

(No Model.)

2 Sheets—Sheet 1.

G. A. BARTH.

STOCK OR TOOL HOLDER FOR DIRECT ACTING ENGINES.

No. 409,659.

Patented Aug. 27, 1889.

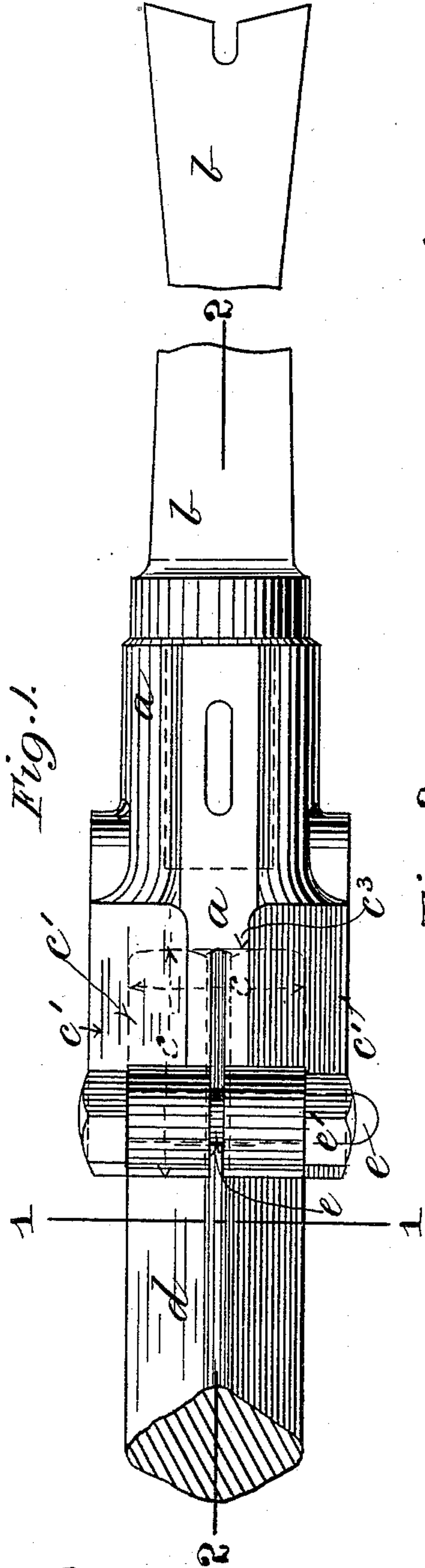


Fig. 1.

