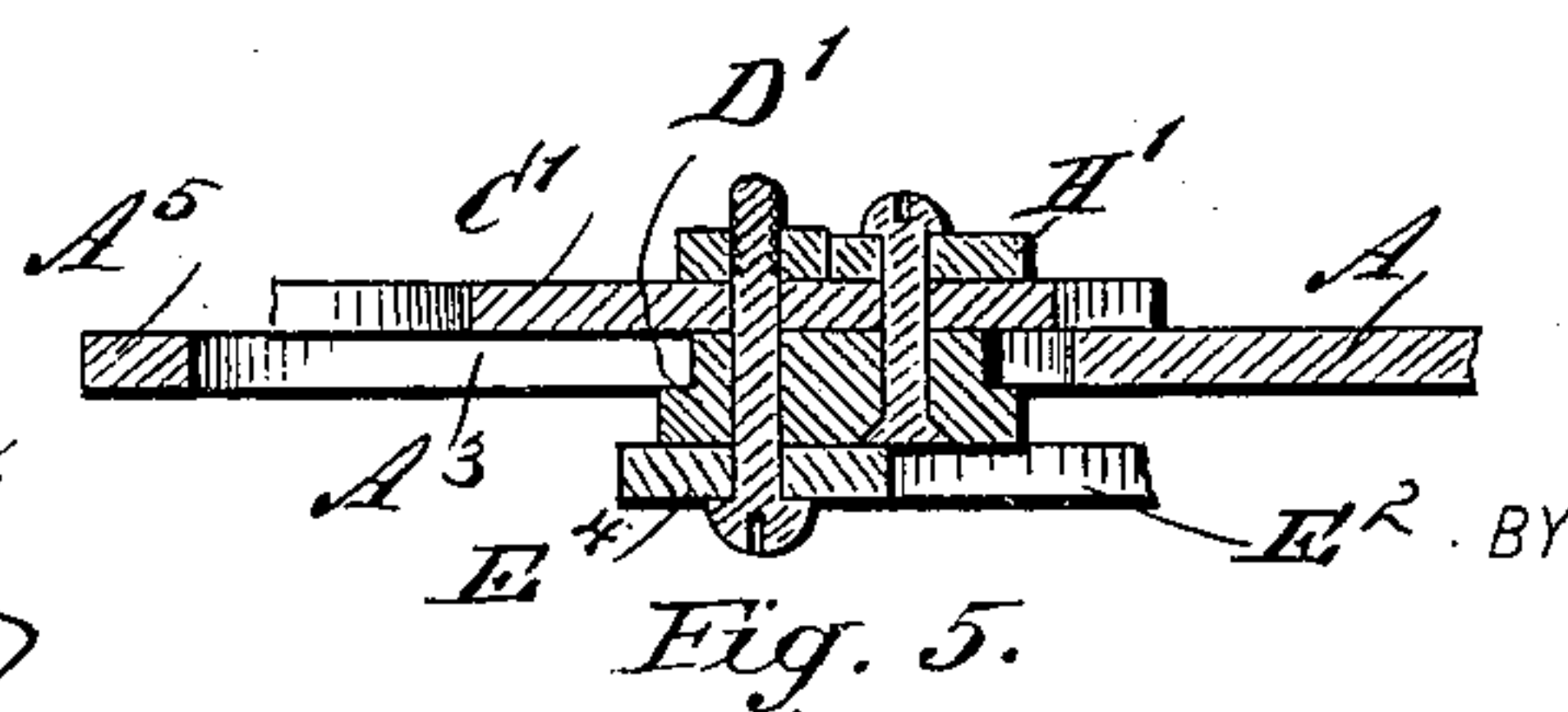
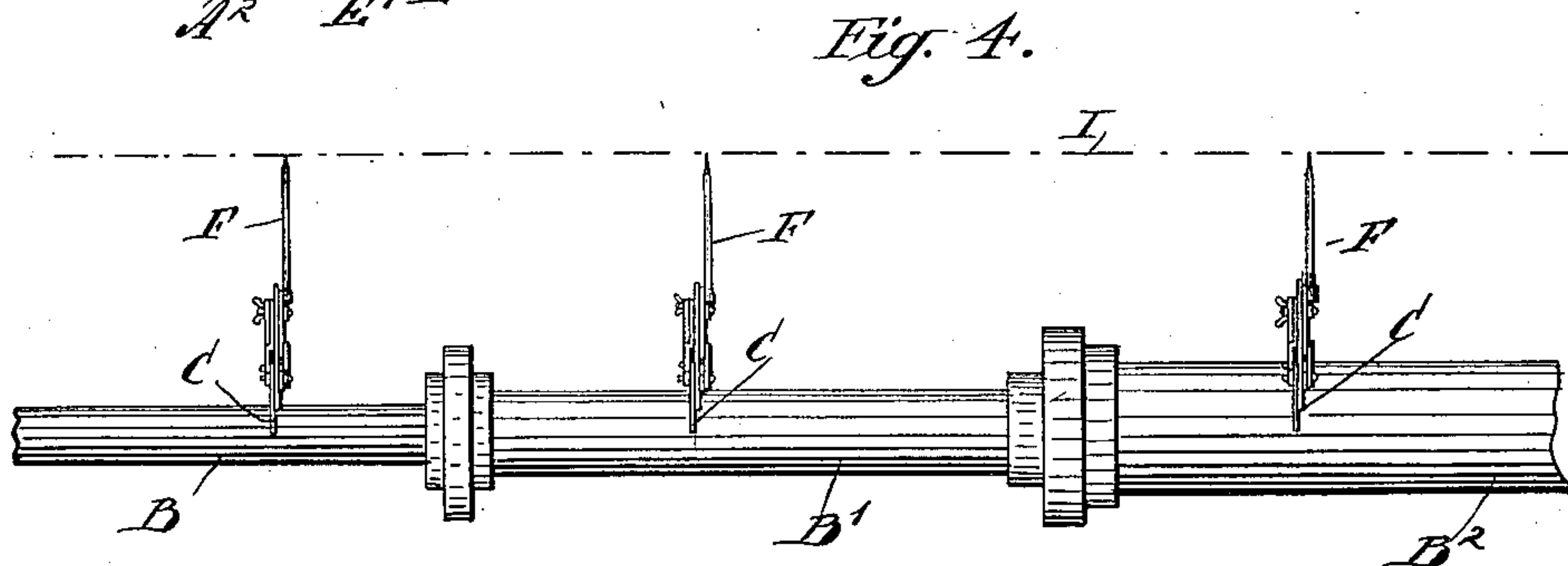
