

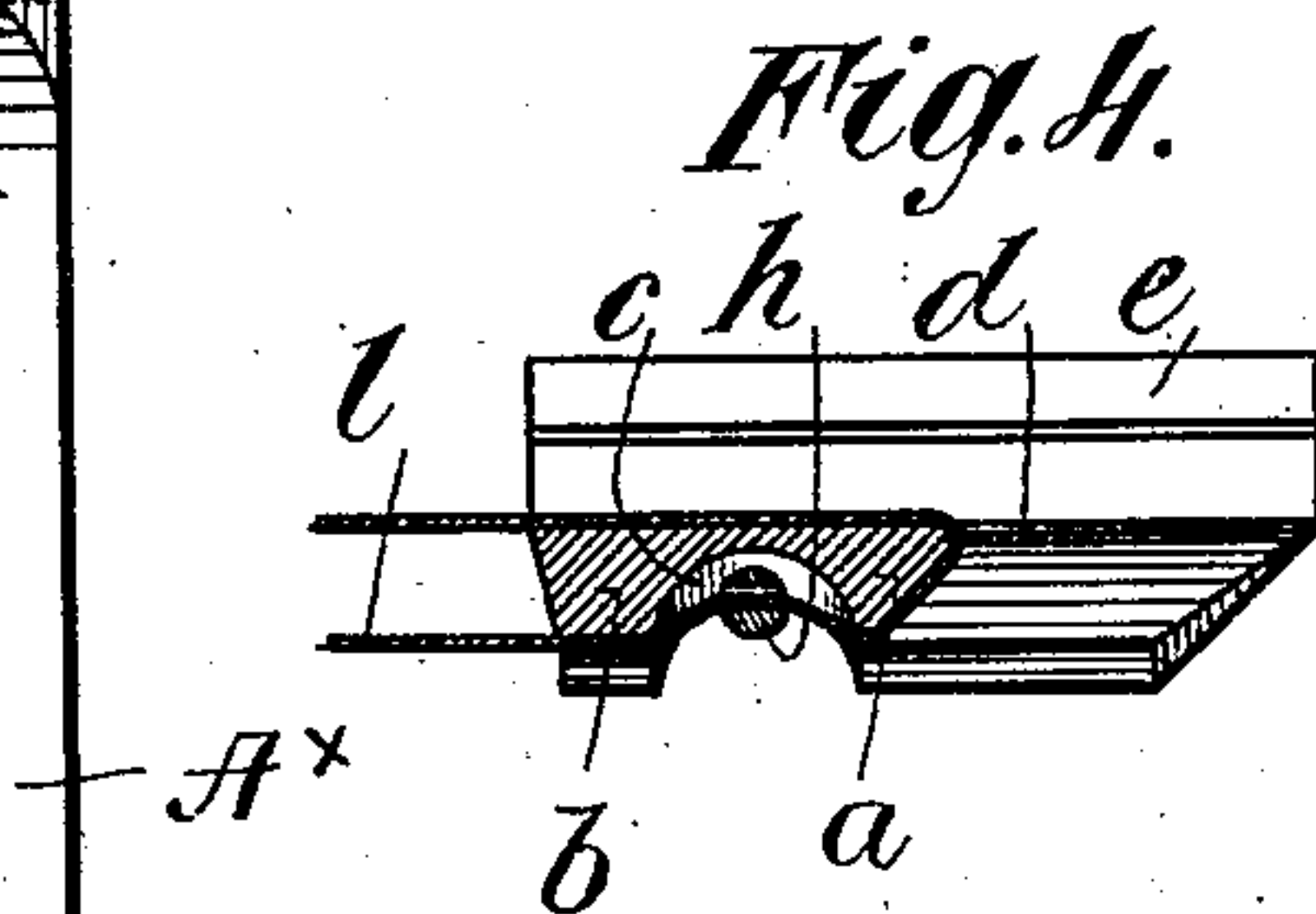