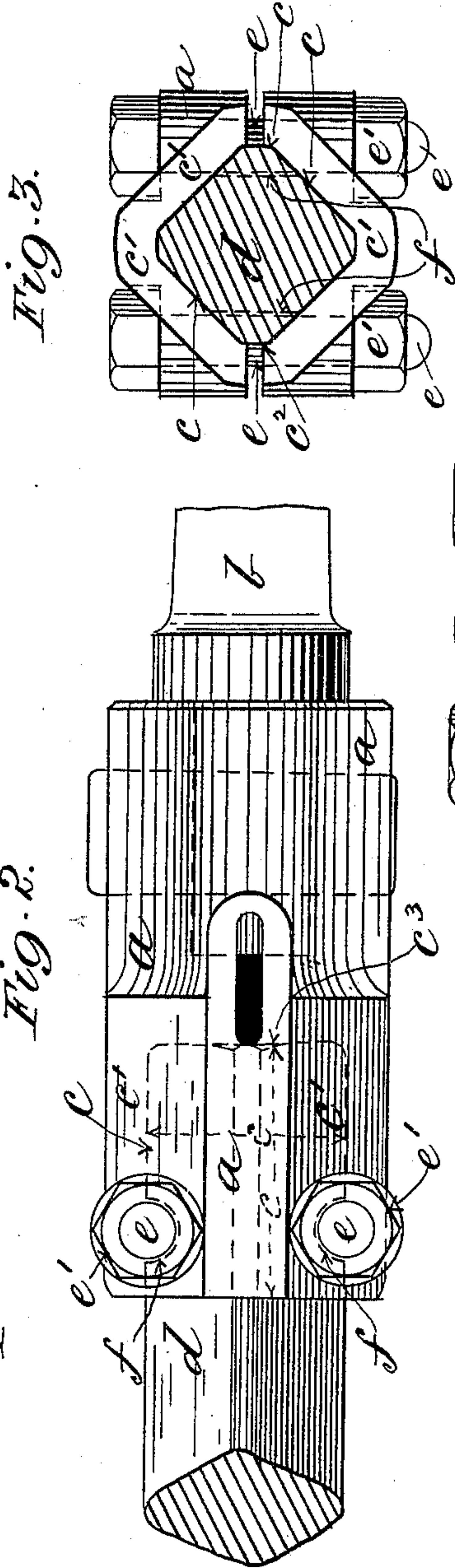


Fig. 2.

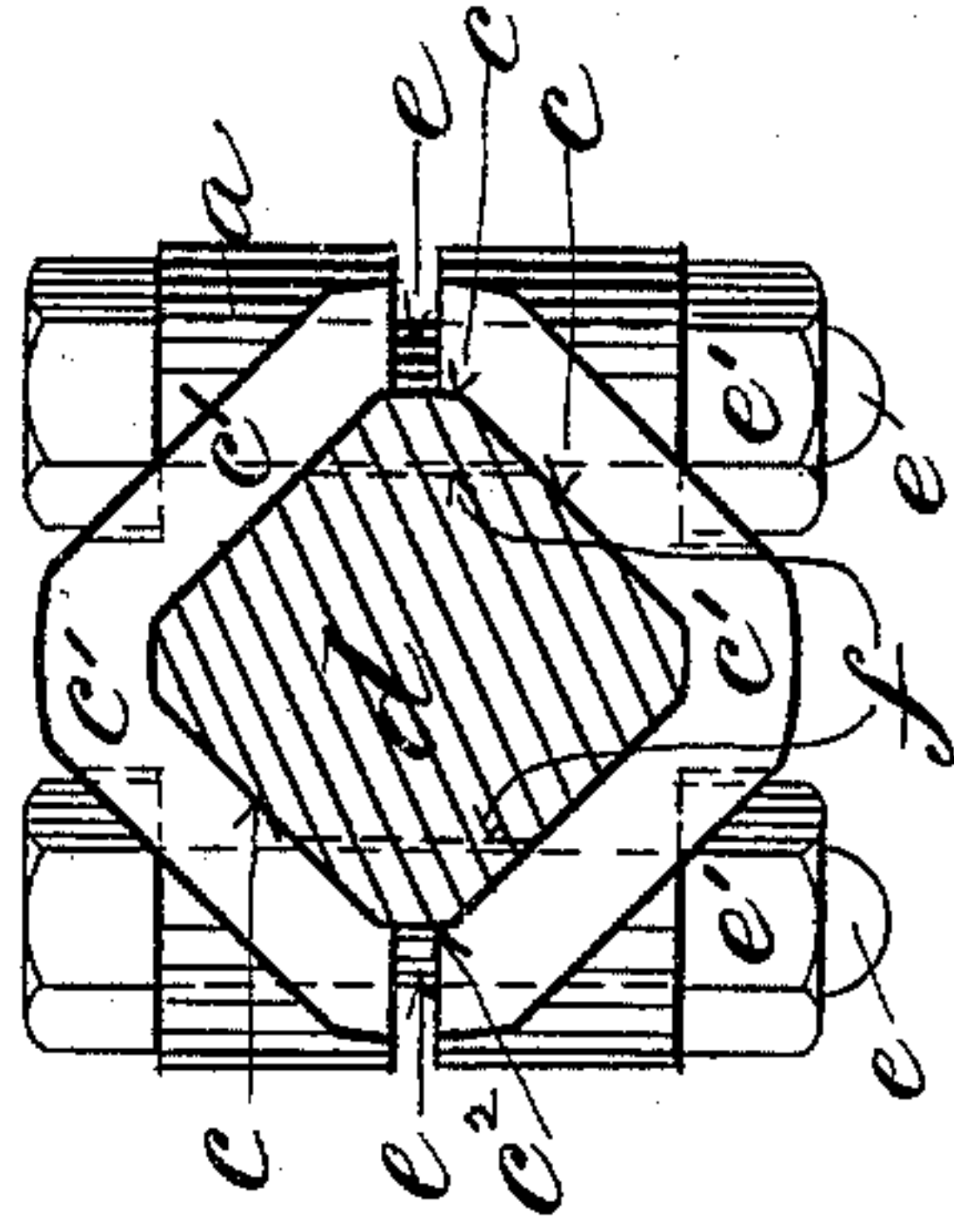


Fig. 3.

