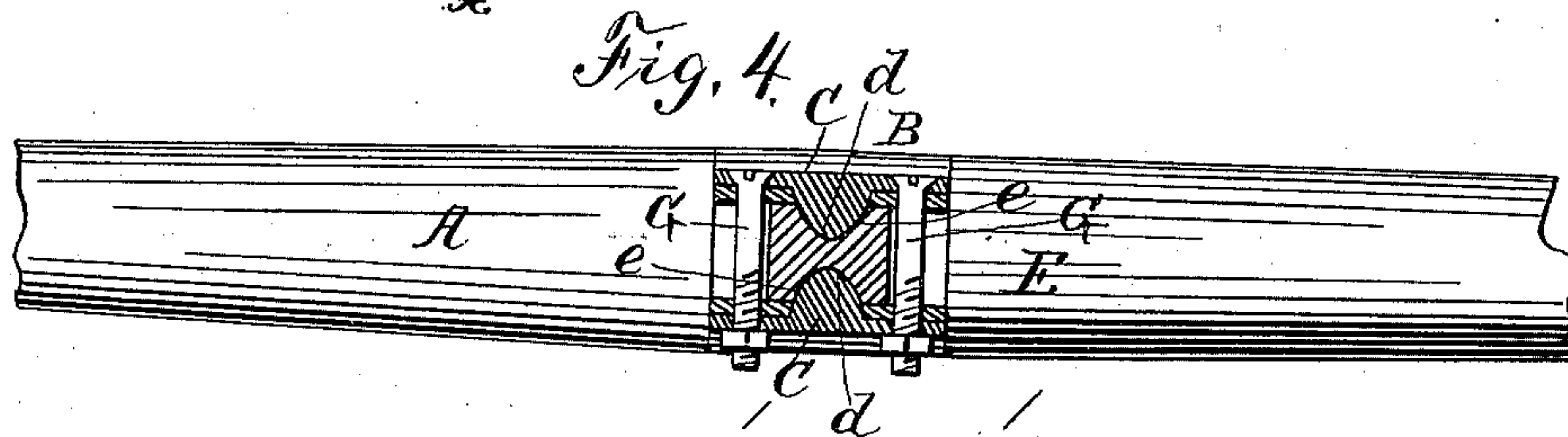
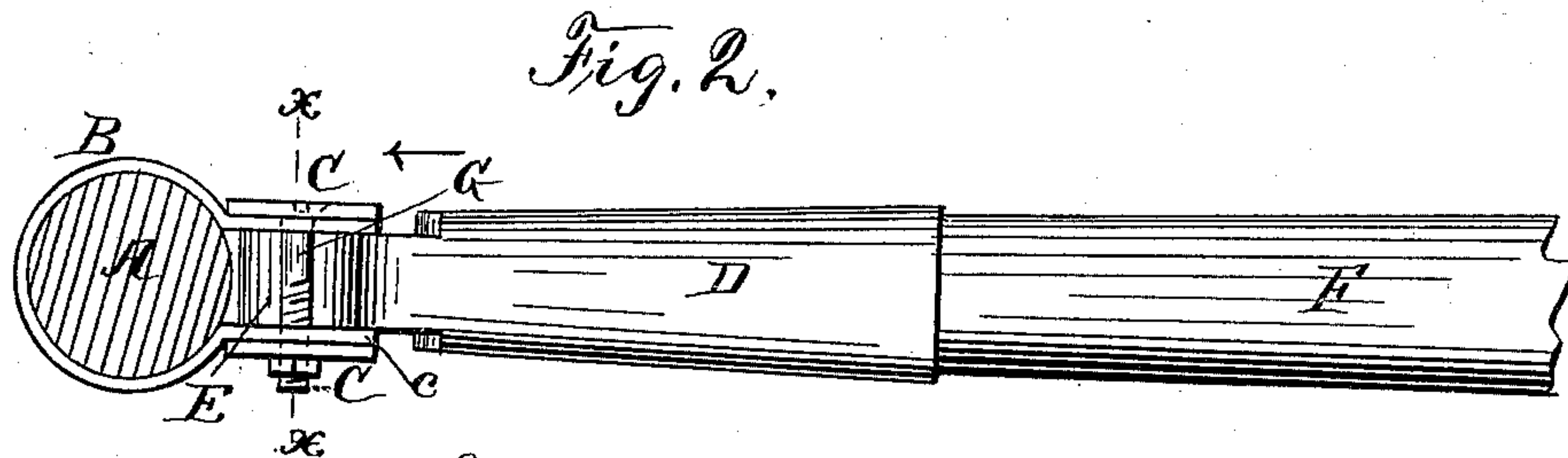
