

(No Model.)

J. J. KOCHER.
WHIFFLETREE COUPLING.

No. 444,646.

Patented Jan. 13, 1891.

Fig. 1.

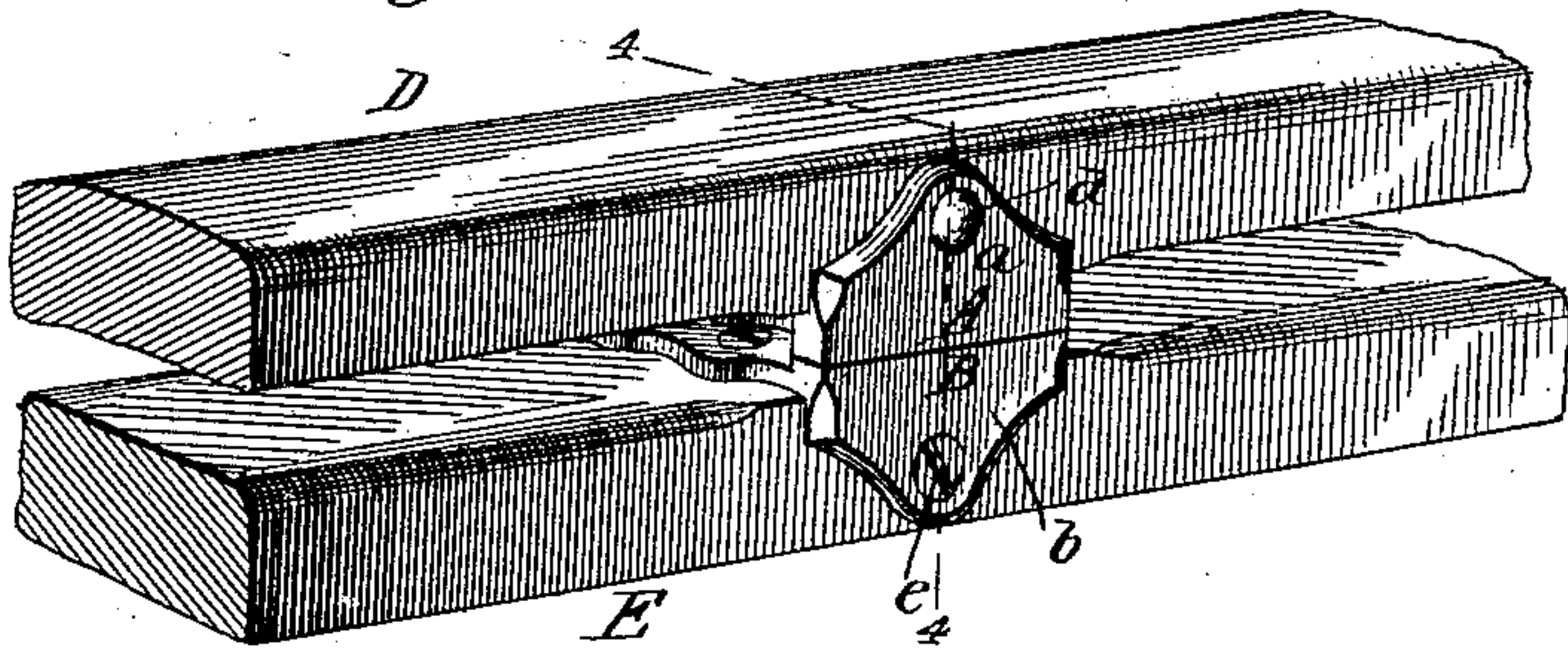


Fig. 2.

