

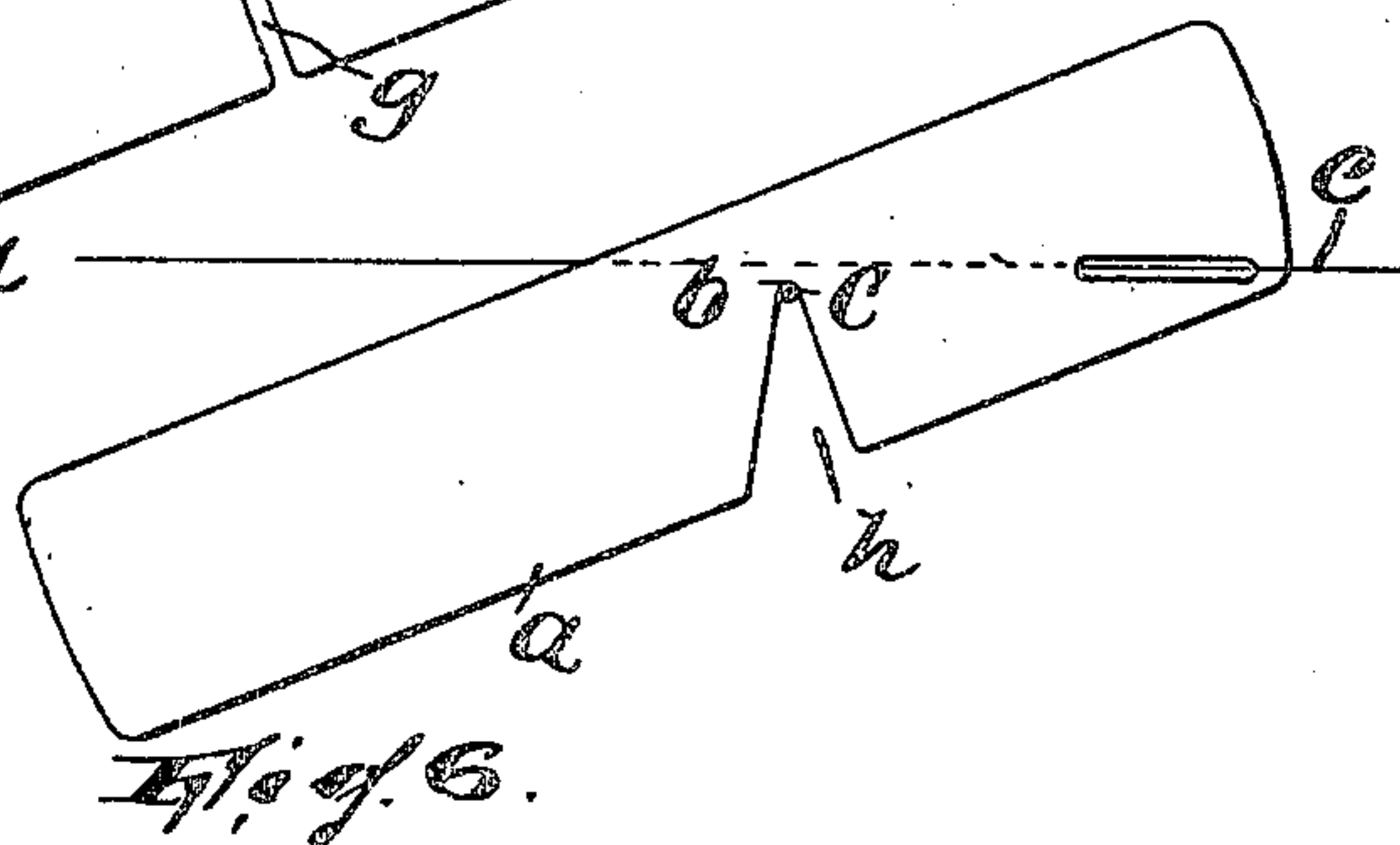
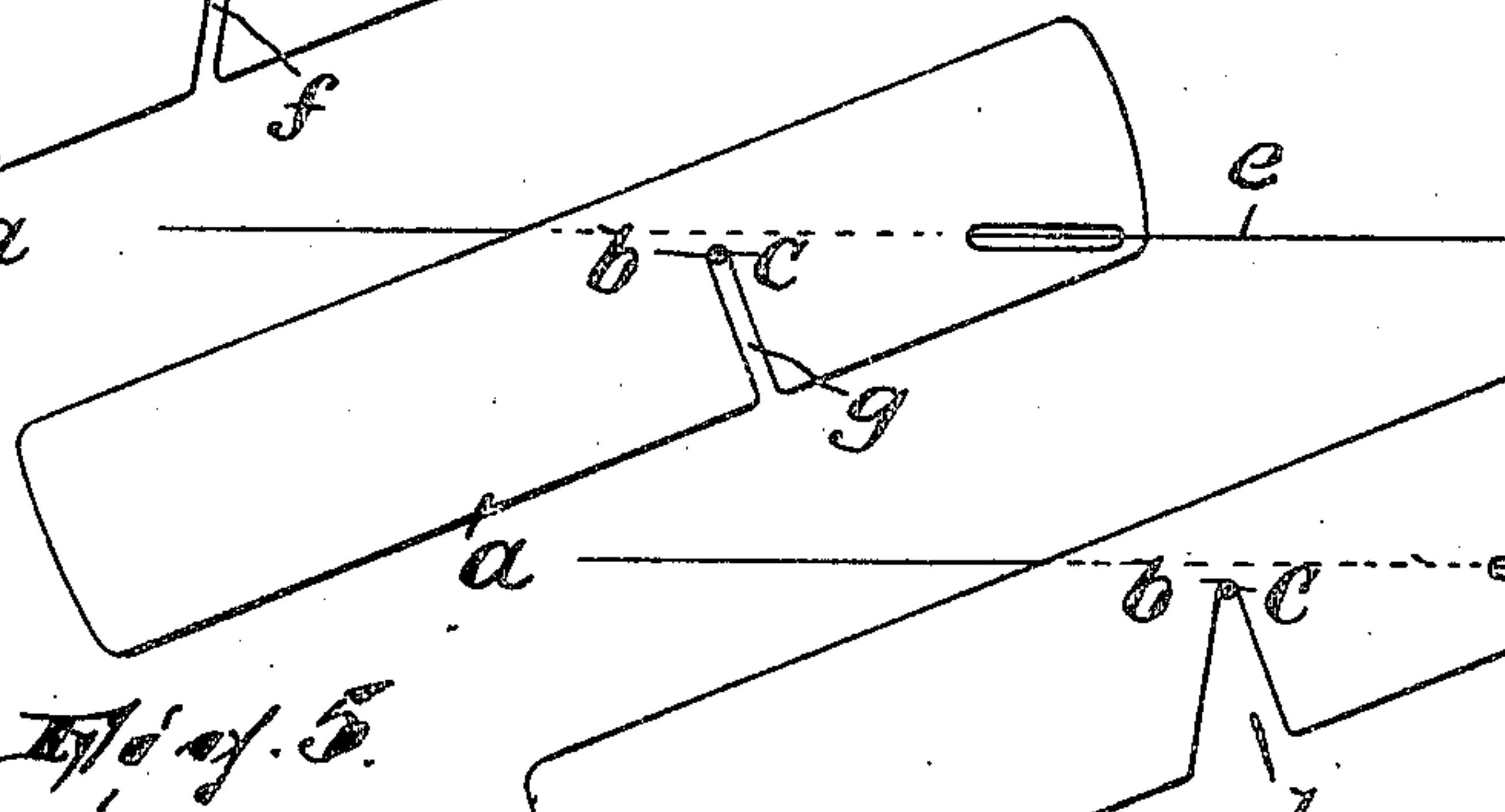