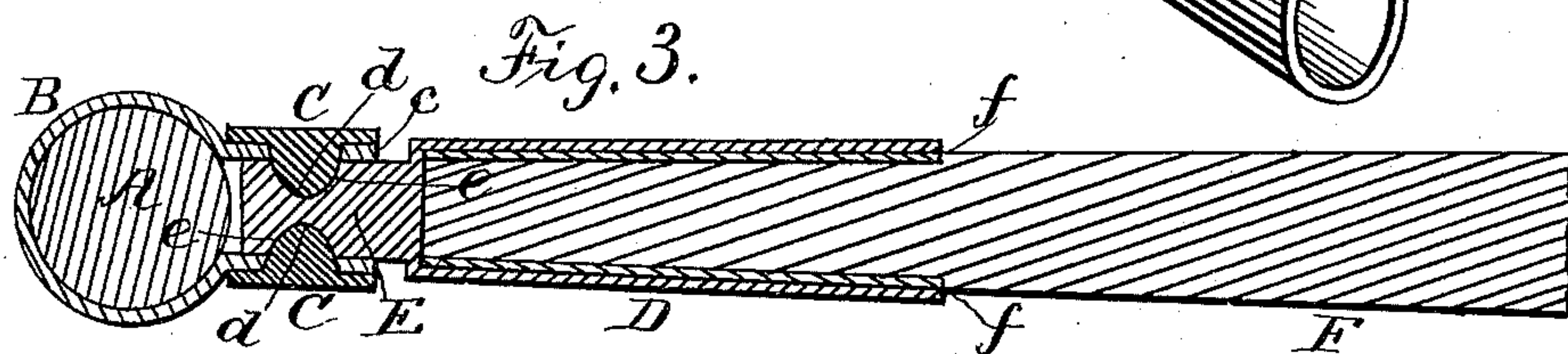
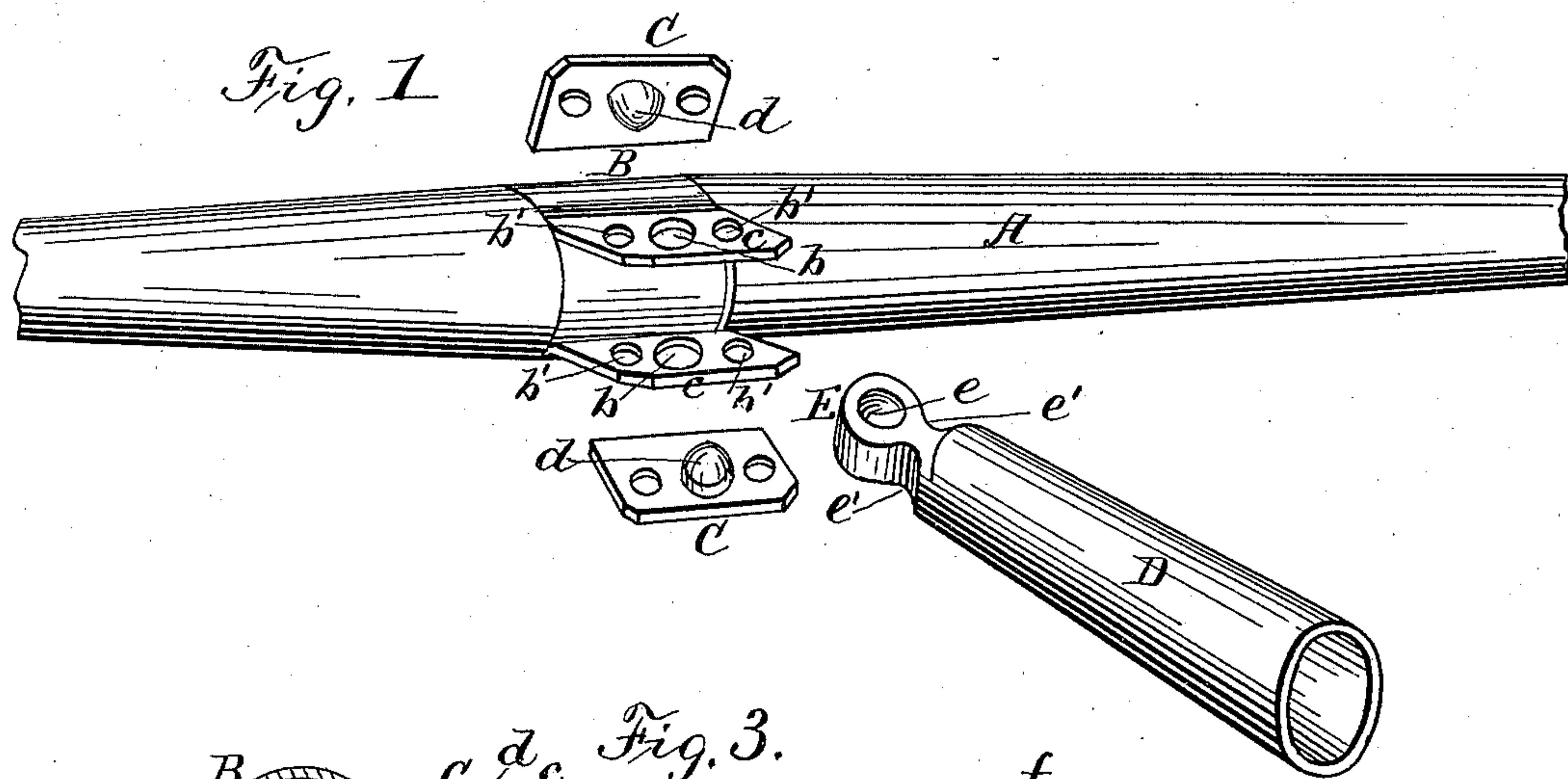