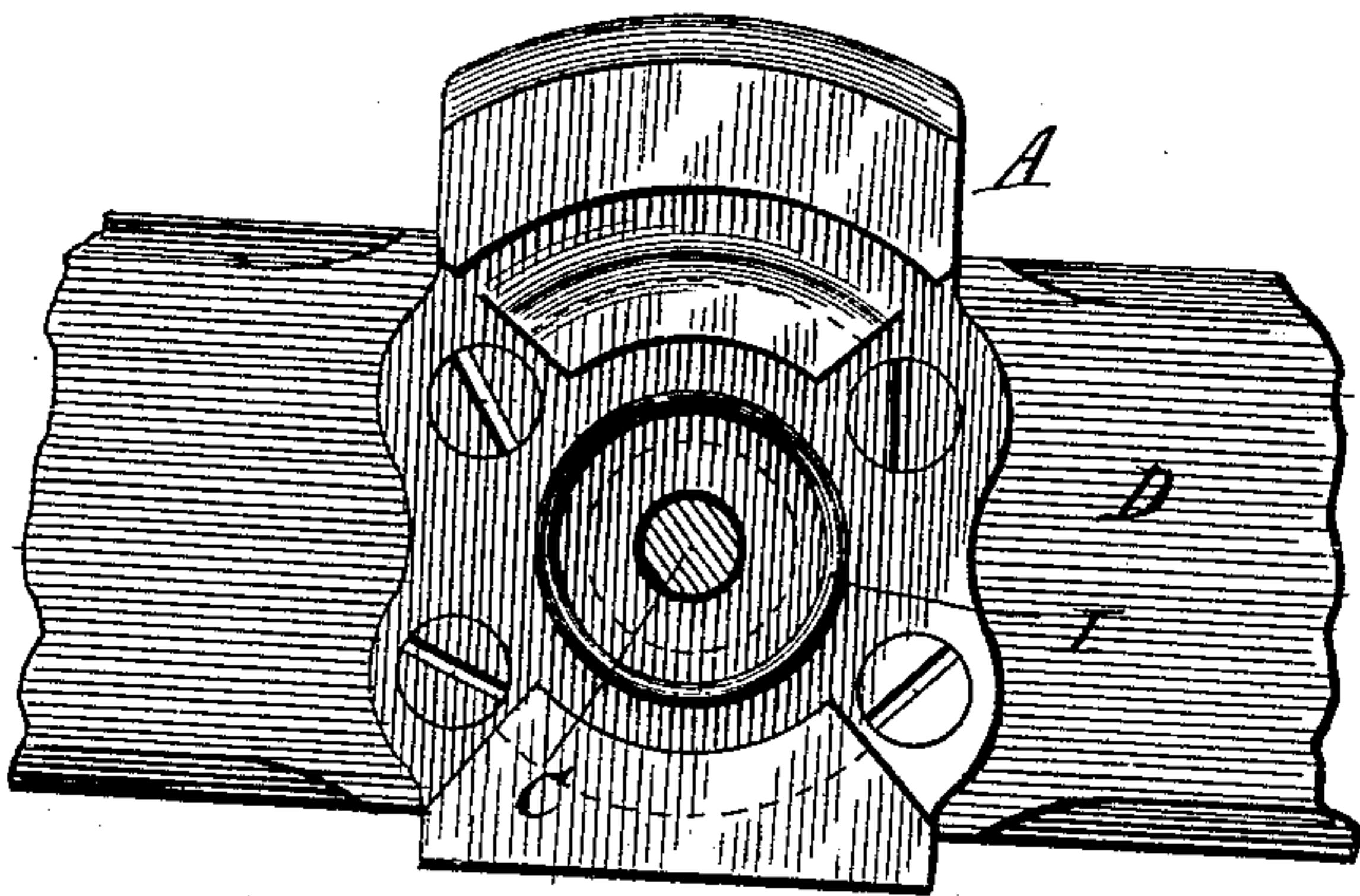


Fig. 3.