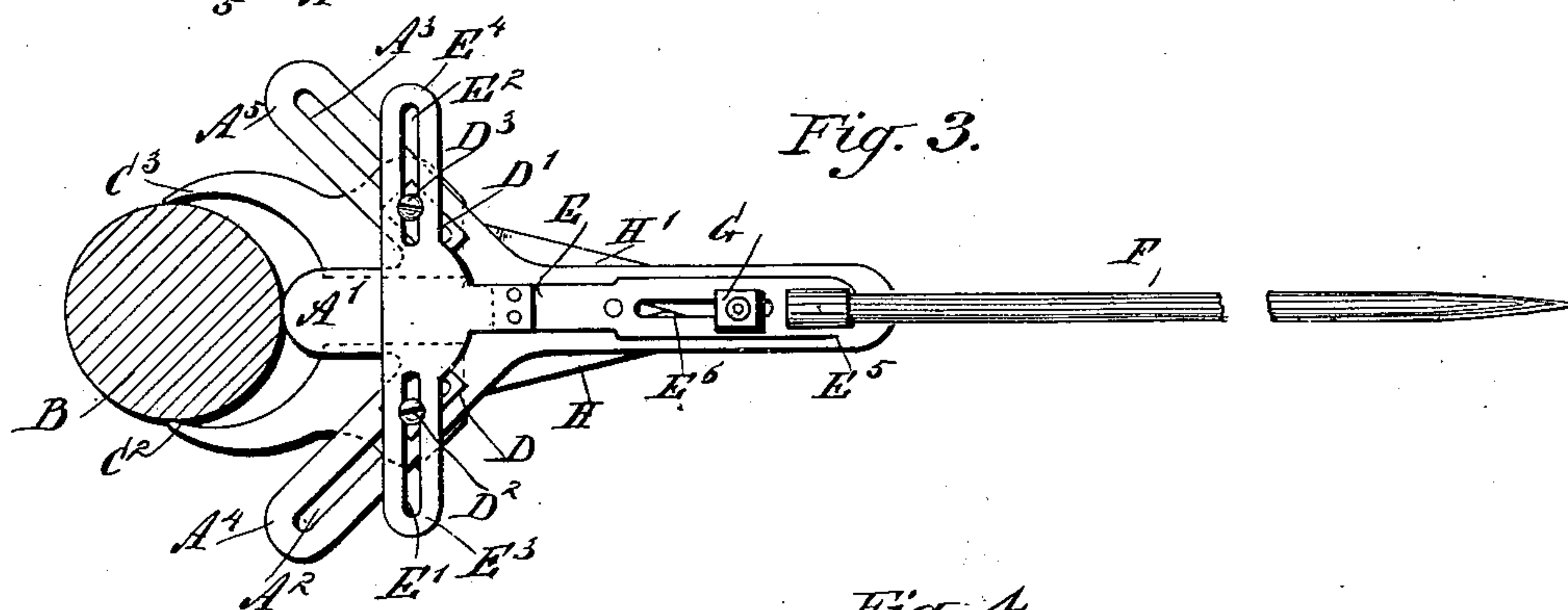
