

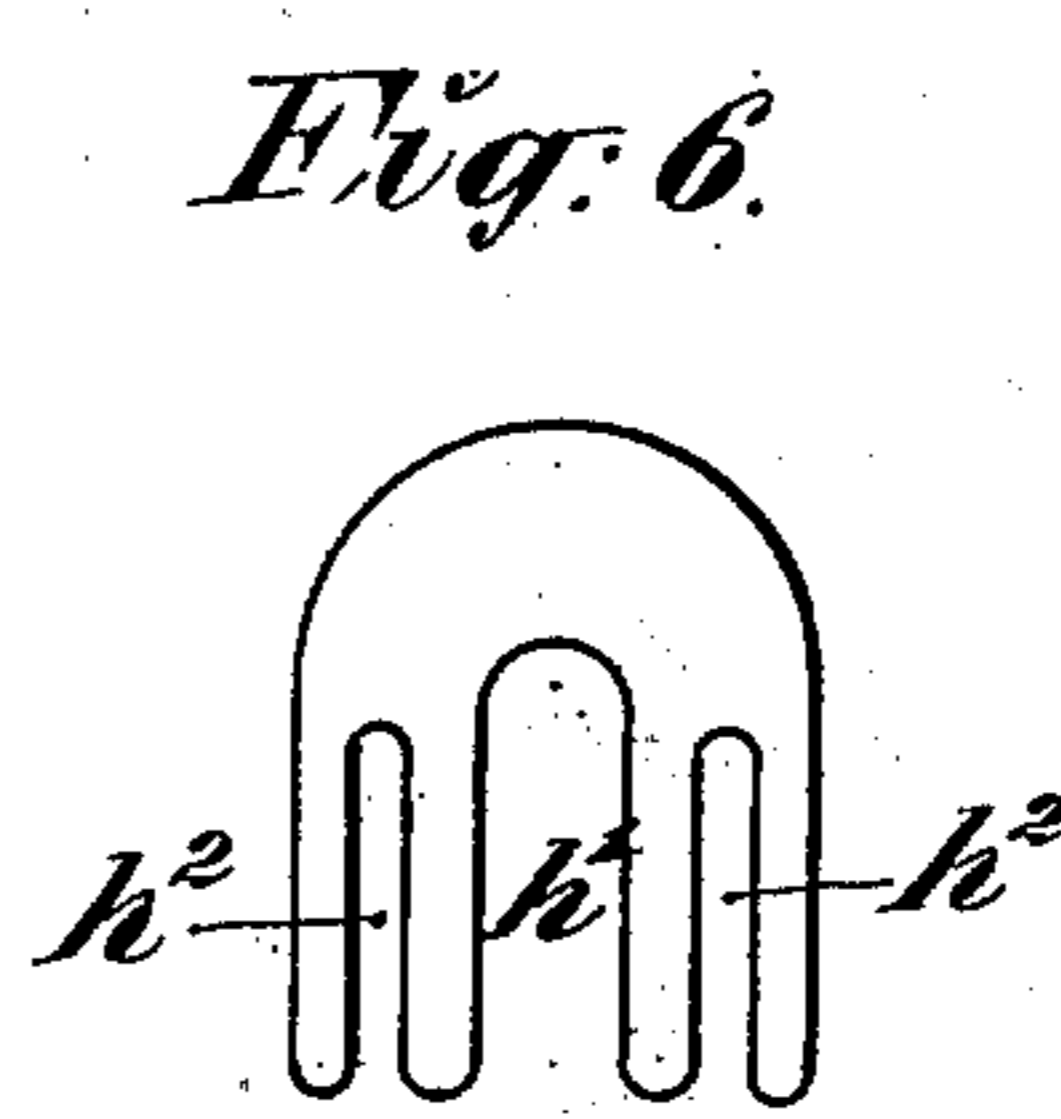