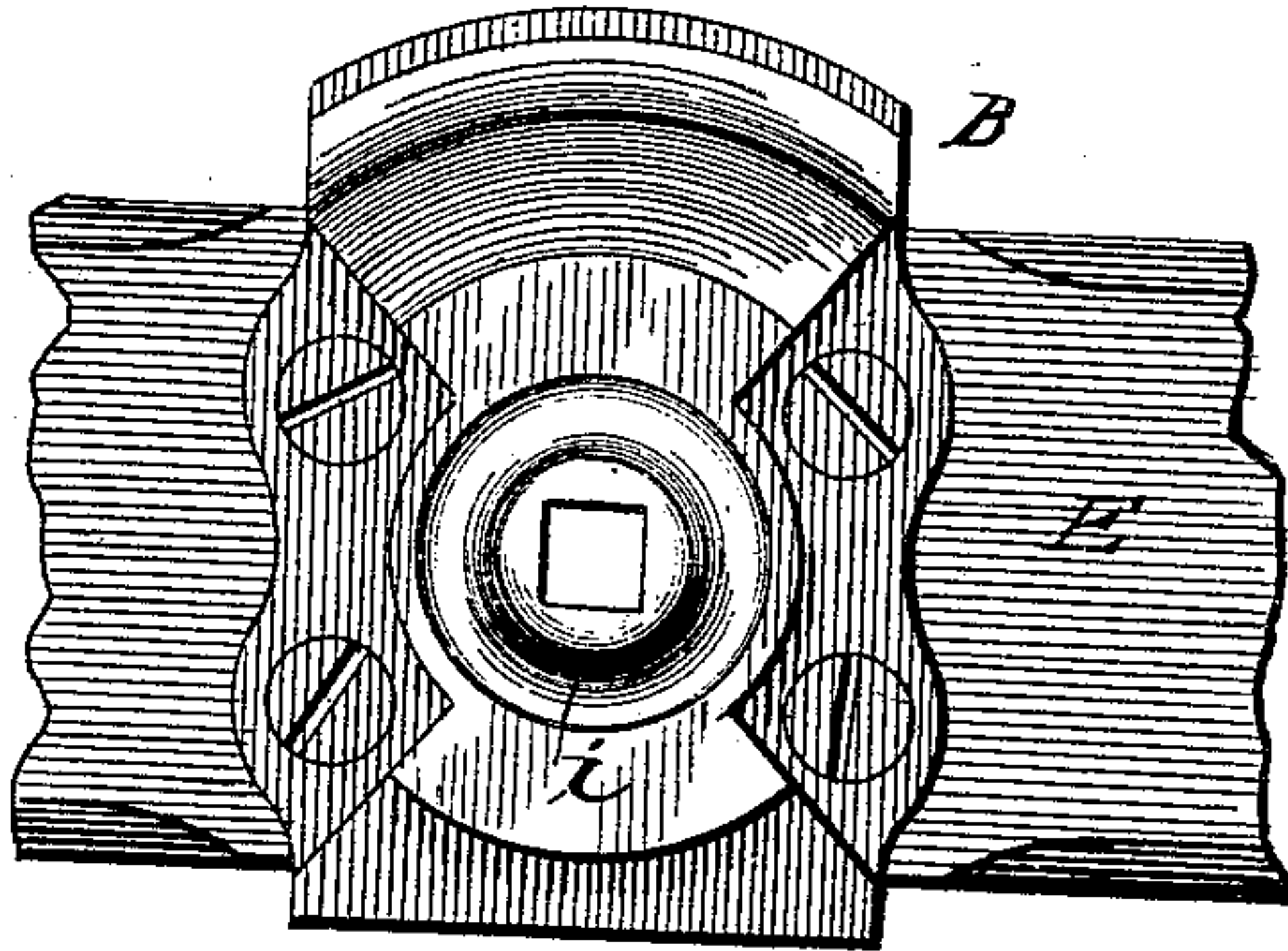