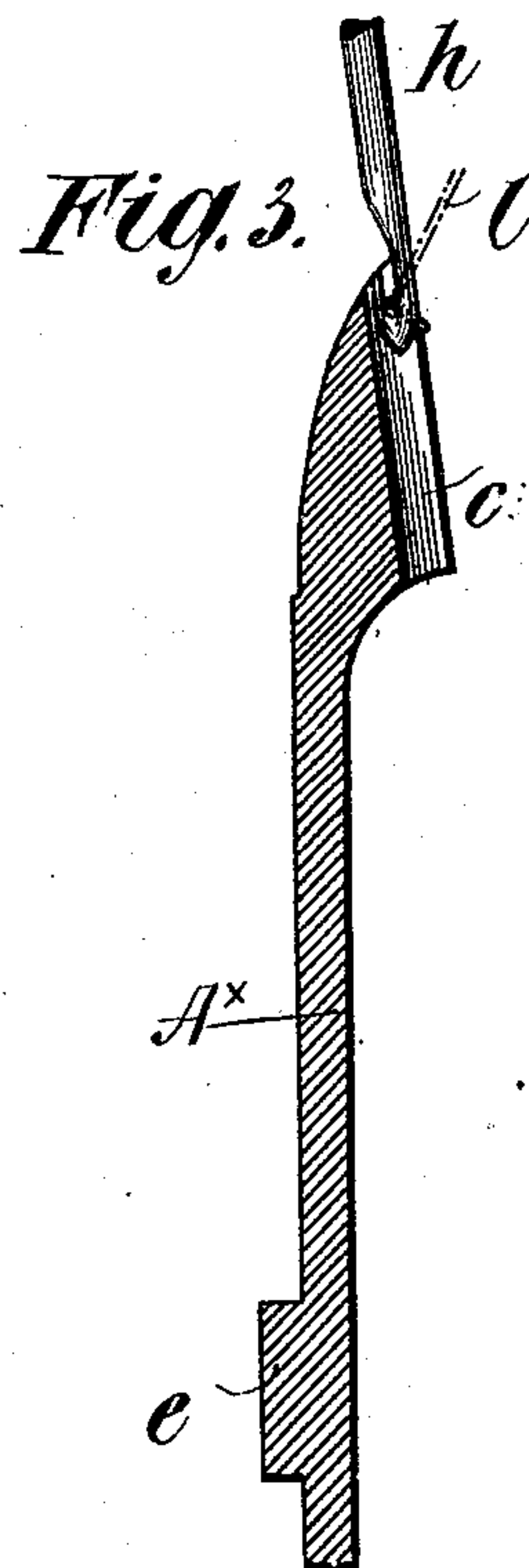
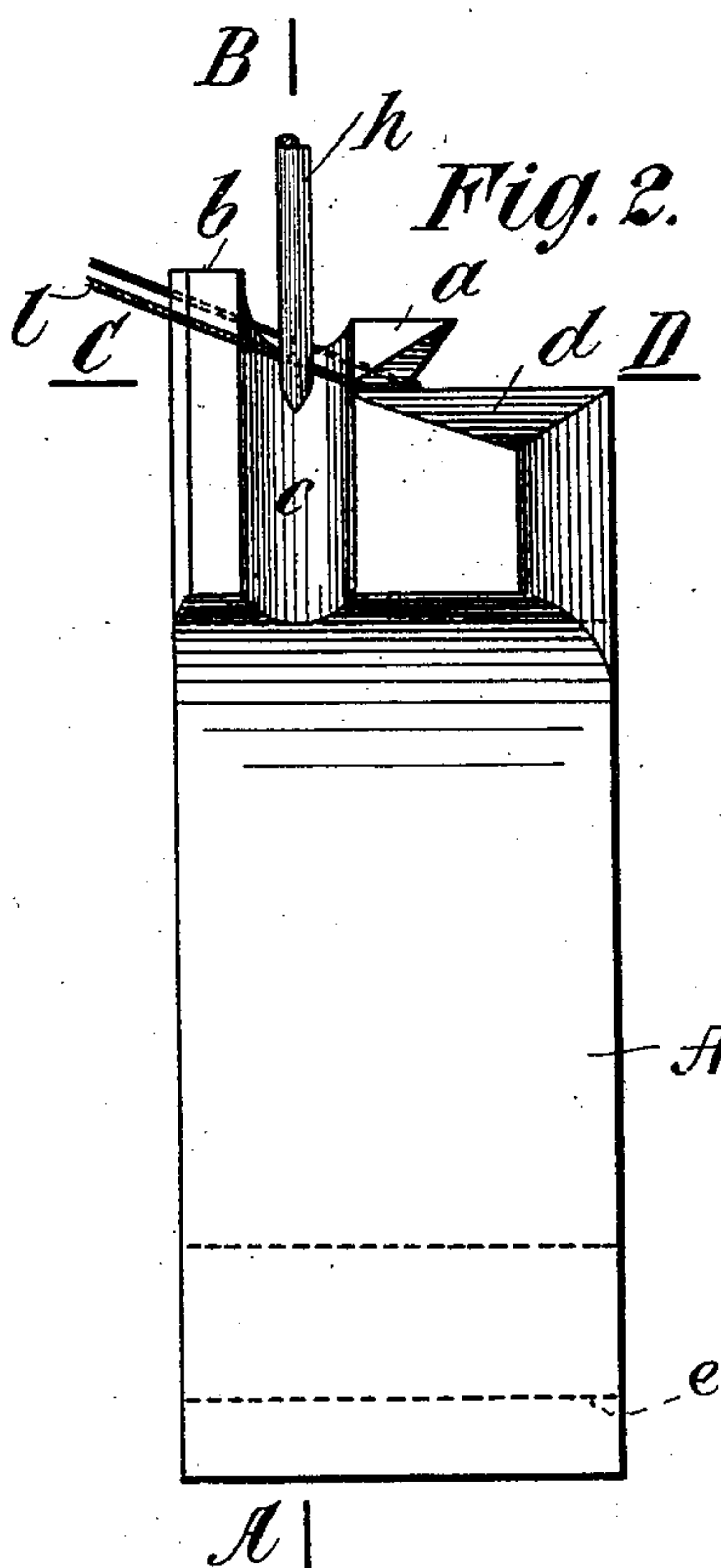
