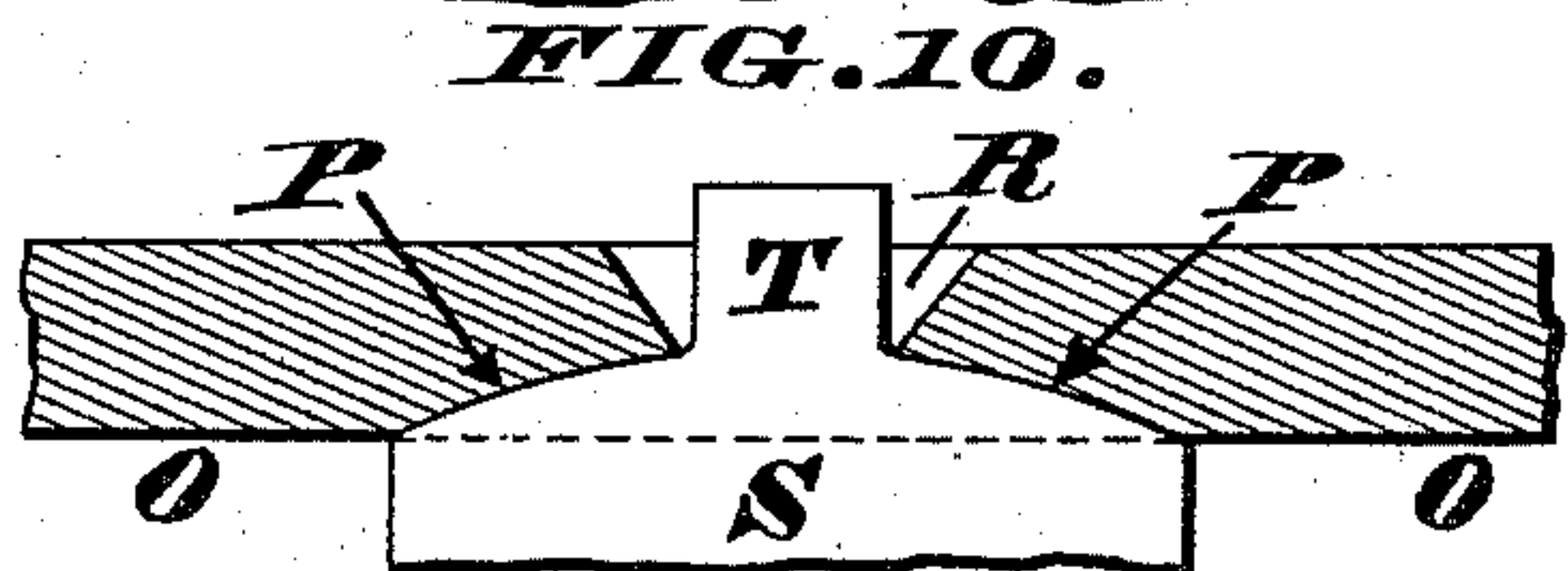
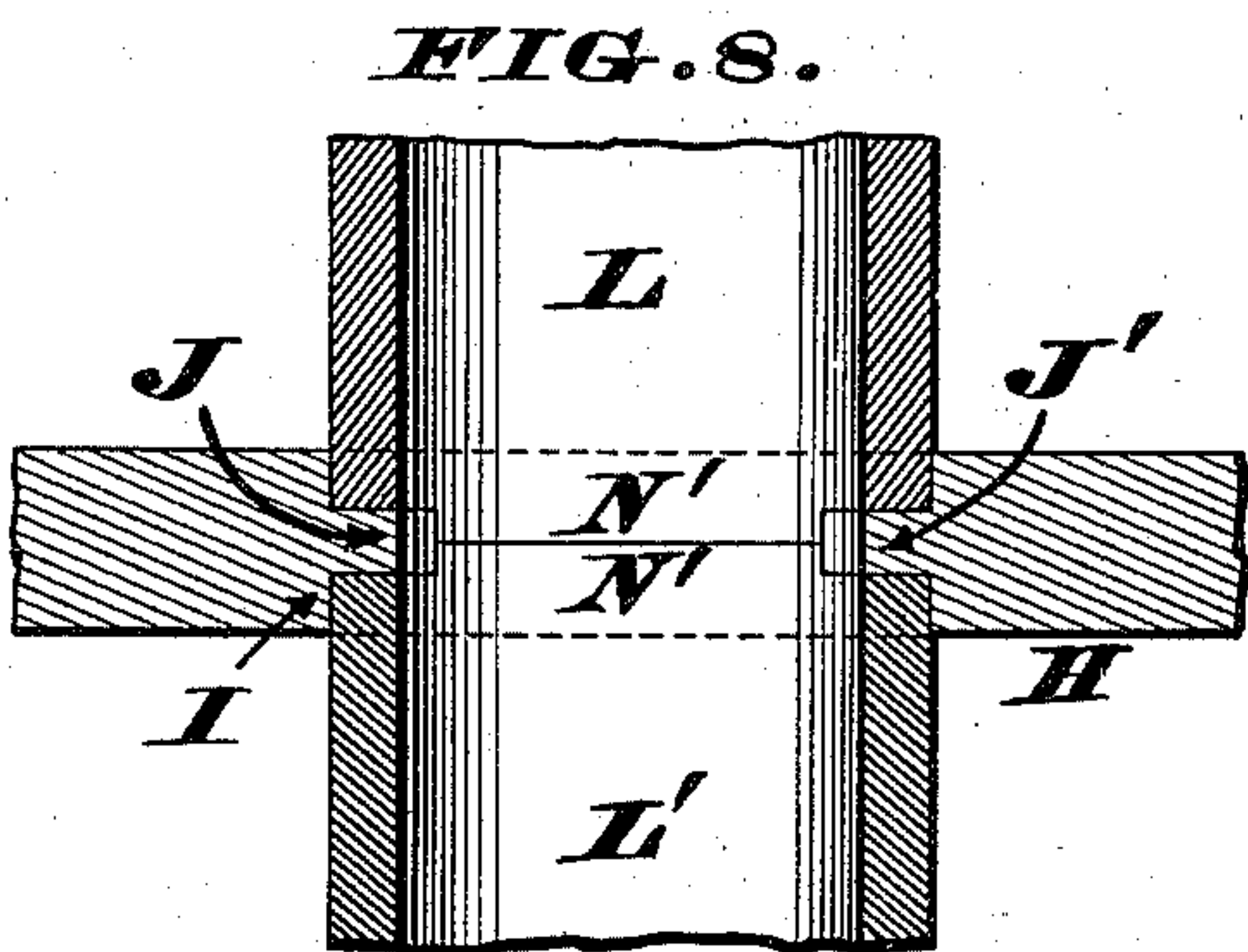