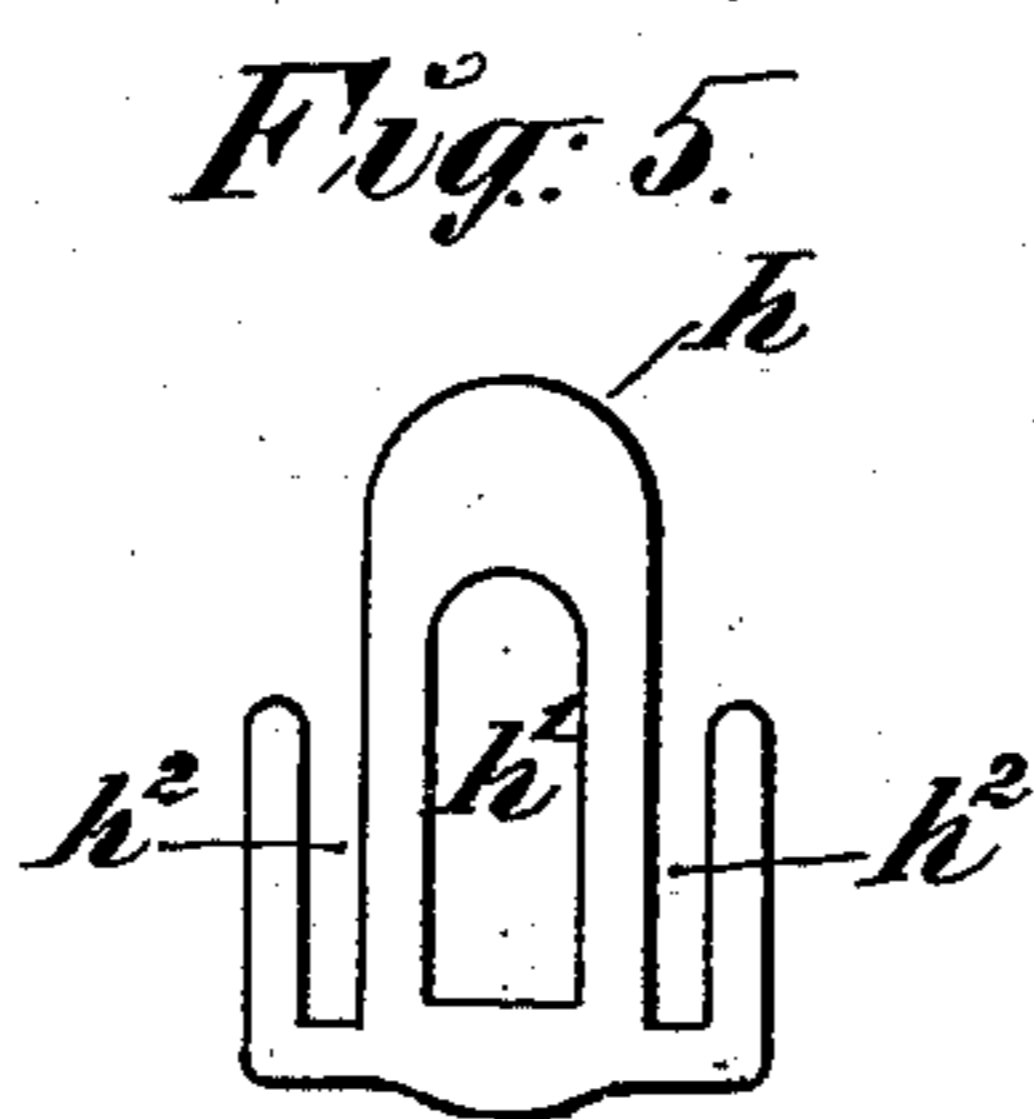
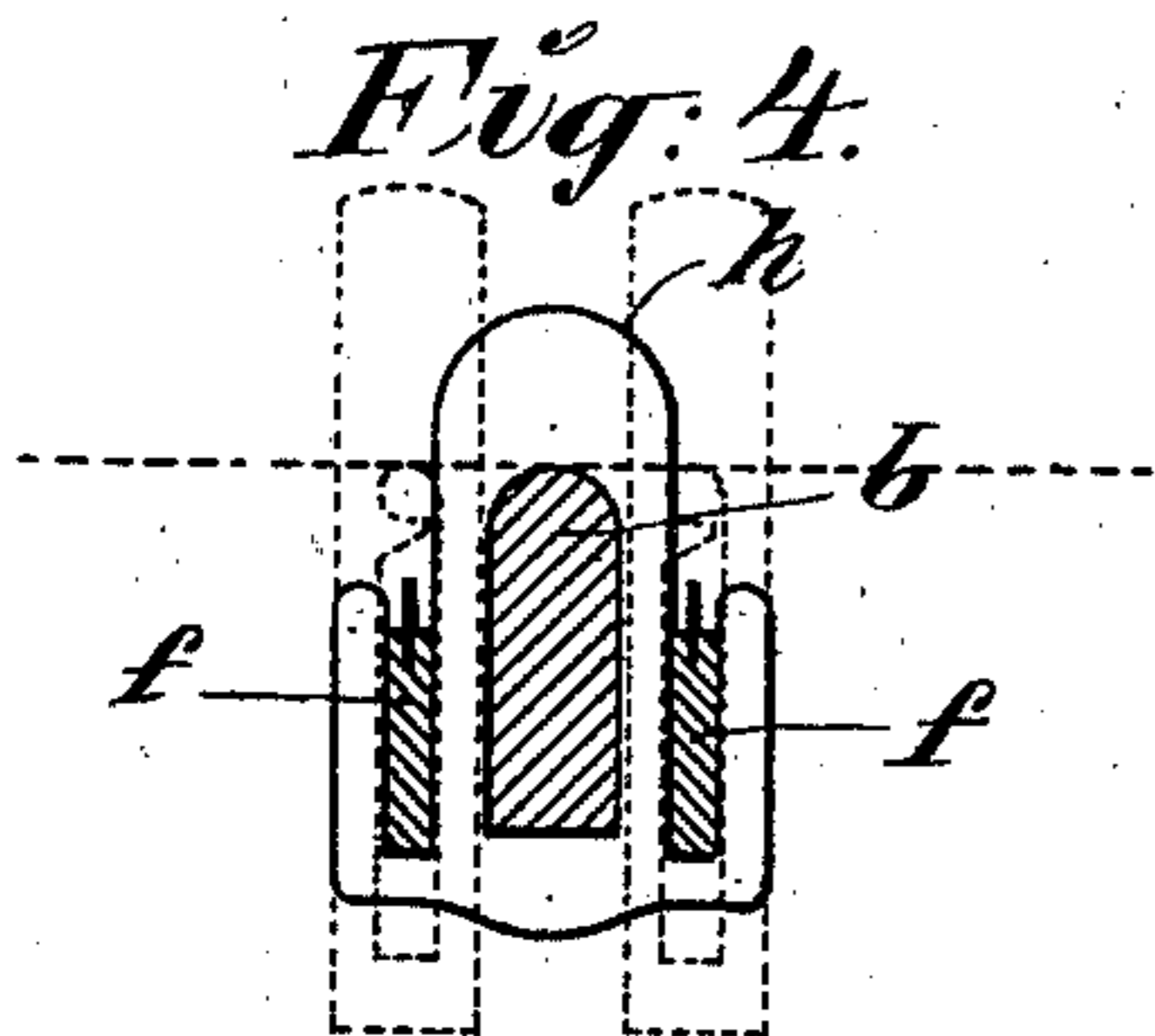