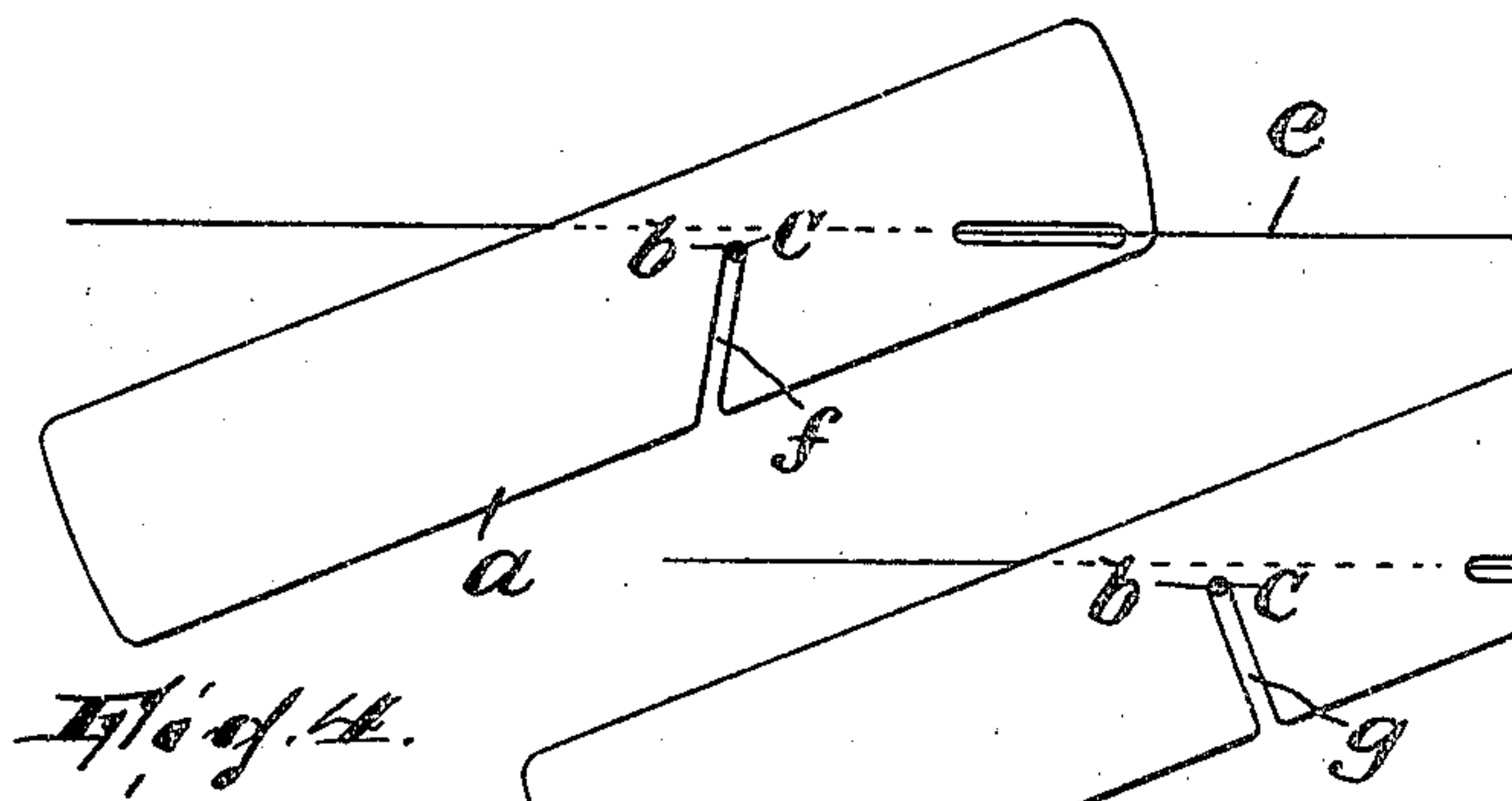