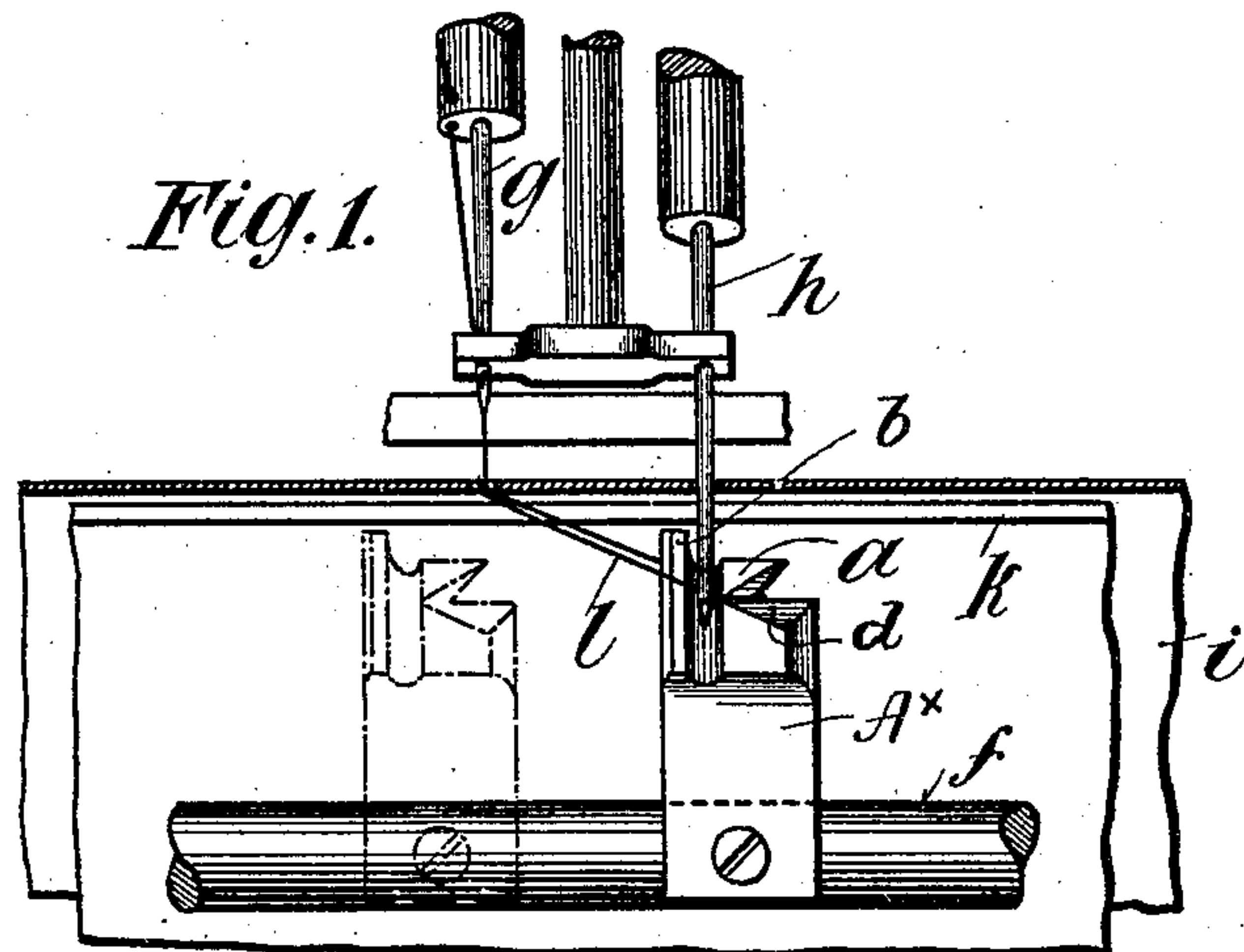
No. 886,820.