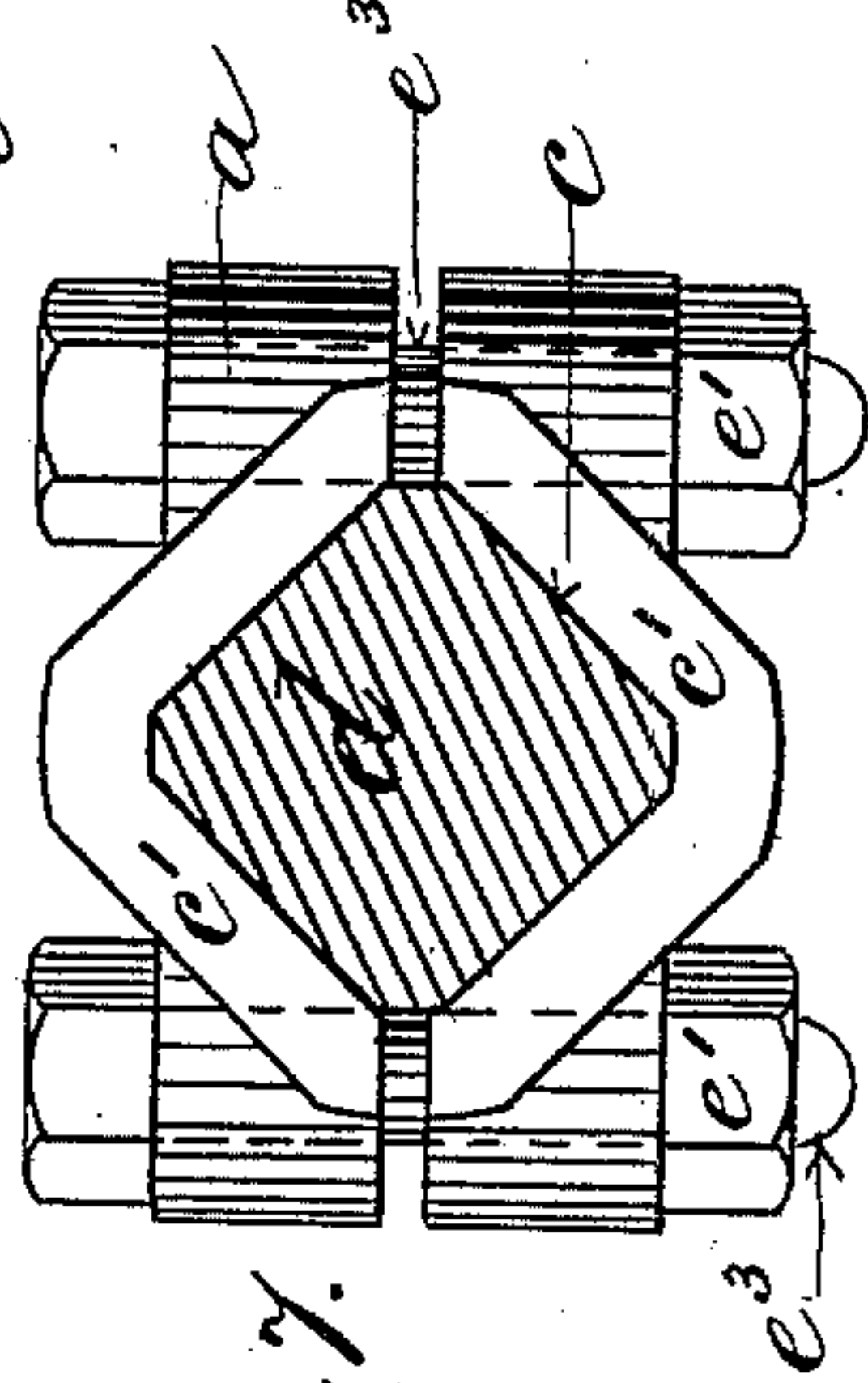


Fig. 7.