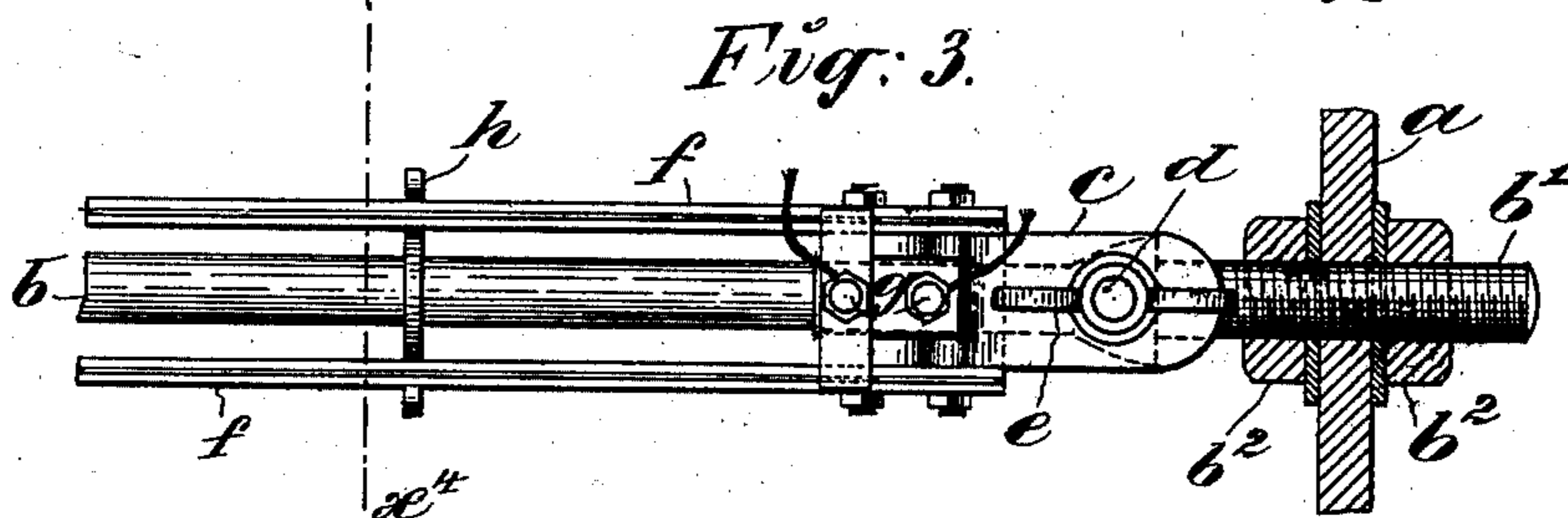