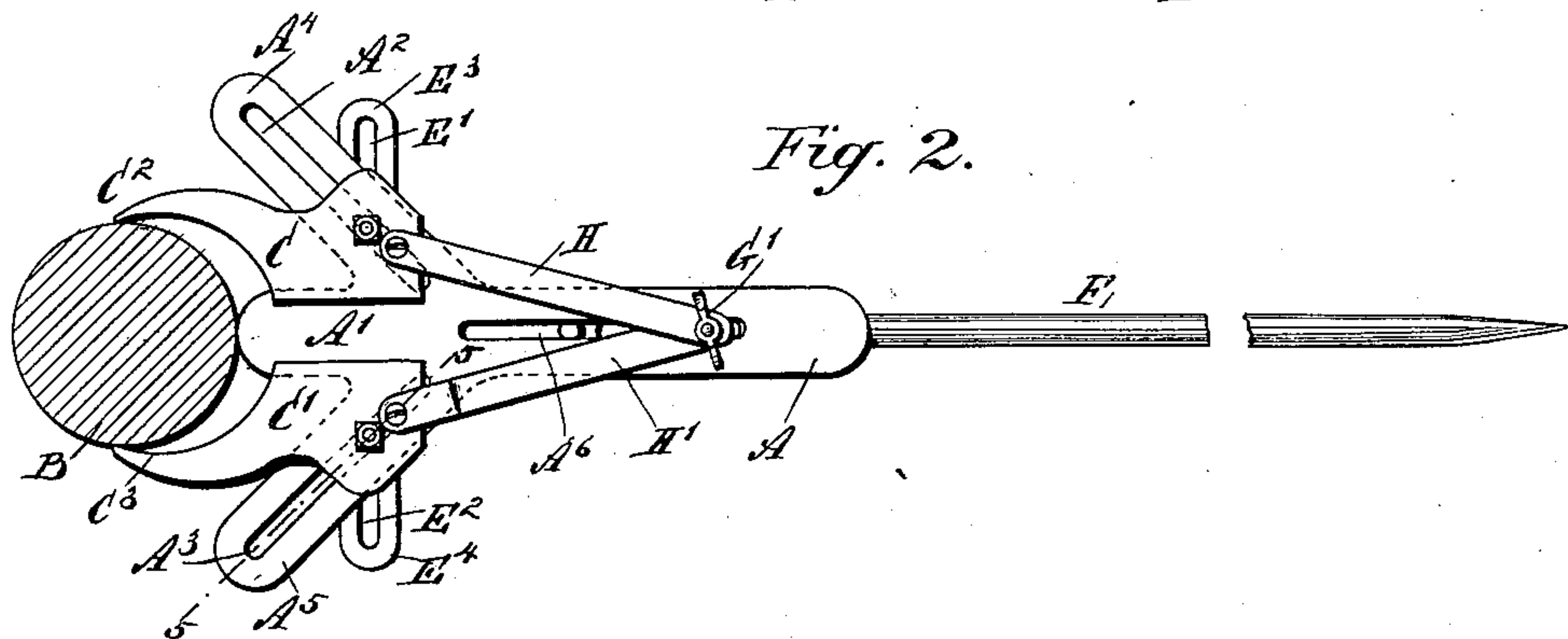
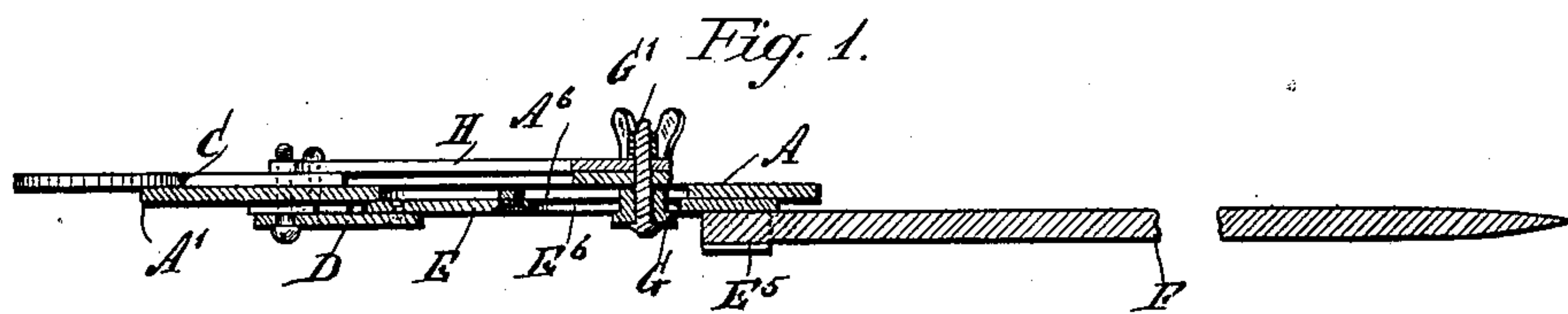