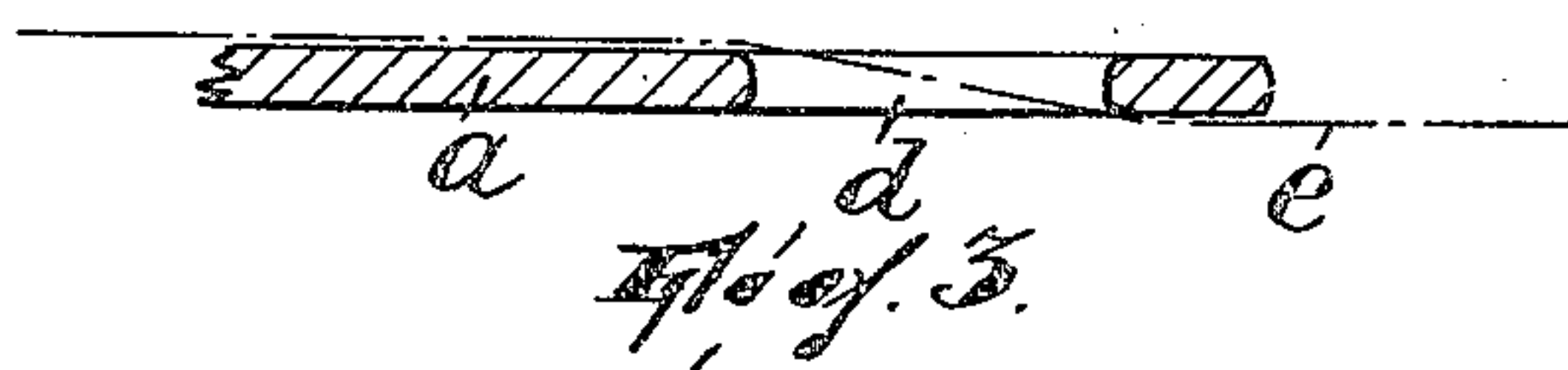
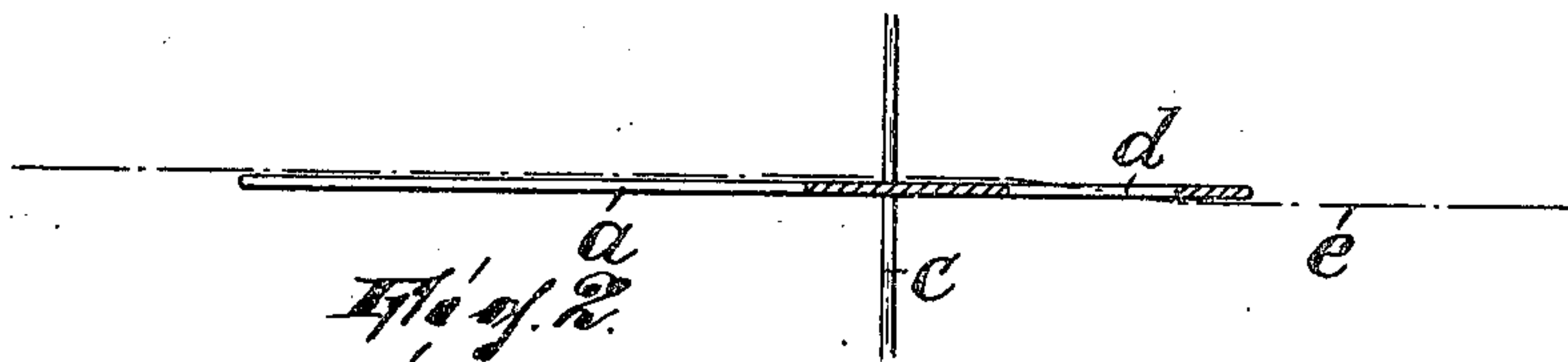