PATENTED MAY 5, 1908.

F. KUGLER.

THREAD LAYING DEVICE FOR BOOK STITCHING MACHINES.

APPLICATION FILED OCT. 6, 1903.



Witnesses:

*Edwin J. Baling*

Edwin J. Baling

Inventor:

Friedrich Kugler,  
by George Massie  
his attorney



# UNITED STATES PATENT OFFICE.

FRIEDRICH KUGLER, OF FRAÜENFELD, SWITZERLAND, ASSIGNOR TO THE FIRM OF  
ACTIENGESellschaft VORMALS F. MARTINI & CO., OF FRAUENFELD, SWITZER-  
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## THREAD-LAYING DEVICE FOR BOOK-STITCHING MACHINES.

No. 886,820.

Specification of Letters Patent.

Patented May 5, 1908.

Application filed October 6, 1903. Serial No. 175,942.

*To all whom it may concern:*

Be it known that I, FRIEDRICH KUGLER, a subject of the Emperor of Germany, residing at Frauenfeld, in Switzerland, have invented new and useful Improvements in Thread-Laying Devices for Book-Stitching Machines, of which the following is a specification.

The thread-laying devices which have been employed in book-stitching machines in accordance with for instance, Patent No. 795,623, granted to me on July 25, 1905, have the drawback that they do not transfer the thread to the hooks of the hooked needles with certainty.

Now the present invention has for its object to provide an improved thread-laying device which shall not have the aforesaid drawback. In this improved thread-laying device a support is provided at some distance behind the hook which serves to engage the thread loop.

