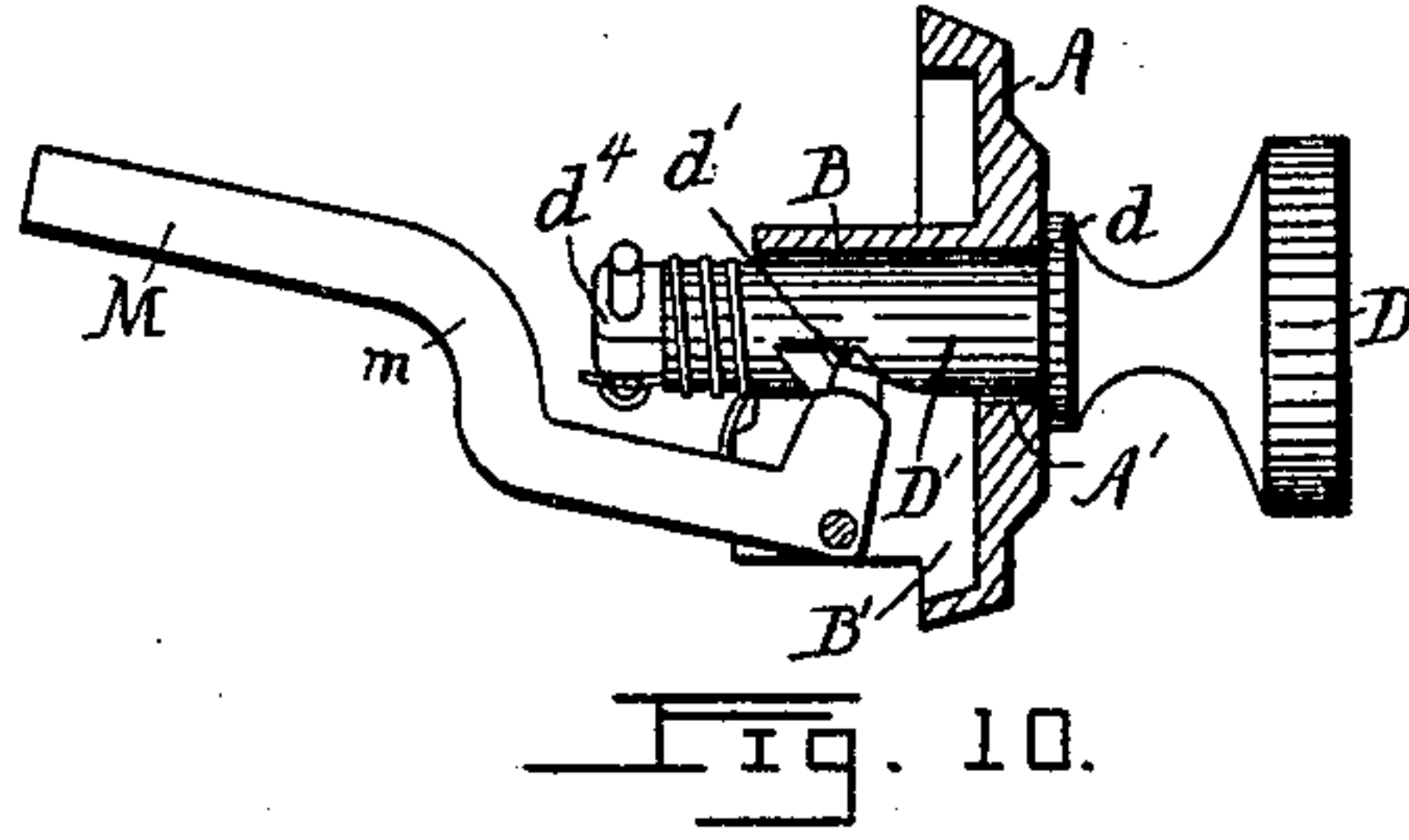
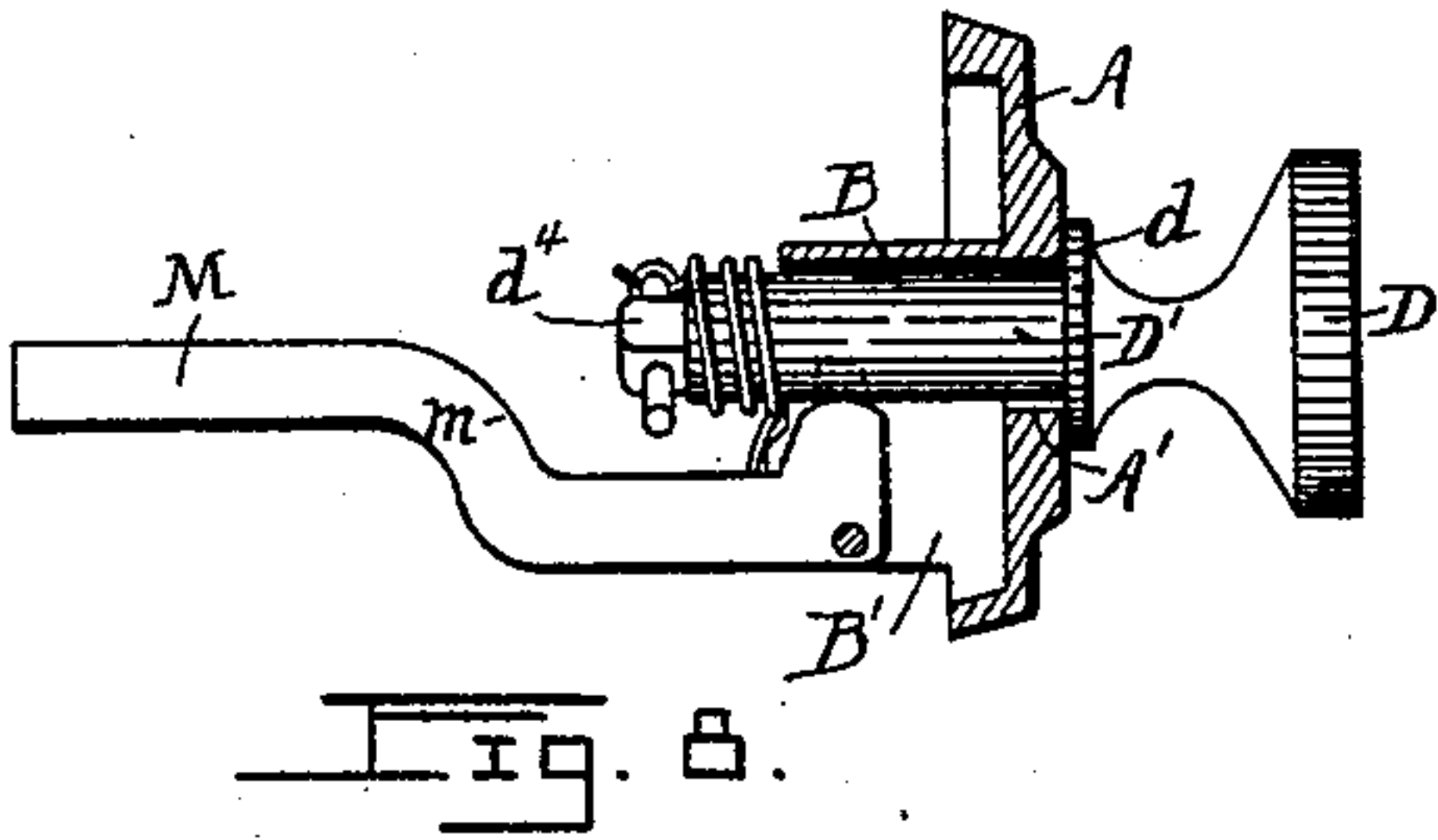
(No Model.)