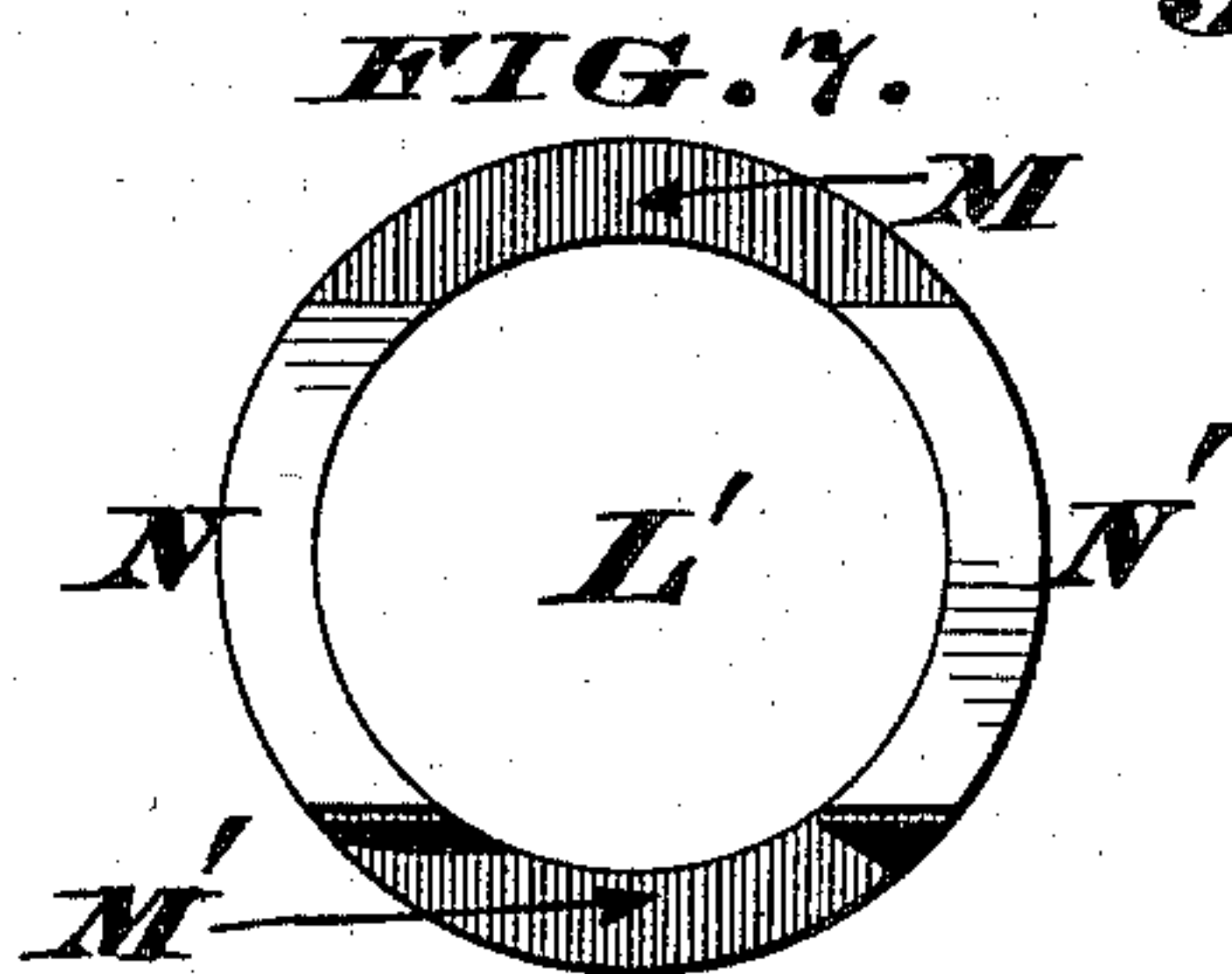