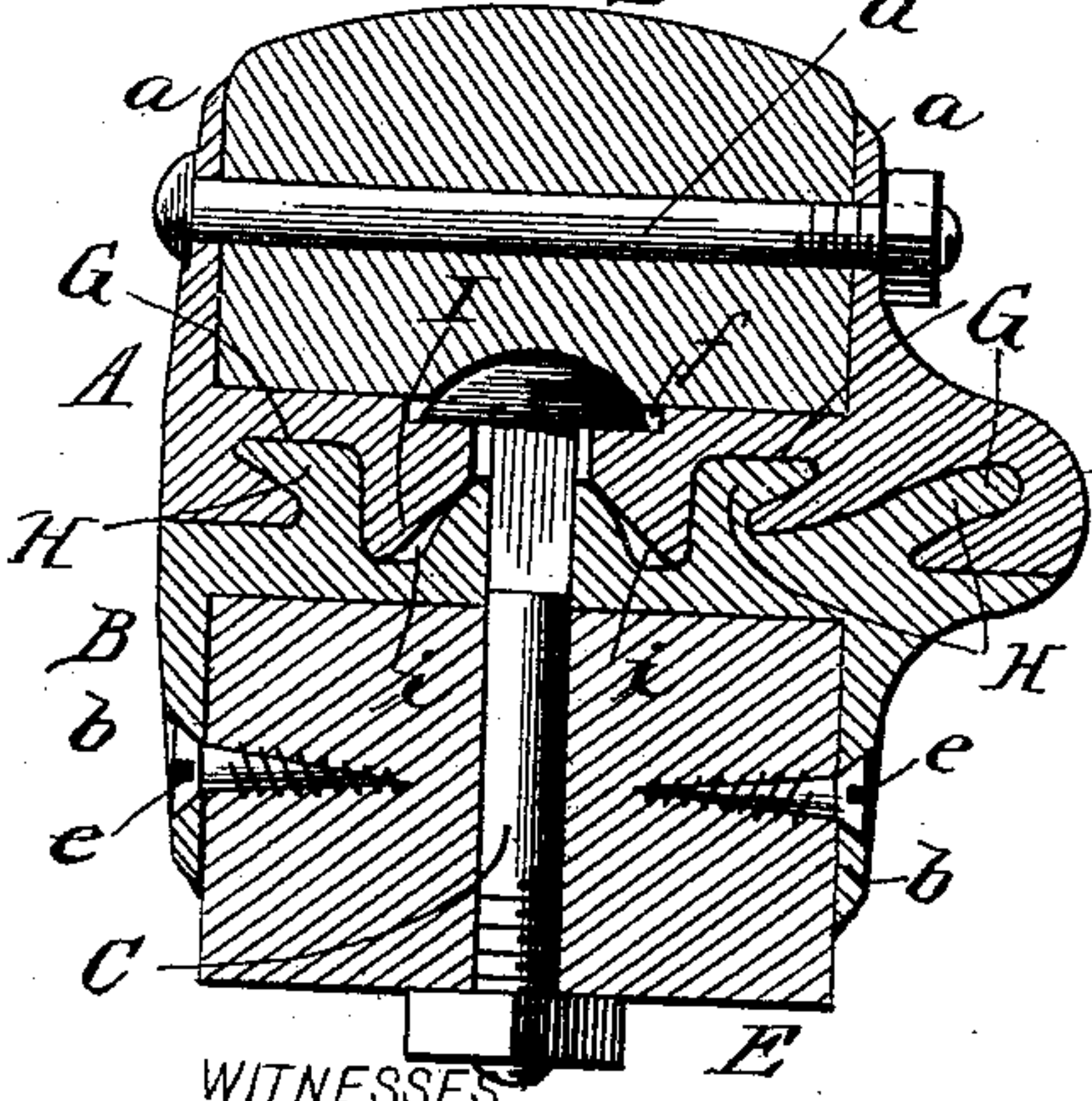