WITNESSES

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Fig. 4.

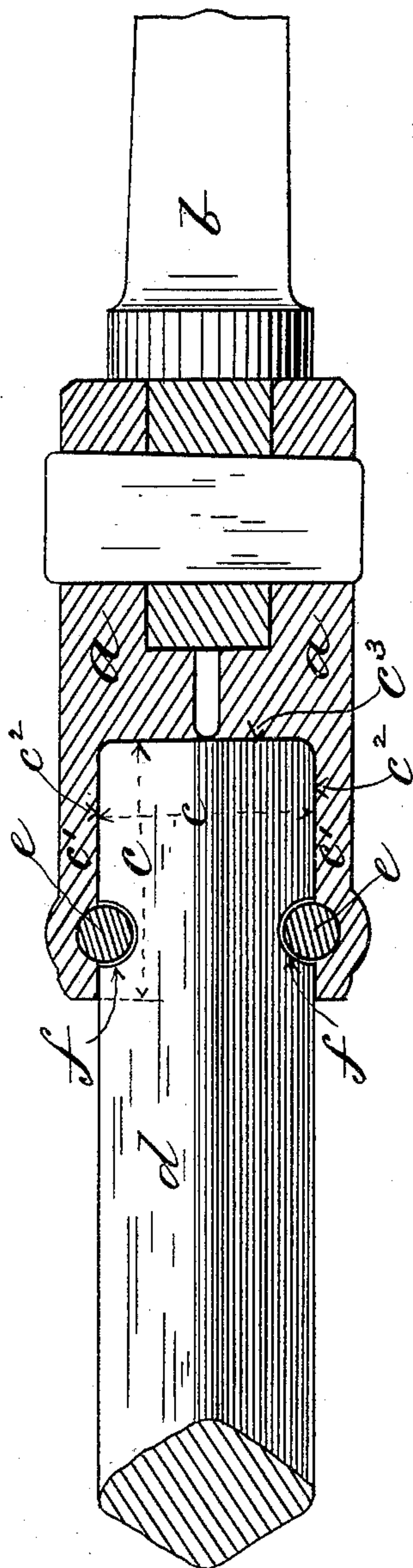


Fig. 5.