(No Model.)

F. A. THOMPSON.
CALIPERS.

No. 600,049.

Patented Mar. 1, 1898.



WITNESSES :

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FRED A. THOMPSON, OF EUREKA, WISCONSIN.

CALIPERS.

SPECIFICATION forming part of Letters Patent No. 600,049, dated March 1, 1898.

Application filed August 11, 1897. Serial No. 647,907. (No model.)

To all whom it may concern:

Be it known that I, FRED A. THOMPSON, of Eureka, in the county of Winnebago and State of Wisconsin, have invented new and Improved Calipers, of which the following is a full, clear, and exact description.

The object of the invention is to provide new and improved calipers more especially designed for properly alining the shafts of a line of shafting, the calipers indicating accurately the distance from the center of the shafts to an auxiliary guide-line.

The invention consists of certain parts and details and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional side elevation of the improvement. Fig. 2 is a plan view of the same as applied and with the shaft in section. Fig. 3 is an inverted plan view of the same. Fig. 4 is a reduced edge elevation of the improvement as applied on line-shafting, and Fig. 5 is a sectional view on the line 5-5 in Fig. 2.

The improved device is provided with a main frame A, formed at one end with a rest A', adapted to be seated on the peripheral surface of a shaft B, to be brought in alinement with other shafts B' B², as indicated in Fig. 4. The shaft B is adapted to be engaged at its diameter by the points C² C³ of caliper-arms C C', attached to slide-blocks D D', respectively, fitted to slide in slots A² A³, respectively, formed in angular guide-arms A⁴ A⁵, projecting from the sides of the main frame A.

The slide-blocks D D' are provided on their under sides with projections D² D³, engaging transverse slots E² E³, respectively, formed in transverse arms E³ E⁴, respectively, formed on a bar E, extending on the under side of the frame A, and formed at its outer end with a socket E⁵, engaged by a line-rod F, formed with a point at its outer end for reaching and pointing on an auxiliary chalk or guide line I, arranged parallel to the axial line of the shafting.