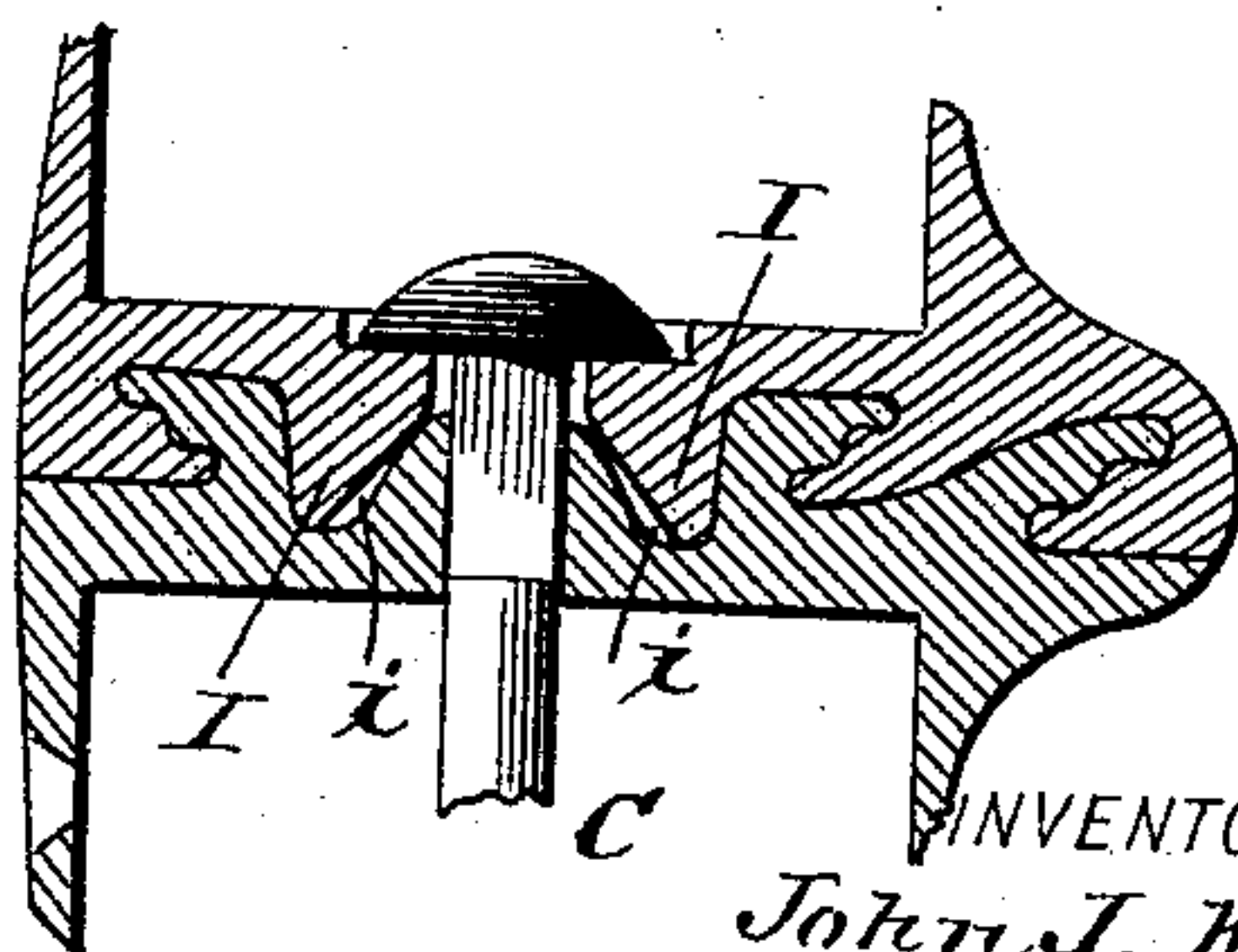
Fig. 4.