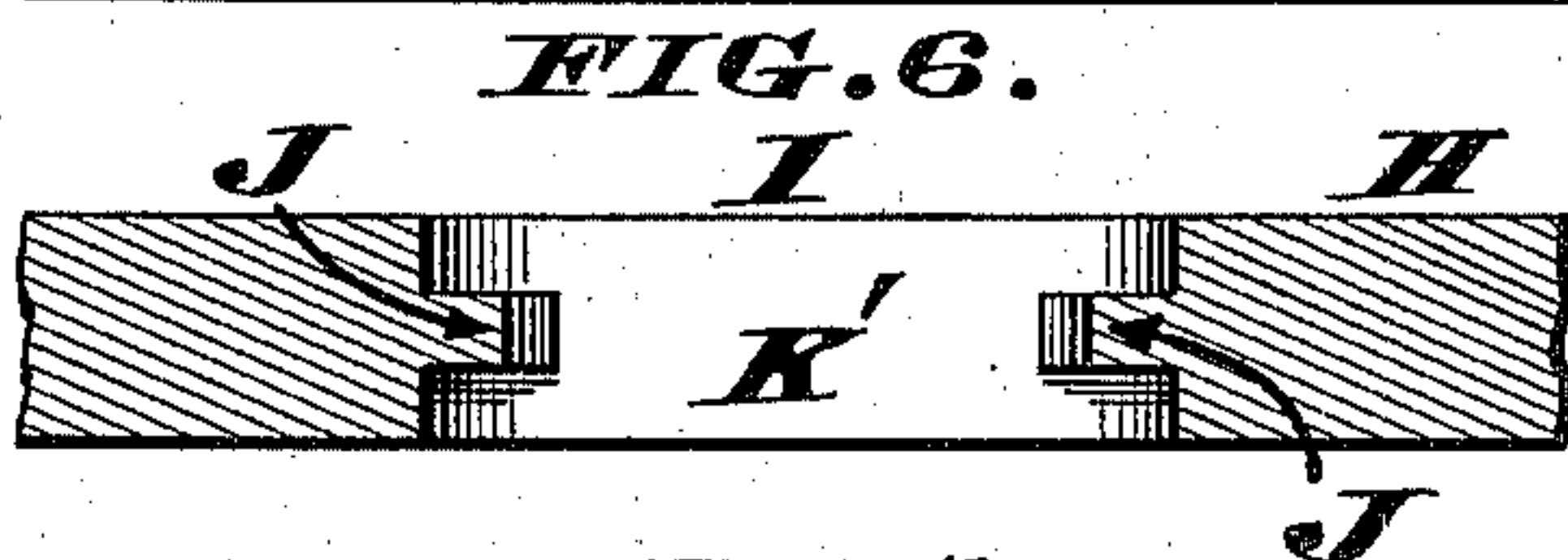
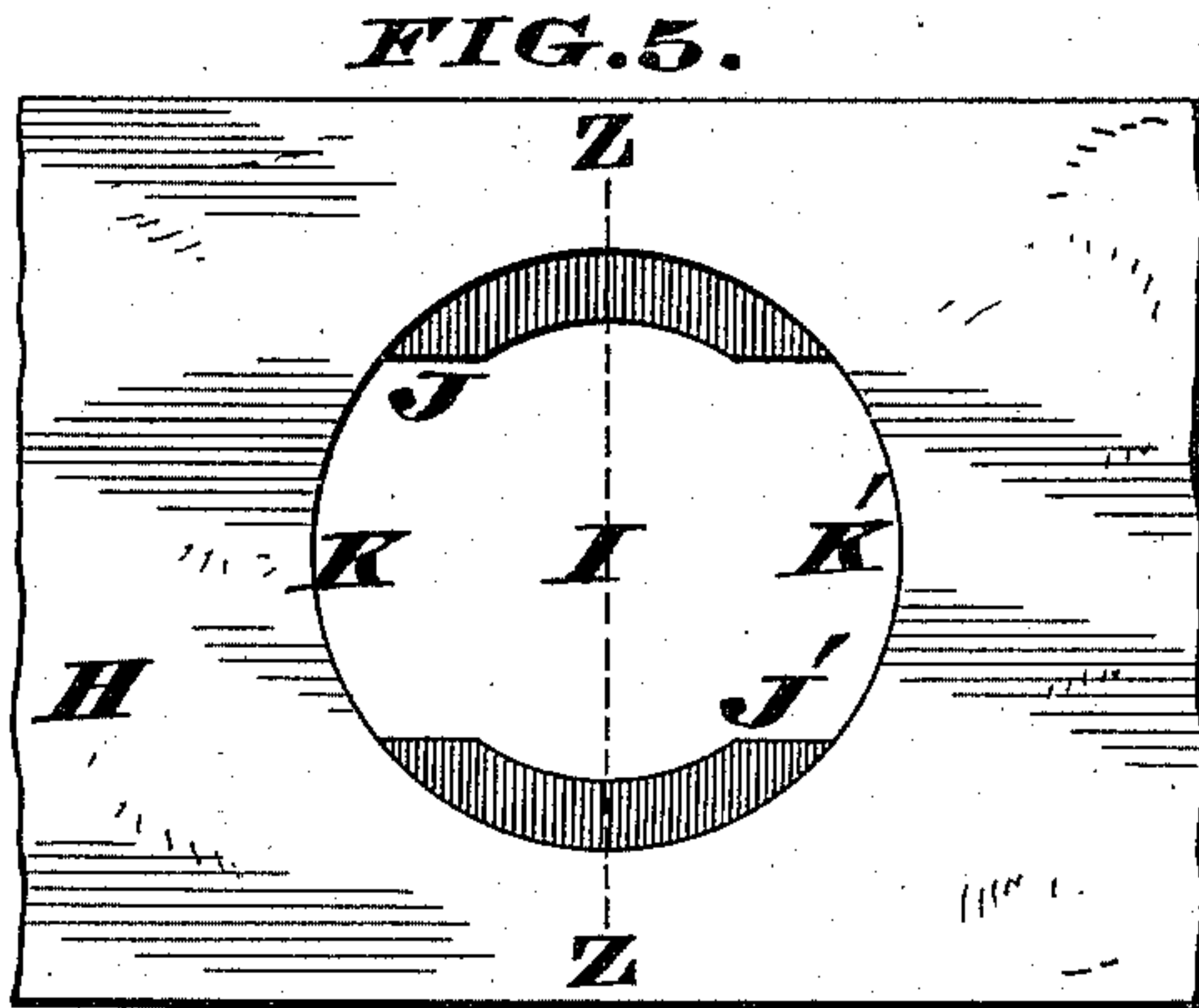