The bar E is provided with a longitudinally-extending slot E⁶, engaged by a guide-block G, also extending loosely into a longitudinal slot A⁶, formed in the main frame A, and on the said guide-block is held a clamping-screw G', pivotally connected by links H H' with the caliper-arms C C', so that by shifting the clamping-screw G' and slide-block G a sliding motion is given to the caliper-arms C C' to bring their points C² C³ in contact with the peripheral surface of the shaft B at diametrically opposite points and at right angles to the contact of the rest A' with the shaft.

Now in moving the caliper-arms C C' said arms follow the angular arms A⁴ A⁵ of the frame A to open and close the points owing to the said arms being secured to the slide-blocks D D', fitted in the slots A² A³ of the guide-arms. At the same time a sliding motion is given by the slide-blocks D D' to the bar E, owing to the action of the said slide-blocks with the transverse arms E³ E⁴ of the said bar, so that the point of the line-rod F is moved inward and outward according to the movement of the caliper-arms.

The frame A is provided with a graduation (not shown) reading the diameter of the shaft upon which the calipers are placed and is read by a pointer or mark from the block G to indicate the distance from the center of the shaft to the guide-line I.

Now it will be seen that when a line of shafting B B' B² is to be put in proper alinement then a number of devices, as described, are employed, one for each shaft, the said devices being set on the graduation according to the distance between the center of the shaft and the guide-line I, so that the point of the rod F must stand exactly on the auxiliary guide-line I when the shafts are brought into proper alinement.

It will be seen that when the device is used the proper distance between the axial line of shafting and the guide-line I is positively indicated by the devices, as the latter measure from the center of the shaft to the line, no matter what the size or diameter of the shaft is on which the device is used, it being understood that in order to bring the shafting in proper alinement it is necessary to get

the proper distance from the center of the shaft to the guide-line instead of from the periphery of the shaft.

It is understood that after the desired adjustment is made the several parts are securely locked in place by screwing up the clamping-screw G' for fastening the bar E securely to the frame A.

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

1. Calipers comprising a main frame provided with rigid angular guide-arms, caliper-arms fitted to slide thereon, a block fitted to slide on the said frame, and links pivotally connecting the said block with said caliper-arms to open and close the latter on moving the said block along on the frame, substantially as shown and described.

2. Calipers comprising a main frame provided with angular guide-arms, a rest on the said frame, and adapted to be seated on the peripheral surface of the shaft to be calipered, caliper-arms fitted to slide on the said angular guide-arms, a block held to slide on the said frame, and links connecting the said block with the said caliper-arms, to bring their points in contact with the peripheral surface of the shaft at diametrically opposite points and at a right angle to a radius at the point of contact of the said rest with the shaft, substantially as shown and described.

3. Calipers comprising a main frame formed with a rest adapted to be seated on the peripheral surface of a shaft, caliper-arms adapted to open and close on the said frame, a bar

held to slide on the said frame and connected with the said caliper-arms to move in unison with the same, and a line-rod carried by the said bar, substantially as described.

4. Calipers comprising a main frame formed with a rest adapted to be seated on the peripheral surface of a shaft, the said main frame being provided with slotted angular guide-arms, caliper-arms fitted to slide on the said angular guide-arms, a bar fitted to slide longitudinally on the said frame and having transverse arms connected to and moving with the said caliper-arms, and a line-rod carried by the said bar, substantially as described.

5. Calipers comprising a main frame formed with a rest adapted to be seated on the peripheral surface of a shaft, the said main frame being provided with slotted angular guide-arms, caliper-arms fitted to slide on the said angular guide-arms, a bar fitted to slide longitudinally on the said frame and having transverse arms connected to and moving with the said caliper-arms, a line-rod carried by the said bar, a guide-block fitted to slide on the said frame and on the said bar, and links for connecting the said block with the said caliper-arms to shift the guide-block longitudinally on opening and closing the caliper-arms to indicate the distance from the center of the shaft to the guide-line, substantially as described.

FRED A. THOMPSON.

Witnesses:

LIZZIE THOMPSON,
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