WITNESSES:

Fred G. Dieterich
P. B. Swain

Fig. 5.



INVENTOR:

John J. Kocher

BY

Munn & Co

ATTORNEYS

UNITED STATES PATENT OFFICE.

JOHN J. KOCHER, OF LOS ANGELES, CALIFORNIA.

WHIFFLETREE-COUPLING.

SPECIFICATION forming part of Letters Patent No. 444,646, dated January 13, 1891.

Application filed March 28, 1890. Serial No. 345,774. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. KOCHER, of Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Improvement in Whiffletree Couplings or Joints, of which the following is a specification.

This invention is an improvement in couplings or joints for securing whiffletrees to their cross-bars or supports; and the invention consists in certain novel constructions and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 shows the coupling in connection with parts of the whiffletree and support. Figs. 2 and 3 are detail views, respectively, of the upper and lower sections. Fig. 4 is a vertical cross-section on about line 4 4 of Fig. 1, and Fig. 5 shows different forms in which the interlocking portions may be made.

The coupling consists of the upper section A, the lower section B, and the connecting-bolt C.

The sections A B are formed with edge flanges or ears *a b* to lap alongside the whiffletree D and its support E. The ears *a* are secured to the whiffletree by a bolt or rivet *d* and the ears *b* to the support E by screws *e*. These sections A and B are provided on their adjacent faces with concentric segmental interlocking portions, which permit the sections to be rotated one upon the other and yet hold them rigidly from detachment in the line of their axes. I connect the sections A and B by means of the bolt C, having its head countersunk in a recess *f* in the top of section A and extending thence downward through the sections A and B and the support E and secured below such support by a nut, as shown, such bolt being arranged to turn in section A and being keyed to section B by fitting its squared portion in a square hole in said section, as shown.

In effecting the interlocking portions it is preferred to provide the section A with segmental undercut guides G and the lower section with segmental rails H, formed to fit in said guides, the undercut formation of the guides and the corresponding construction of the rails operating to permit the free turning of the section A and the whiffletree thereto

attached and holding such sections A B from detachment in the line of their axes until the interlocking parts G and H are turned out of engagement by giving one or the other thereof a quarter-turn from their normal relative positions, when, the bolt C being released, the whiffletree and its section may be removed.

It will be noticed that I have shown two rails H at the rear of the lower section and one at the front of such section. It will be understood that the number of these rails may be increased according to the size of the coupling-sections.

To further brace and steady the movement of the sections, I provide the upper section with a circular rib or flange I, which enters and turns in a circular groove *i* in the lower section. Manifestly the interlocking portions may be shaped in cross-section, as shown in Fig. 4, or in the single or double curved forms shown in Fig. 5.

By my invention I avoid the difficulties incident to the use of the ordinary whiffletree-bolt, such as the twisting or breaking thereof and of such bolt getting loose. The interlocking portions or locks keep the whiffletree snugly in place and yet permit all the play required. By the provision of the two locks at the rear of the plates A and B, I am able to take considerable of the wear at such point, instead of having the entire wear borne at the front of the sections. The connecting-bolt being arranged to connect the upper and lower sections and the supports tightens such parts together and prevents rattling.

The use of the ears *a* and *b* prevents the whiffletree-coupling from working loose, and by avoiding the formation of a hole through the whiffletree for the ordinary pivot-bolt the strength of such whiffletree is not impaired at the center, the point where it needs the greatest strength.

It will be noticed from Figs. 2 and 3 that both sections A and B are firmly secured to their respective supports D and E by means of screws, preferably four to each section, and arranged to turn through such plates into, respectively, the under and upper sides of supports D and E.

Having thus described my invention, what I claim as new is—

1. A whiffletree-coupling comprising the

upper and lower sections, having a common axis, and provided in rear of such axis the one with a plurality of segmental rail-like portions and the other with a plurality of segmental undercut guides to receive said portions, all substantially as set forth.

2. A whiffletree-coupling comprising the upper section and the lower section, having a common axis, one of such sections being formed with undercut grooves on opposite sides of said axis and the other section with segmental ribs or rails formed to fit snugly in said grooves, all substantially as set forth.

3. An improved whiffletree-coupling consisting of the upper section and the lower section, having a common axis, one of such sections being provided in front of its axis with a curved groove and rear of its axis with a plurality of curved grooves, and the other

section being provided with undercut ribs or rails fitted snugly in said grooves, substantially as set forth.

4. The combination, substantially as herein described, of the upper section A, having a central opening for the connecting-bolt and provided with undercut grooves, the lower section B, having a central non-circular opening for the connecting-bolt and provided with ribs fitting the grooves of the section A, and the connecting-bolt formed to turn freely in the opening of section A and keyed in the opening of section B, substantially as set forth.

JOHN J. KOCHER.

Witnesses:

J. W. TABOR,

A. K. SHERRIFF.