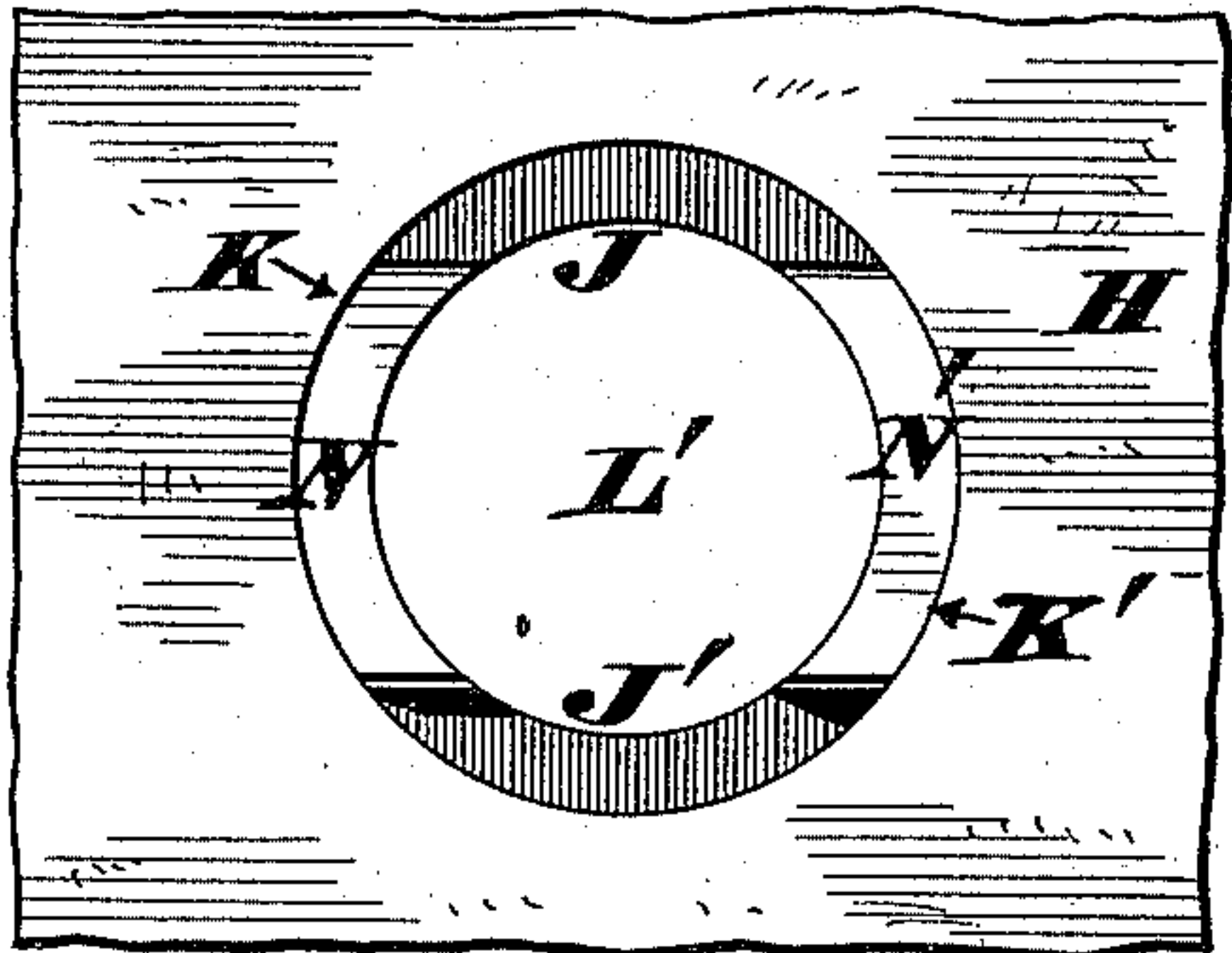
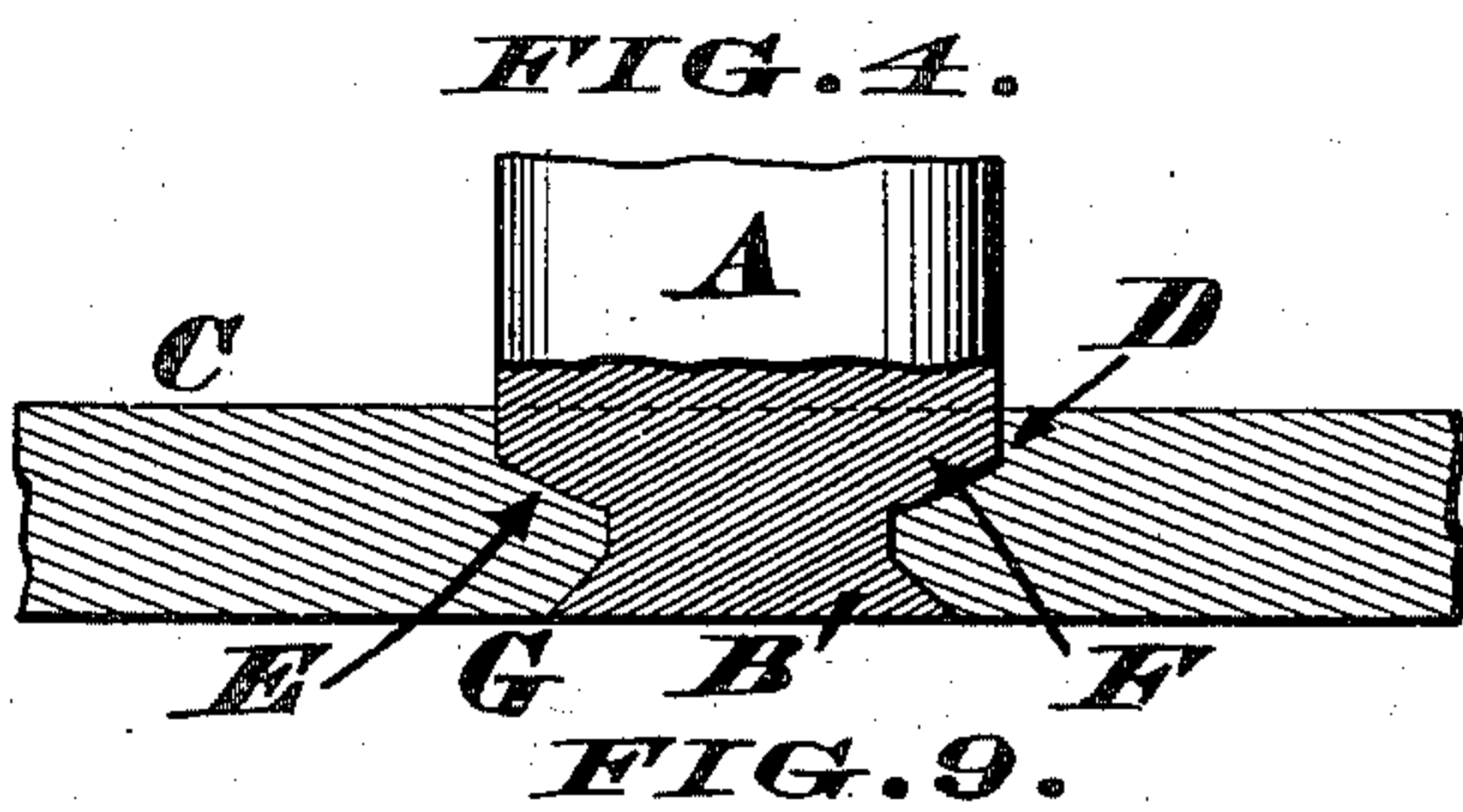