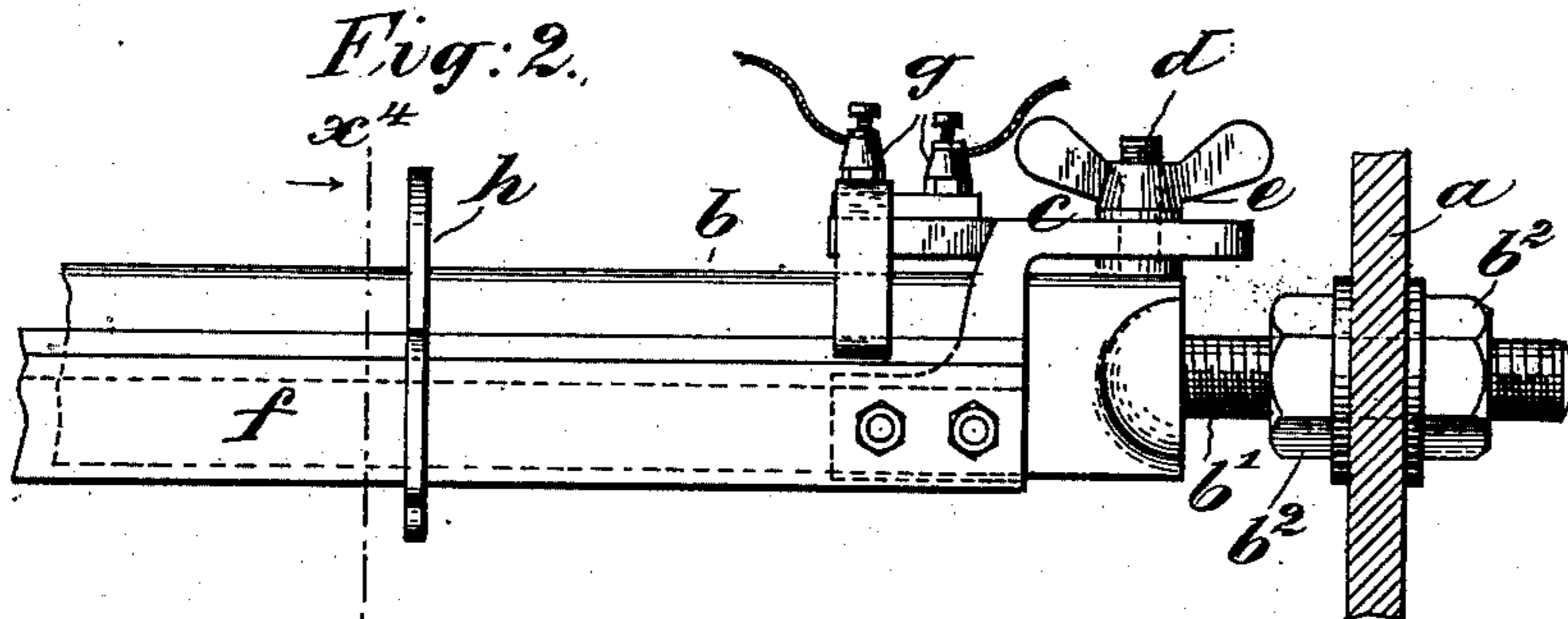
No. 671,203.