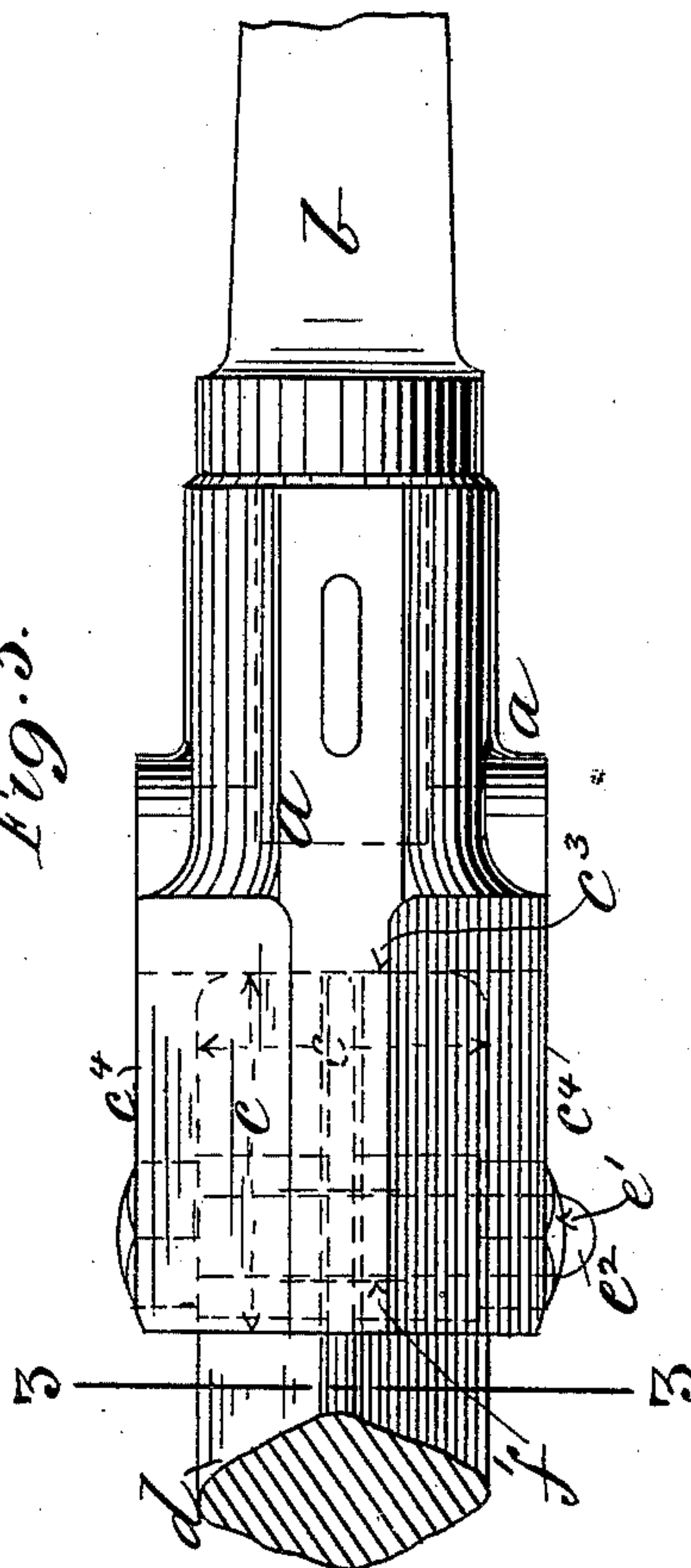
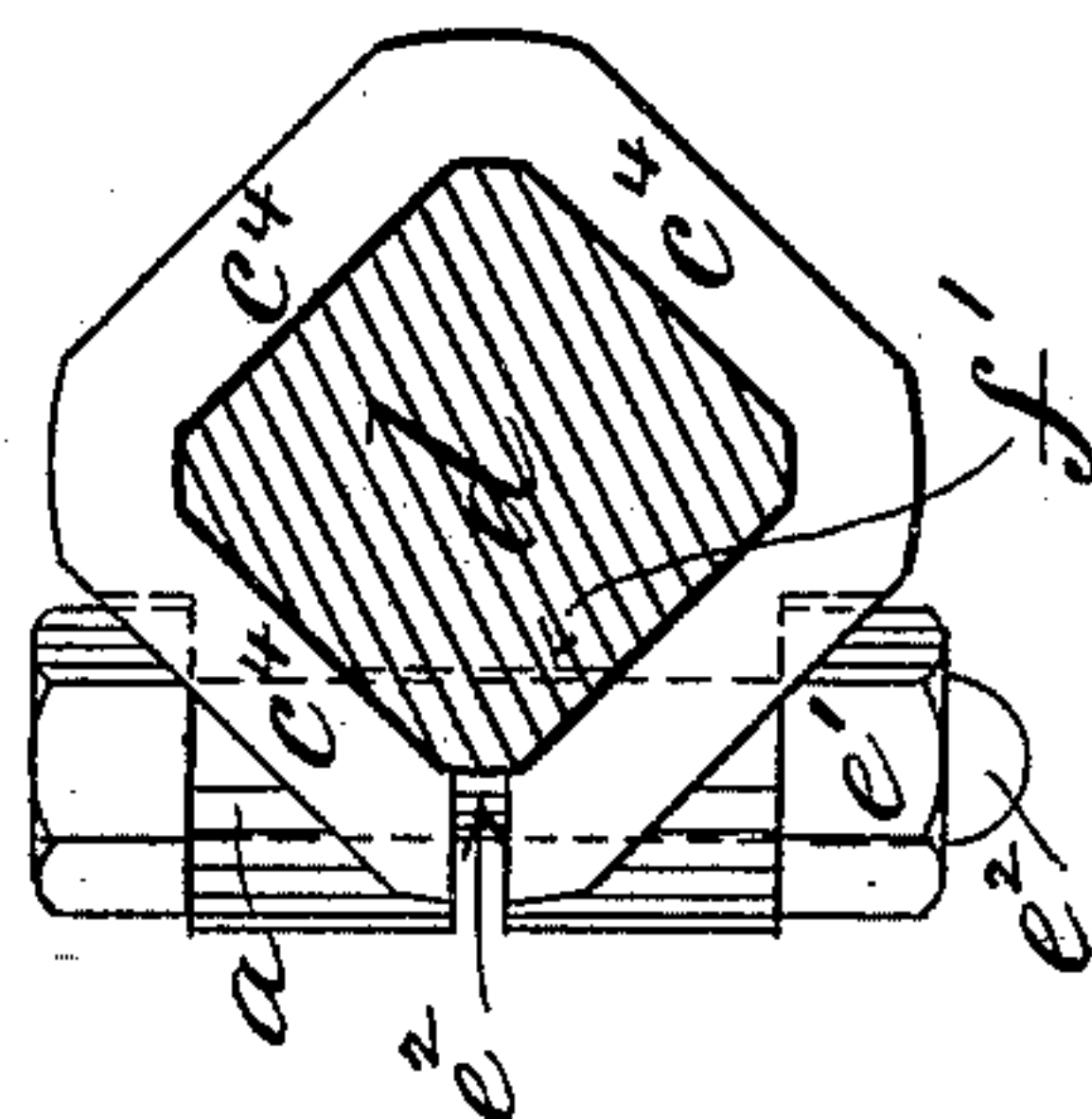