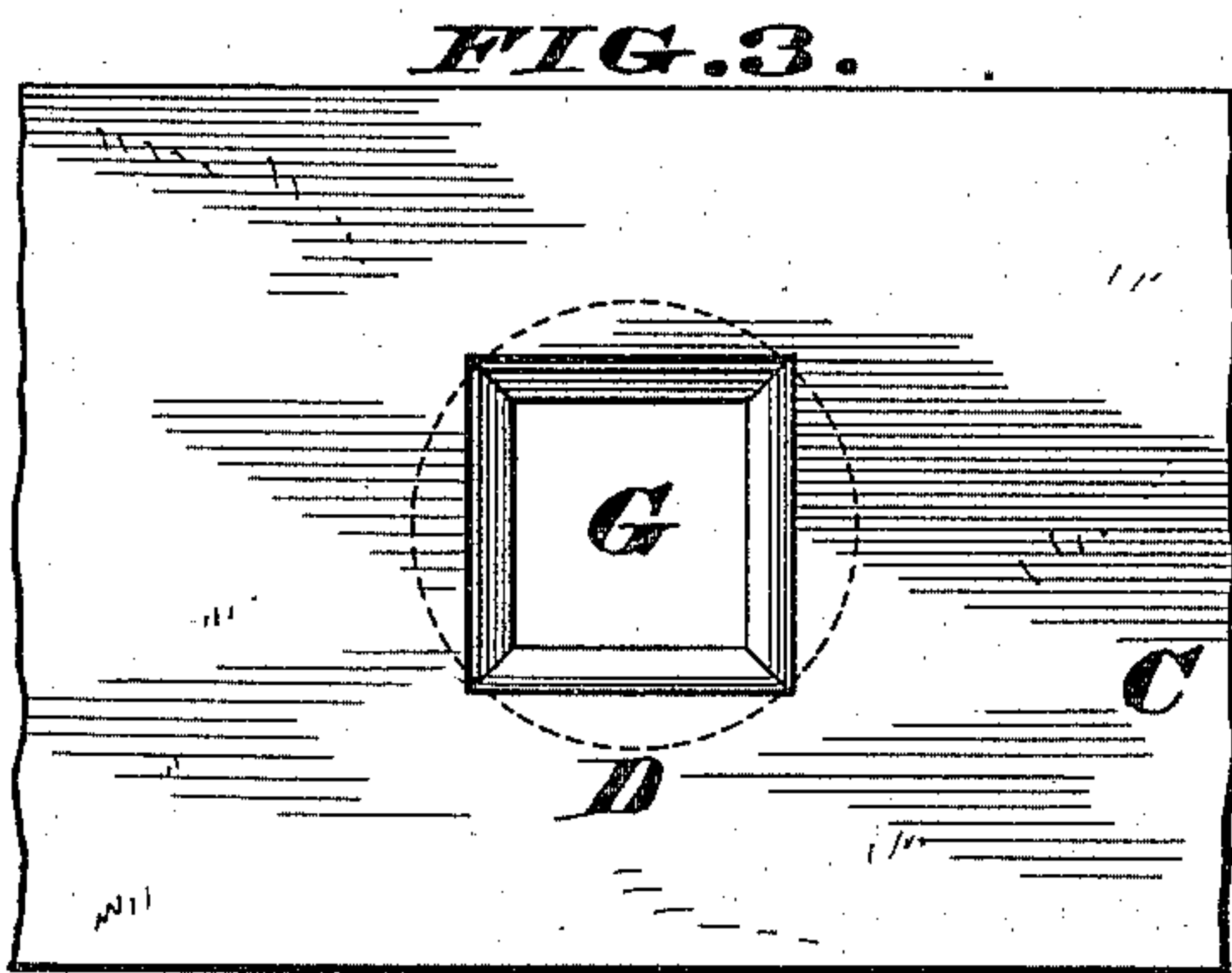