Patented Apr. 2, 1901.

W. H. BAKER & F. E. KIP.  
WARP STOP MOTION FOR LOOMS.

(Application filed July 19, 1900.)

(No Model.)



WITNESSES:

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# UNITED STATES PATENT OFFICE.

WILLIAM H. BAKER, OF BRIDGEPORT, CONNECTICUT, AND FREDERIC E. KIP, OF MONTCLAIR, NEW JERSEY, ASSIGNORS TO THE KIP-ARMSTRONG COMPANY, OF NEW YORK.

## WARP STOP-MOTION FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 671,203, dated April 2, 1901.

Original application filed November 2, 1899, Serial No. 735,569. Divided and this application filed July 19, 1900. Serial No. 24,133. (No model.)

*To all whom it may concern:*

Be it known that we, WILLIAM H. BAKER, residing in Bridgeport, Fairfield county, Connecticut, and FREDERIC E. KIP, residing in Montclair, Essex county, New Jersey, citizens of the United States, have invented certain new and useful Improvements in Warp Stop-Motions for Looms, of which the following is a specification.

10 This invention relates to looms employing electrical warp stop mechanisms, and it is a division of our application, Serial No. 735,569, filed November 2, 1899, upon which Patent No. 656,612 was granted August 21, 1900. In  
15 that application is shown a warp-support extending across the warps in the loom and a compound terminal in the nature of bars secured to said warp-support at their ends and extending substantially parallel therewith.  
20 Metallic contact-making drops are suspended on the respective warp-threads so as to embrace said terminals, and when a warp-thread breaks the drop which was supported thereon falls and closes the operating electric circuit, thus stopping the loom.

25 The present application relates particularly to means for steadying the terminals and keeping them straight, such means consisting of bridge-pieces mounted thereon and connecting them in such a manner as to prevent them from flexing laterally. This feature is of course applicable to any known form of warp-stop, whether electrical or mechanical.

30 In the accompanying drawings, which illustrate an embodiment of the invention, Figure 1 is a side elevation, on a relatively small scale, showing a warp-support or supporting-bar mounted in the loom-frame, a compound terminal mounted thereon, and the  
40 bridge-pieces. Fig. 2 is a side elevation, and Fig. 3 a plan, of the parts seen at the right in Fig. 1, but on a larger scale. Fig. 4 is a cross-section at  $x^4$  in Figs. 2 and 3. Fig. 5 shows a bridge-piece detached, and Fig. 6 shows  
45 the bridge-piece of another form.