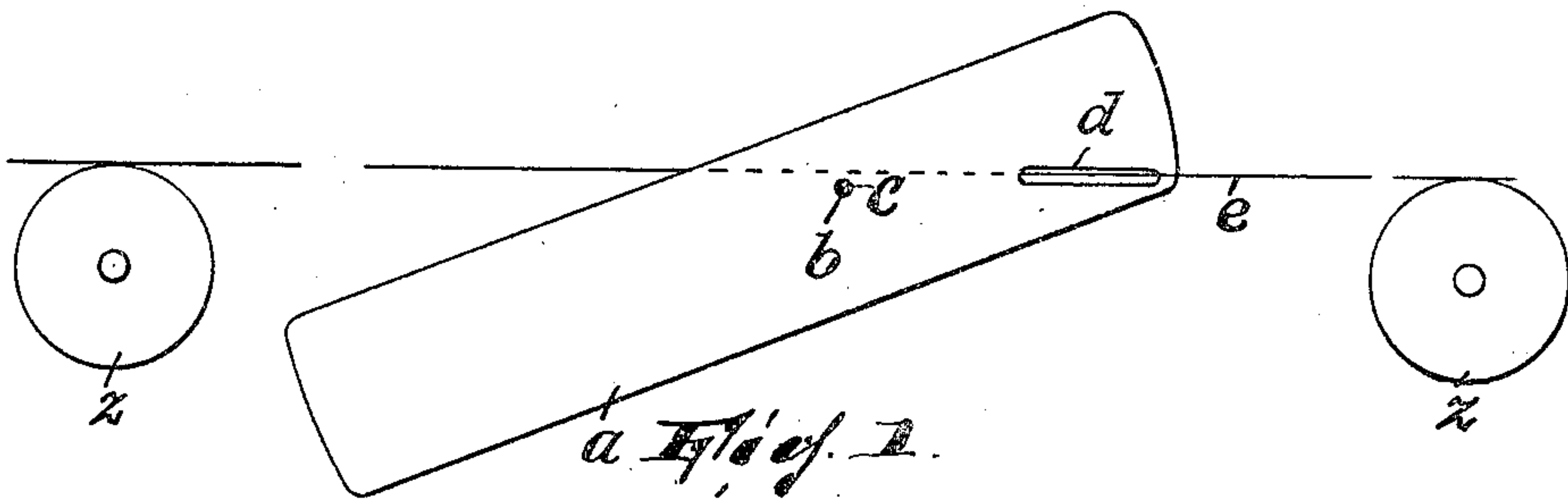
No. 808,617.