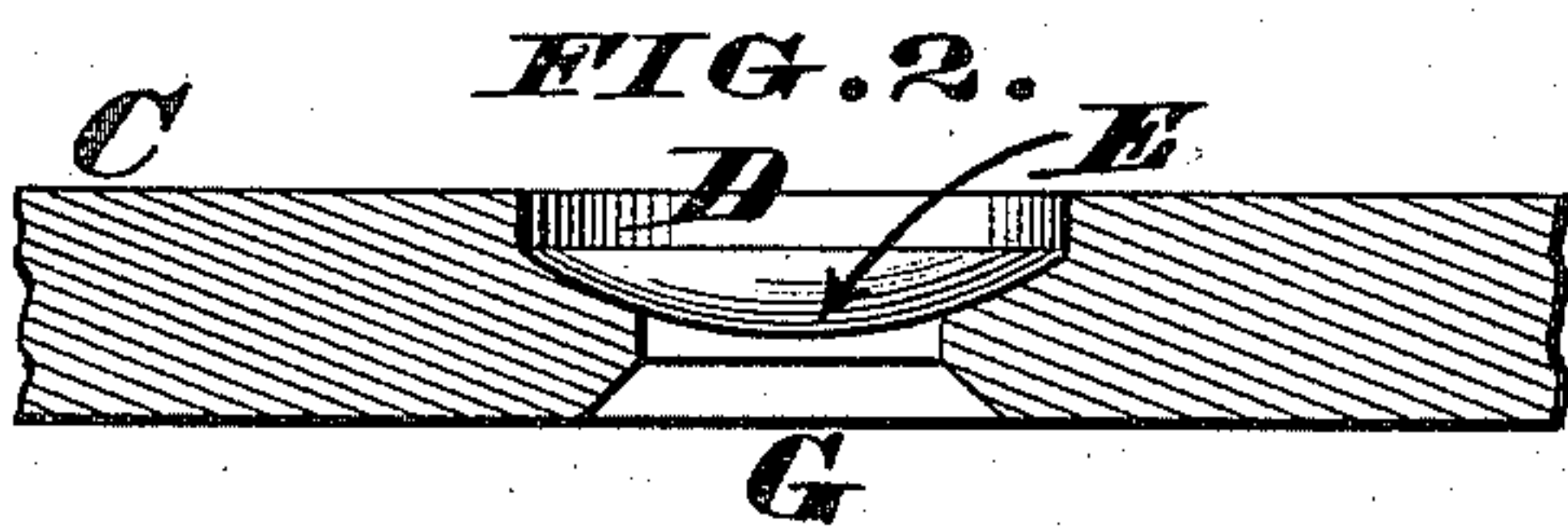
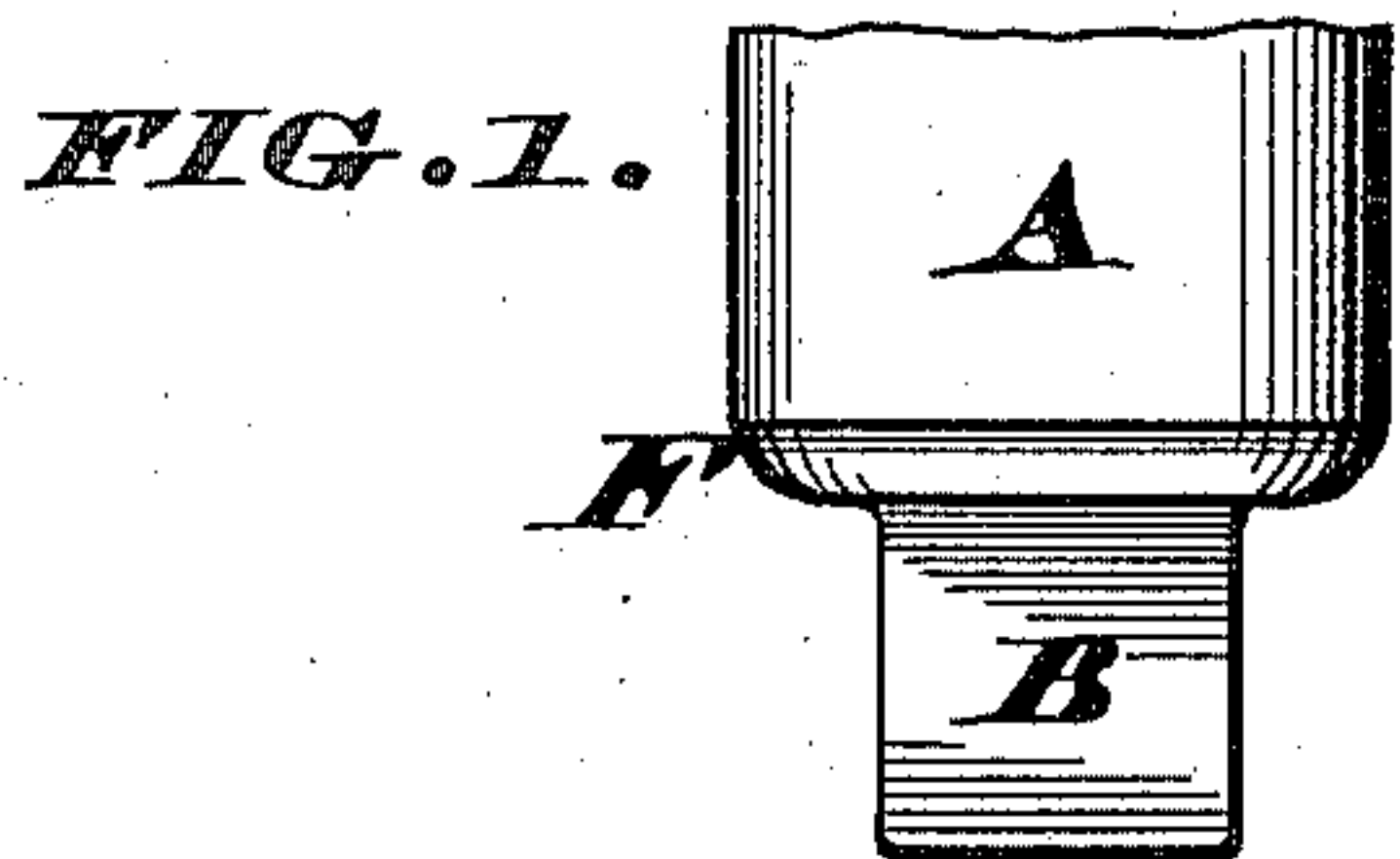