An example of a thread-laying device in accordance with this invention is illustrated in the accompanying drawings in which

Figure 1 shows the parts of a book-stitching machine which are necessary to enable the operation of the thread-laying device to be understood. Fig. 2 is a front elevation of the thread-laying device on a larger scale. Fig. 3 is a vertical section on the line A—B of Fig. 2, and Fig. 4 is a horizontal section on the line C—D of Fig. 2.

As shown, the thread-laying device A<sup>x</sup> is composed of a comparatively flat body having approximately rectangular form, provided at the middle of one of its ends with the hook *a* usually employed in the thread-laying devices of book-stitching machines, for engaging the thread loop *l*. At some distance behind the hook, the thread-laying device is provided with a support *b* which may form one piece with the hook and so as to form a groove *c* between the said support and the said hook as shown. The support need not however be formed in one piece with the hook; it may also be formed as a separate piece therefrom with a gap between the two. The thread-laying device is further provided in front of the hooked needle with a beveled or inclined part or surface *d*, and also at its lower part with a shoulder *e* which serves for the purpose of attaching the thread-laying-device to the thread-laying bar *f* (Fig. 1).

*g* indicates the ordinary eyed needle, and *h* indicates the ordinary hooked needle both well known in book-stitching machines.

*i* indicates a sheet of paper which is to be stitched, and *k* indicates a support or underlay for the sheet.

The manner of operation of the herein described thread-laying device is as follows: When the thread-laying device with the thread-loop engaged therein has been shifted from the position indicated in dash-dotted lines in Fig. 1 into the position shown in full lines in the same figure, by the longitudinal movement of the thread-laying bar, the groove *c* in this position being situated opposite to the hooked needle, the thread-laying device is moved by a partial rotation of the thread-laying bar towards or against the hooked needle so as to bring the latter entirely within the groove. The portion of the thread loop which is led over the groove is forced into the groove by the hooked needle which presses forcibly against this portion of the thread loop, as shown in Fig. 4. The front portion of the thread loop in this operation is supported against the pressure of the hooked needle on one hand by its support *b* and on the other hand by the hook *a*. By this means the engagement of the thread loop by the hooked needle is insured. The beveled or inclined part of the surface *d* serves to deflect in its downward movement any hooked needle which may have got out of line; it thus protects the needle against breakage.

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:

1. In a book stitching machine, the combination with the needles, of thread-laying means embodying a thread support and loop-engaging hook movable longitudinally and laterally, the continuity of surface between the hook and support being interrupted to provide an intermediate recess.

2. In a book stitching machine, the combination with eyed and hooked needles, of thread laying means embodying a longitudinally and laterally movable support and loop engaging hook provided with a groove to receive the hooked needle.

3. In a book stitching machine, the combination with eyed and hooked needles, of



thread laying means embodying a longitudinally and laterally movable support and loop engaging hook provided with a groove to receive the hooked needle and with a beveled hooked needle deflecting surface.

4. In a book stitching machine, the combination with eyed and hooked needles, of thread laying means embodying a support and a loop engaging hook provided with a groove to receive the hooked needle and a longitudinally and laterally movable bar to which the thread laying means is secured.

5. In a book stitching machine, the combination, with eyed and hooked needles, of a thread laying device embodying a combined support and loop-engaging hook, and means for oscillating the thread laying device to engage the needle with one limb of a thread loop opposite a point midway between the hook and support.

6. In a book stitching machine, the combination with eyed and hooked needles, of a thread laying device embodying a combined support and loop engaging hook provided

with means for truing a hooked needle, and mechanism for causing the hooked needle to exert pressure on one limb of a thread loop opposite a point midway between the hook and support.

7. In a book stitching machine, the combination with eyed and hooked needles, of thread laying means embodying a combined support and loop engaging hook provided with an intermediate groove and with a hooked needle truing surface, and mechanism for imparting longitudinal and lateral movements to the thread laying means to bring the groove opposite the hooked needle thereby to cause the latter to deflect one limb of a thread loop into the groove.

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

FRIEDRICH KUGLER.

Witnesses:

MORITZ VEITH,  
A. LIEBERKNECHT.