Fig. 6.



WITNESSES

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UNITED STATES PATENT OFFICE.

GUSTAV A. BARTH, OF ST. LOUIS, MISSOURI, ASSIGNOR TO PIERRE CHOUTEAU, OF SAME PLACE.

STOCK OR TOOL-HOLDER FOR DIRECT-ACTING ENGINES.

SPECIFICATION forming part of Letters Patent No. 409,659, dated August 27, 1889.

Application filed December 27, 1888. Serial No. 294,755. (No model.)

To all whom it may concern:

Be it known that I, GUSTAV A. BARTH, a citizen of the United States, residing at the city of St. Louis, State of Missouri, have invented a certain new and useful Improved Stock or Tool-Holder for Direct-Acting Engines, of which the following is a full, clear, and exact description.

My invention relates to improved means for securing the chisel or other tool holder to the piston-rod of a direct-acting steam or pneumatic engine used for chipping, calking, riveting, mining, or other purposes, and has for its object to prevent the weakening and consequent breakage of the piston-rod, which results when the tool-holder is keyed thereto in the usual manner.

It consists in a stock or tool-holder formed with a split socket corresponding in shape to the end of the piston-rod which is inserted therein, combined with a bolt or bolts which pass transversely through the wall of the socket and engage in notches in the piston-rod, whereby the wall of the socket is tightly clamped and the holder firmly held to the piston-rod.

On the accompanying drawings, Figure 1 represents a longitudinal elevation of my improved stock or tool-holder applied to the piston-rod of a direct-acting mining-engine, broken away; Fig. 2, a similar view thereof at right angles to Fig. 1; Fig. 3, a transverse sectional view on line 1 1 in Fig. 1; Fig. 4, a longitudinal sectional view on line 2 2 in Fig. 1; Fig. 5, a similar view to Fig. 1, showing an alternative arrangement of the parts; Fig. 6, a transverse sectional view on line 3 3 in Fig. 5; and Fig. 7, a similar view to Fig. 3, showing a modification of my invention, like letters of reference denoting like parts in all the figures.