(No Model)

R. C. STEWART, Jr. & W. A. STEWART.
JAIL CELL.

No. 584,611.

Patented June 15, 1897.



Attest.

John C. Rogers.
Spencer M. Jones

Inventors.

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by James R. Layman
Atty.

UNITED STATES PATENT OFFICE.

RICHARD C. STEWART, JR., AND WALLACE A. STEWART, OF COVINGTON,
KENTUCKY.

JAIL-CELL.

SPECIFICATION forming part of Letters Patent No. 584,611, dated June 15, 1897.

Application filed December 17, 1896. Serial No. 615,978. (No model.)

To all whom it may concern:

Be it known that we, RICHARD C. STEWART, Jr., and WALLACE A. STEWART, citizens of the United States, residing at Covington, in the county of Kenton and State of Kentucky, have invented certain new and useful Improvements in Jail-Cells; and we do hereby declare the following to be a full, clear, and exact description of the invention, reference being had to the annexed drawings, which form a part of this specification.

This invention relates to those jail-cells or other similar metallic gratings which include a system of horizontal and vertical bars whose ends are secured within the main frames of such structures by mortise-and-tenon-joints; and the first part of our improvements consists in so making these joints as to prevent their tenons being either sawed or broken off, as hereinafter more fully described.

The second part of our invention consists in carrying this construction a step further and rendering the joint effective for securing those sleeves used as separators for spacing certain cell-bars a regular distance apart, as hereinafter more fully described.