2 Sheets—Sheet 2.

W. F. TROAST.  
LATCH.

No. 583,271.

Patented May 25, 1897.



Witnesses  
W. M. Hall.  
C. G. Bassler

Inventor  
Wm. F. Troast.  
By Attorney  
Wm. R. Gerhart



# UNITED STATES PATENT OFFICE.

WILLIAM F. TROAST, OF LANCASTER, PENNSYLVANIA, ASSIGNOR TO THE  
SLAYMAKER-BARRY COMPANY, OF SAME PLACE.

## LATCH.

SPECIFICATION forming part of Letters Patent No. 583,271, dated May 25, 1897.

Application filed April 25, 1895. Serial No. 547,187. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM F. TROAST, a citizen of the United States, residing at Lancaster, in the county of Lancaster, State of Pennsylvania, have invented certain Improvements in Latches, of which the following is a specification.

This invention relates to improvements in that class of latches designed for securing doors, lids, and the like, being more particularly applicable to the doors of cupboards, bookcases, desks, and the drawers of tables and similar receptacles; and the object of the invention is to provide a latch cheap and simple in construction, and which can easily be detached from the keeper.

The invention consists, first, in the mechanism for disengaging the locking device from the keeper, and, second, in the construction and combination of the various parts, as hereinafter fully described, and then pointed out in the claims.

In the accompanying drawings, which form a part of this specification, Figure 1 is a perspective view of one form of a latch embodying my improvement, the locking-lever being shown in engagement with the keeper; and Fig. 2, a similar view showing the locking-lever disengaged from the keeper and the stem in the position occupied thereby when revolved in its socket to detach the locking-lever from said keeper. Fig. 3 is a side view of the latch, the parts of the same being in the positions occupied thereby when the locking-lever is detached from the keeper by pulling upon the handle of the stem. Fig. 4 is a perspective inner face view of the socket-plate; Fig. 5, a similar view of the handle and stem; Fig. 6, a side view of one form of locking-lever; Fig. 7, a vertical longitudinal section through the socket-plate and stem, the parts being in the position occupied thereby when the handle is actuated to disengage the locking-lever from the keeper. Fig. 8 is a horizontal section through the socket-plate longitudinally of the stem, showing a modified construction of the locking-lever, the parts being in their normal positions; Fig. 9, a similar view showing the locking-lever engaged with a bolt; Fig. 10, a similar view, the parts being in the position

occupied by them when the locking-lever is retracted by turning the handle; and Fig. 11 a view similar to that shown in Fig. 10, but illustrating the parts in the position occupied thereby when the locking-lever is retracted by pulling on the handle. Fig. 12 is a horizontal section of the bolt and the bolt-case. Fig. 13 is an outer face view of the socket-plate; and Fig. 14, a section on broken line *xx*, Fig. 3.