Referring to Figs. 1 to 4, *a* represents my improved tool-holder, in one end of which is keyed the chisel *b*, in the usual manner. In the other end of the holder *a* is formed longitudinally and centrally with the chisel *b* a square (or other shaped) socket *c*, corresponding to the shape of the piston-rod *d* and of suitable length within the holder *a*. The wall *c'* of the socket *c* is split or divided for its entire length, and preferably at opposite angles *c²*, into two parts, between which the end por-

tion of the piston-rod *d*, corresponding in extent to the length of the socket *c*, is inserted, so that the end of the piston-rod *d* bears hard against the bottom *c³* of the socket *c*. Through the opposite parts of the wall *c'* adjacent and at right angles to their divided edges at each angle *c²* are passed bolts *e*, which are preferably in the same plane and at such a distance apart as to engage in opposite notches *f* formed thereat across the corresponding angles of the piston-rod *d*, so that on tightening up the bolts *e* by their nuts *e'* the divided parts of the wall *c'* of the socket *c* are drawn together and clamped to the piston-rod *d*, the bolts *e* at the same time being locked within the notches *f* of the piston-rod *d*, whereby the holder *a* is prevented from moving endwise along the piston-rod *d* and is firmly held thereto without the necessity of reducing the end of the piston-rod and forming a keyway therein.

By this invention the jar of the chisel on striking the material to be operated upon is transmitted by the bottom *c³* of the socket *c* directly through the axis of the piston-rod *d*, instead of transversely through the key and shoulder thereof, as at present, and fracture of the piston-rod *d* thereby obviated.

In order to remove the tool when its shank becomes broken or wedged in the socket, I form a key-slot *g* in the holder in rear of the tool-retaining key and at an angle thereto, so as to intersect the upper end of the tool-socket, in which key-slot a wedge-shaped key may be inserted to force the shank of the tool outward.

If desired, I may use more than two bolts *e* for clamping the divided parts of the socket-wall *c'* to the piston-rod *d*; or, in lieu of dividing the wall of the socket *c* into two parts, as described, the wall *c'*, as shown in Figs. 5 and 6, may be in one piece only, split longitudinally through one part of its circumference, in which case I may use a single bolt (or bolts) *e²* adjacent to the split part for engaging in a corresponding notch *f'*, formed in the piston-rod *d*.

If desired, I may dispense with the notches *f* in the piston-rod *d* above described, and arrange the bolts *e³*, as shown in Fig. 7, at such a distance apart transversely as to pass through the divided portions of the wall *c'*, clear of or in contact with the piston-rod *d*, whereby the

full strength of the latter is maintained and the holder *a* secured thereto by the friction of its wall *c'* alone.

I claim as my invention—

5 1. A detachable stock or tool-holder for connecting drills and like tools with piston-rods, said stock having at one end a tool-socket and at the other a longitudinally-split spring rod-socket, and devices for clamping the same to
10 the rod, substantially as described, whereby the perforation of the rod and stock at the point of greatest jar is avoided.

2. A detachable stock or tool-holder for connecting drills and like tools with piston-rods,
15 said stock having at one end a longitudinally-split spring rod-socket and at the other end a tool-socket, and provided with a transverse slot extending into the upper end of the tool-socket, substantially as and for the purposes
20 described.

3. A stock or tool-holder for connecting drills and like tools with piston-rods, said stock having at one end a longitudinally-split spring-socket of polygonal form for the reception of
25 the end of the piston-rod, clamping-bolts for causing the spring-socket to grip the piston-

rod, and a tool-socket at the other end provided with a transverse key-slot and key, substantially as and for the purposes described.

4. A stock or tool-holder for connecting drills
30 and like tools with piston-rods, said stock having at one end a longitudinally-split spring-socket of polygonal form for the reception of the end of a correspondingly-shaped piston-rod having notches in its sides, clamping-bolts
35 passing through the opposite jaws of the spring-socket for causing them to grip the piston-rod, said bolts engaging the notches in the piston-rod, a tool-socket at the other end provided with a transverse key-slot, and a sec-
40 ond key-slot extending into the upper end of the tool-socket at right angles to the other key-slot, substantially as and for the purposes described.

In testimony whereof I affix my signature, in
45 presence of two witnesses, this 22d day of December, 1888.

GUSTAV A. BARTH.

Witnesses:

S. L. SCHRADER,
PAUL BAKEWELL.