PATENTED DEC. 26, 1905.

J. B. WHITNEY.

FALLER FOR STOP MOTION MECHANISMS FOR TEXTILE MACHINERY.

APPLICATION FILED SEPT. 5, 1905.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JOSEPH B. WHITNEY, OF BROOKLYN, NEW YORK.

## FALLER FOR STOP-MOTION MECHANISMS FOR TEXTILE MACHINERY.

No. 808,617.

Specification of Letters Patent.

Patented Dec. 26, 1905.

Application filed September 5, 1905. Serial No. 276,962.

*To all whom it may concern:*

Be it known that I, JOSEPH B. WHITNEY, a citizen of the United States, residing in Brooklyn, borough of Brooklyn, and State of New York, have invented certain new and useful Improvements in Fallers for Stop-Motion Mechanisms for Textile Machinery; 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 appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention is an improvement in pivoted fallers or circuit-closers for stop-motion mechanisms for textile machinery. Such devices are commonly made of flat sheet metal formed quite thin, especially where they are used in connection with a warp in a loom, so as to crowd a considerable number of them into a small space, and they are formed with an aperture for the thread and another for the pivot. I find in practice that notwithstanding the metal may be ever so thin a plain round thread-aperture is undesirable for at least three reasons, to wit: first, because it tends to a wearing of the thread and also of the faller near said aperture; second, because it makes the thread divert the faller out of true parallelism with the thread, and, third, because if made so large as to obviate these faults it affords too much freedom to the thread and unduly weakens or limbers the metal.

In view of the foregoing one part of my invention consists in such a faller provided with an elongated thread-aperture which, measuring the faller along the thread-line, is substantially shorter than this dimension of the faller, so that the material retains its original strength and stability notwithstanding the aperture, and so is not likely to become mutilated or misshapen at the aperture, resulting in neighboring fallers getting caught or projected into each other's apertures and other undesirable conditions.

It has been found of great practical advantage to bring the pivotal support into close proximity to the warp plane, for the closer the thread of each faller is to its pivot the more readily it can act thereon, whether of itself or when handled, to move the faller

along on its pivot. Occasionally the warp has to be parted, when the faller should give way readily, and after such parting the tension and back-and-forth action of the threads should return the fallers to their proper spacing, when the fallers should again give way readily instead of merely tilting over out of vertical planes. Again, when several rows or series of fallers are banked one after the other in the same plane this arrangement prevents (on the parting of the fallers in one series) the threads thereof slipping over the tops of fallers in the other series and in between fallers in that series where they do not belong. A broad claim for this feature has been made in my copending application for the reissue of Letters Patent No. 790,768, filed October 2, 1905, Serial No. 281,092. My present invention, therefore, further consists in a pivoted faller having an elongated eyelet extending in approximately the direction of its pivots.

Still another part of my invention consists in a pivoted faller (of the type shown in my United States Letters Patent Nos. 787,653 and 790,768) in which the lighter or upper end of the faller is formed with an elongated thread-aperture for reasons clearly herein explained and also with the object of reducing the weight of the faller above the pivot without making the width of the aperture unduly great. In so far as this part of my invention is concerned the present application is a division of my application for United States Letters Patent, filed February 28, 1905, Serial No. 247,708.