In the drawings,  $a$  represents the loom-frame or brackets thereon in which the warp-support  $b$  is mounted. The support  $b$  may have screws  $b'$  at its ends and securing-nuts

$b^2$  thereon. These features are not important to the present invention.

On the respective ends of the support  $b$  are mounted saddles  $c$ , which are secured removably by screws  $d$  and nuts  $e$ . The compound terminals  $f$  are secured to pendent lugs on the saddles, and the two members of the terminals are put into the operative electric circuit through the medium of binding-posts  $g$ .

All of the above features are shown and specifically described in our said patent of which this is a division and are mainly used herein for purposes of illustration.

In order to keep the compound terminals  $f$  straight and rigid and to prevent their lateral flexure when the warp-threads are drawn through the eyes of the drops, bridge-pieces  $h$  are employed. Figs. 4 and 5 best show the form of this bridge-piece. Each piece has in it an aperture  $h'$ , by which it may be threaded on the warp-support  $b$ , and an open slot  $h^2$  to receive and laterally embrace each terminal  $f$ . The bridge-pieces may slide freely along the support  $b$  and terminals  $f$ , and as many may be used as are necessary.

Figs. 4 and 5 show a closed aperture for the support  $b$  and show the slots  $h^2$  opening at the top; but the construction seen in Fig. 6 may be employed. In this form of the bridge-piece the aperture  $h'$  is open at the bottom and the slots  $h^2$  are also open at the bottom instead of the top.

In Fig. 4 the drops and the supporting warp-threads are indicated in dotted lines.

Having thus described our invention, we claim—

1. The combination with a plurality of parallel terminals, of a plurality of distancing bridge-pieces having in them open slots which embrace the respective terminals, said bridge-pieces being free to slide along said terminals and to preserve the parallelism of the latter.

2. The combination with a warp-support mounted on the loom-frame, and a compound terminal mounted removably on said support, of distancing bridge-pieces mounted on said support and terminal.

3. The combination with a warp-support mounted on the loom-frame, and a compound

terminal or terminals mounted removably on said support, of bridge-pieces, mounted on the said support and having a slot or slots opening upward to receive the said compound terminals.

4. The combination with a warp-support, and a connected pair of compound terminals mounted removably on said support, of a bridge-piece threaded on the said support and having in it open slots to receive the said terminals.

5. The combination with a warp-supporting bar and one or more compound terminals mounted parallel therewith, of distancing bridge-pieces on said bar and terminals and embracing the same, substantially as set forth.

6. The combination with a warp-supporting bar, and a pair of compound terminals mounted parallel therewith, of a plurality of removable bridge-pieces mounted at intervals along said bar and terminals for preserving their parallelism, substantially as set forth.

7. The combination with a warp-support mounted on the loom, drop devices, and a guide for said drop devices adjacent to said support, of a bridge-piece on said support and

having a slot to receive the said drop-guide, whereby the lateral deflection of the latter is prevented.

8. The combination with a warp-support mounted on the loom, drop devices, and a guide for said drop devices mounted removably on said support, of bridge-pieces on said support, said bridge-pieces having open slots to receive the drop-guide and maintain it at a uniform distance from said support.

9. In a loom, the combination with a loom-stopping mechanism, of a warp-support mounted on the loom, drop devices, and a guide for said drop devices adjacent to said support, of a bridge-piece on said support and having a slot to receive the said drop-guide, whereby the lateral deflection is prevented.

In witness whereof we have hereunto signed our names, this 16th day of July, 1900, in the presence of two subscribing witnesses.

WILLIAM H. BAKER.  
FREDERIC E. KIP.

Witnesses:

HENRY CONNETT,  
PETER A. ROSS.