In the annexed drawings, Figure 1 is an elevation of the tenon end of a bar used in making our improved joint. Fig. 2 is a vertical section through a communicating recess and mortise in the lower part or plate of a main frame to which the aforesaid bar is to be secured. Fig. 3 is a plan of the under side of said mortised plate. Fig. 4 is a sectionized elevation showing said bar and plate fastened together. Fig. 5 is a plan of a mortised bar adapted for the reception of a pair of sleeve-separators. Fig. 6 is a transverse section of this bar, taken at the line Z Z of the preceding illustration. Fig. 7 is a plan of one end of a sleeve-separator adapted to be applied to the aforesaid perforated bar. Fig. 8 is an axial section showing a pair of such sleeves inserted within said bar. Fig. 9 is a plan of said bar with one sleeve inserted therein. Fig. 10 is a modification of our invention.

Referring to Fig. 1, A represents a metallic bar such as generally used for the uprights of jail-cells and other similar gratings, which bar may be of any desired shape in trans-

verse section, although in the present case it is supposed to be round or circular and has on its end a tenon B. The exact shape of this tenon is immaterial, but said reduced portion of the bar must be sufficiently long to pass through a mortise in the cell-frame and leave some little metal to be subsequently upset, a section of such a frame being shown at C in Figs. 2, 3, and 4. This member C of a cell-frame is a heavy plate or bar whose upper surface has a shallow counterbore or recess D of a proper diameter to admit of the bar A fitting very snugly therein, the counterbore terminating at bottom with a concave seat E for the reception of a rounded or angular bearing F of said bar. Communicating with this seat is a mortise G, of any desired shape; but preferably non-circular, and wider at bottom than at top.

Plate C may represent the top or bottom or either side of a cell-frame; but for the purpose of showing how the structure is secured together it will be referred to as a "base-plate," to which the vertical bar A is to be secured. This attachment is readily effected by first passing the tenon B through the mortise G and then driving the bar down, so as to cause its end to fit tightly within the counterbore D, the descent of said bar being arrested by its rounded bearing F coming in contact with the concave seat E, and then the projecting end of said tenon is upset and caused to fill up said flaring mortise, as seen at B' in Fig. 4. This upsetting of the tenon can be done without heating the metal, and when it is finished the bar is united to the plate in the most secure manner.

Reference to Fig. 4 shows that the bar A is inserted its full diameter or thickness into the plate C and enters it a distance equal to the depth of the counterbore D, while the tenon of said bar is still further embedded within said plate. Furthermore, as this tenon is headed up within the mortise G it is impossible for a prisoner to turn the bar either to the right or left or to pull it out of said mortise. It is equally impossible for the tenon to be reached by a saw or file. Neither can it be broken off by hammering against the bar. It will thus be seen that this improve-

ment adds greatly to the security of jail and prison cells without materially increasing their cost of construction.

An elaboration of our invention is seen in Fig. 5, where H represents one of the horizontal bars of a cell-grating, and I is a circular mortise made therein, the opposite sides of this opening being provided with segmental annular flanges J J', having interdental spaces K K' between them. These flanges are a sufficient distance from the top and bottom surfaces of the bar H, as seen in Figs. 6 and 8, to serve as stops for a pair of sleeve-separators L L' to bear against, one of these separators L' being shown in end elevation in Fig. 7. This illustration shows that said sleeve is of the same diameter externally as the mortise I and is notched on two opposite sides, as at M M', thereby affording a pair of longitudinal projections or tenons N N'. These notches are as long as the flanges J J' and half as deep as the latter, while the tenons N N' are of a proper size to fit snugly within the interdental spaces K K'.

Now by referring to Figs. 8 and 9 it will be seen that when the sleeve L' is inserted within the mortise I the tenons N N' traverse the spaces K K' and extend up half-way of the flanges J J', and when the other sleeve L is fitted within said mortise a practically continuous tube is thereby afforded. Fig. 8 shows that the ends of sleeves L L' meet at the center of bar H and are locked against turning by the ends of their tenons N N' abutting against the extremities of the flanges J J'.

It is understood, as a matter of course, that the length of the separators L L' is equal to the required distance between the various parallel bars H of a cell, and after said separators are in place solid round rods are run through them and secured therein in the usual manner.

In another modification of our invention

(seen in Fig. 10) the plate O has a concave recess P cut in its face with a milling-tool or any other device, and the opposite face of said plate has a mortise R. S is a flat bar rounded at its end to fit snugly within the recess P and having a tenon T, that is headed up in the mortise R, thereby preventing said bar being turned around or pulled out of the plate O. This construction, like those previously described, renders the tenon inaccessible and thus prevents it being sawed or broken off.

We claim as our invention—

1. The combination, in a grated cell, of a single rod or plate; a recess in one side thereof; a mortise in its other side, and communicating with said recess; and a bar having a reduced portion, or tenon, at its end, which tenon is headed up within said mortise, thereby causing said bar to project bodily from and at right angles to said plate, for the purpose herein described and set forth.

2. A rod or plate having on one side a non-circular mortise communicating with a circular counterbore or recess on the other side of said plate, and a round bar projecting from said plate, which bar is inserted, its full diameter, in said counterbore, and has a tenon headed up in said mortise, for the purpose described.

3. A rod or plate pierced with a circular mortise having a pair of segmental annular flanges, and a sleeve-separator having a pair of notches that engage with said flanges, in the manner described, and for the purpose stated.

In testimony whereof we affix our signatures in presence of two witnesses.

RICHARD C. STEWART, JR.
WALLACE A. STEWART.

Witnesses:

JAMES H. LAYMAN,
JOHN C. ROGERS.