Similar letters indicate like parts throughout the several views.

Referring to the details of the drawings, A indicates a socket-plate, having screw-holes *a* therein, through which the plate is secured in place, and A' a centrally-located aperture in the socket-plate.

B indicates a sleeve formed around the inner edge of aperture A' and having a cleft *b* in the top thereof. Adjacent to this cleft and cast with sleeve B and the inner face of plate A are jaws B', that, with the sleeve, form a socket in which the operating parts are actuated.

D is a handle having a stem D' adapted to both revolve and slide longitudinally in aperture A'.

*d* is a collar on stem D', constructed to engage the outer face of the socket-plate to limit the inner movement of said stem; *d'*, a cam-groove cast in the periphery of the stem and having its longitudinal walls *d<sup>2</sup>* *d<sup>3</sup>* cut diagonally with the axis of the stem, and *d<sup>4</sup>* an inwardly-extending lip on the end face of said stem.

In Figs. 1, 2, 3, 6, and 7, E indicates a locking-lever, E' the locking-arm thereof, having a hook *e* on its free end, and E<sup>2</sup> the actuating-arm of said lever, having a stud *e'* on the end face of its free end. The heel E<sup>3</sup> of the locking-lever engages between jaws B', in which it is fulcrumed by a pin F, passing through perforation *f* of said jaws and a perforation *f'* through the heel of said locking-lever.

Stem D' passes through aperture A' of the socket-plate, cam-groove *d'* of said stem being located to be engaged by stud *e'* of the locking-lever, so that its inner edge *e<sup>2</sup>* bears against wall *d<sup>2</sup>* of said slot. A pin F' passes through an opening in lip *d<sup>4</sup>*, and between the lip *d<sup>4</sup>* and the sleeve B a spring G is coiled



around stem D' and bears against said lip and stem, one end, *g*, of the spring engaging a side of locking-arm E' and the other end, *g'*, bearing against pin F'.

5 In operating, both by rotating and turning handle D, the wall *d*<sup>2</sup> of cam-groove *d'* draws back stud *e'* of the locking-lever and throws locking-arm E' outward, disengaging hook *e* from keeper H, and after both operations  
10 spring G returns the stem and the locking-lever to their normal positions. The locking-arm reengages automatically with the keeper, as is usual with this class of latches.

In Figs. 8 to 12, both inclusive, there is  
15 illustrated a modified form of locking-lever, which ordinarily is designed to be moved horizontally and actuate a bolt. The locking-arm M has an offset *m* therein that the latch may be more conveniently located relative to  
20 the edge of the door to which it is attached. The bolt N slides in a bolt-case R and has a horizontal opening *n* therein which is engaged by the free end of the locking-arm M.

It will be observed that there are a number  
25 of advantages in this latch. It is simple and cheap in construction, the parts can be easily and rapidly assembled, the latch is operated in two ways, and the application of the actuating mechanism is both positive and cer-  
30 tain.

I do not limit myself to any particular manner of applying my latch, nor to any peculiar shape of the locking-lever. Neither do I restrict myself to the details of the construction  
35 of the operating mechanism herein shown and described, as it is obvious that many changes may be made therein without departing from the principle and scope of my invention.

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

1. The combination, in a latch, of a stem having a rotating and a longitudinal movement, a locking-lever, and a single connection between the stem and the locking-lever, 45 whereby the locking-lever is actuated by either movement of the stem.

2. The combination, in a latch, of a stem having a rotary and a longitudinal movement, a locking-lever, and a single cam connection 50 between the stem and the locking-lever, whereby the locking-lever is actuated by either movement of the stem.

3. The combination, in a latch, of a stem having a rotary and a longitudinal movement 55 and provided with a cam-groove, a pivoted locking-lever, and on the locking-lever an arm engaging said groove, for the purpose specified.

4. The combination, in a latch, of a socket- 60 plate having a cleft sleeve, jaws on the socket-plate, a handle-stem engaging the sleeve and having a rotary and a longitudinal movement therein, a locking-lever pivoted between the jaws, and a connection between the stem and 65 an arm of the lever, whereby the locking-arm of said lever is actuated by either movement of the stem.

5. The combination, in a latch, of a socket- 70 plate having a cleft sleeve, jaws on the plate, a handle-stem having a rotating and a longitudinal movement in the sleeve and provided with a cam-groove, a locking-lever fulcrumed between the jaws, an arm on said locking-lever and engaging the cam-groove in the stem, 75 and a spring coiled around the stem between the sleeve and a shoulder on said stem, substantially as and for the purpose specified.

WILLIAM F. TROAST.

Witnesses:

I. C. ARNOLD,  
WM. R. GERHART.