Still another part of my invention relates to an expedient whereby a pivoted faller may be individually placed on or removed from its pivot without passing it over the end of the pivot and in such manner that the faller will not be likely to be displaced from its support by accidental jars or blows, and this part of my invention consists in a pivoted faller of flat metal having an opening extending from the perimeter or edge thereof at approximately a point midway between its ends to its pivoting-point.

My invention will be found fully illustrated in the accompanying drawings, wherein—

Figure 1 is a side view illustrating the first, second, and third parts of my invention. Fig. 2 is a sectional view on the thread-line in Fig. 1. Fig. 3 is a magnified view of a part of



what is shown in Fig. 2, and Figs. 4, 5, and 6 are side views illustrating the fourth part of my invention.

In the drawings, *a* is a faller formed with a pivoting-opening *b*, which latter is arranged, preferably, nearer one end of the faller than the other, so that there is a tendency for the faller to assume a perpendicular position and preferably nearer one long edge than the other, so that the faller tends to stand in a vertical plane. *c* is its pivotal support. Between the opening *b* and the nearer end of the faller is the thread aperture or eyelet *d*. *e* is a thread extending therethrough, and *z* is a means for sustaining the warp in a plane disposed in close proximity to the horizontal plane of the pivotal support *c*. This aperture *d* is attenuated in the direction in which the thread extends—*i. e.*, it extends in a line which approximates pivot *c*, but is preferably above it—and it is appreciably shorter than a line across the faller represented by the thread-line when the faller is engaged by the thread. Thus the material retains its original strength and stability and is not likely to become accidentally bent or misshapen in its thread-aperture portion. The faller, moreover, stands at an angle quite acute to the plane of the warp, Fig. 1. The advantageous result of the elongation of the aperture, which permits the thread to penetrate the faller with the minimum of deflection, is twofold. It prevents wear on both the faller and thread and reduces the tendency toward turning the faller out of true parallelism with the thread, and to this latter advantage the above-described position which the faller is made to assume when operatively engaged by the thread contributes, since the faller then stands rather lengthwise than transverse of the thread. Another advantage in having the aperture elongated is based upon the fact that quite a little material is thereby removed from the body of the faller above its pivot, thus making the upper portion lighter and the faller more responsive to the action of gravity.

In Figs. 4, 5, and 6 the faller is shown as adapted to be placed on or removed from its pivot without passing it over the end thereof. These figures show three different forms of openings *f*, *g*, and *h*, extending from one edge (preferably that long edge of the faller which is the lower when the faller is in operative position) to the pivoting-eyelet *b*.

It is to be understood that while for the

sake of clearly illustrating my invention I have shown and described the same in detail I claim, broadly—

1. A pivoted faller for stop-motion mechanisms for textile machinery consisting of a sheet-like body having an attenuated thread-aperture disposed substantially coincident with the thread-line when the faller is operatively engaged by the thread, said aperture being substantially shorter than the dimension across the faller represented by said thread-line, substantially as described.

2. A pivoted faller for stop-motion mechanisms for textile machinery having an attenuated thread-aperture extending in a line running in substantially the direction of the pivoting-point of said faller, substantially as described.

3. In a stop-motion mechanism for textile machinery, the combination of means for sustaining the warp, a pivotal support and a faller consisting of a sheet-like body having one end heavier than the other and an attenuated thread-aperture disposed between its pivot and its other end, substantially as described.

4. In a stop-motion mechanism for textile machinery, the combination of means for sustaining the warp, a pivotal support and a faller consisting of a sheet-like body having one end heavier than the other and an attenuated thread-aperture disposed between its pivot and its other end, said aperture extending in substantial coincidence with the thread-line when the faller is operatively engaged by the thread, substantially as described.

5. A pivoted faller for stop-motion mechanisms for textile machinery having an opening entering the same from the perimeter thereof at approximately a point midway between its ends and extending to its pivoting-point, substantially as described.

6. A pivoted faller for stop-motion mechanisms for textile machinery composed of a sheet-like body having an opening entering the same from the edge thereof at approximately a point midway between its ends and extending to its pivoting-point, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 15th day of August, 1905.

JOSEPH B. WHITNEY.

Witnesses:

JOHN W. STEWARD,  
WM. D. BELL.