(No Model.)

R. E. LUNDIN.
NECK YOKE AND POLE TIP.

No. 369,606.

Patented Sept. 6, 1887.



Witnesses

Ella S. Johnson
J. A. Macmillan

Inventor

Robert E. Lundin
By his Attorneys
Johnson & Johnson

UNITED STATES PATENT OFFICE.

ROBERT E. LUNDIN, OF CEDARVILLE, KANSAS, ASSIGNOR OF THREE-FOURTHS TO SAMUEL W. LUNDIN, OLIVER LUNDIN, AND OLIVER PERRY HARRIS, ALL OF SAME PLACE.

NECK-YOKE AND POLE-TIP.

SPECIFICATION forming part of Letters Patent No. 369,606, dated September 6, 1887.

Application filed June 29, 1887. Serial No. 242,866. (No model.)

To all whom it may concern:

Be it known that I, ROBERT E. LUNDIN, a citizen of the United States, residing at Cedarville, in the county of Smith and State of Kansas, have invented new and useful Improvements in Combined Pole-Tip and Neck-Yoke Clamps, of which the following is a specification.

This invention relates to neck-yokes which are connected with the end of the pole or tongue by a pivotal joint, and are adapted to accommodate themselves to the various movements of the team.

The object of the invention is to devise a simple and economical connection for uniting the neck-yoke bar with the pole, so as to be adjustable to take up wear and readily separable for replacing parts when worn, and which will limit the movements of the neck-yoke bar.

The improvement consists in having combined with a clamp an independent plate or plates provided with projections, which are adapted to engage with and pivotally connect the neck-yoke with the pole; in devices for drawing the clamp together, and at the same time forcing said projections into closer contact with the pole and holding the plates carrying said projections in an adjusted position; in the peculiar construction of the end of the pole or the tip fastened thereto, which, in connection with said devices for drawing the clamp together, limit the movements of the neck-yoke; and, finally, in the novel construction and combination of parts, which will be more fully hereinafter set forth and claimed, and shown in the annexed drawings, in which—

Figure 1 is a perspective view of the neck-yoke bar, the pole-tip, and the devices for connecting the neck-yoke with the pole or pole-tip, the several parts being shown separated and arranged in their relative positions; Fig. 2, a side view showing the neck-yoke in section; Fig. 3, a longitudinal vertical central sectional view of the pole and the devices connecting the neck-yoke therewith; Fig. 4, a sectional view on the line *xx* of Fig. 2, looking in the direction of the arrow; and Fig. 5 is a top sectional view showing the shouldered end of the tip-socket.

The neck-yoke bar A, of desired pattern, is grooved midway of its ends for the reception of the clamp B, for preventing longitudinal movement of said clamp, which embraces the neck-yoke bar, and has its ends *c* extended to receive the end of the pole F or the pole-tip socket D, which is pivotally secured between said ends of the clamp, which have the openings *b* and the bolt-openings *b'* on each side of the openings *b*. The plates C have projections *d*, which pass through the openings *b*, and are adapted to engage with depressions *e* in the head E of the pole-tip, and bolt-openings *d'* on each side of the projections corresponding with the openings *b'* in the ends of the clamp.

The end of the pole F is re-enforced by the sleeve *f*, and is inserted within the socket end of the pole-tip, which has a flattened head, E, at its closed end, provided with depressions *e* on its upper and lower sides of a shape corresponding to the conoidal-shaped projections *d*. The head is circular in form and contracted on each side, forming depressions *e'* at its junction with the socket portion of the tip, thereby allowing a free movement of the neck-yoke within certain limits.

The bolts G, which hold the clamp and plates in position, also serve as stops to limit the movement of the neck-yoke, by impinging against the sides of the contracted portions *e'* of the pole-tip socket. If the sides of the head and the socket end of the pole-tip were flush throughout their length, the movement of the neck-yoke would be greatly diminished; hence the advantage of the contracted sides, which allow a longer latitude of movement.

In practice the plates having the interlocking projections are placed against the sides of the projected ends of the clamp in such manner that the projections interlock with or fit in the depressions of the end of the pole or pole-tip. The bolts are passed through the coincident openings in the plates and clamp and tighten the clamp over the neck-yoke bar and force the projections of the plates close against the sides of the tip-depressions, so as to prevent any lost motion, yet permit the neck-yoke to readily move and adapt itself to the movements of the team. The bolts may be tight-

ened occasionally to take up wear, or they may be removed for disconnecting the neck-yoke bar, or for replacing the plates C by new plates when the interlocking projections are very
5 much worn.

The plates may be located between the ends of the clamp and the sides of the head E; but it is preferred to have them located exterior to the ends of the clamp, as they are more readily accessible and give a greater clearance between the ends of the clamp, besides strengthening the latter.

I claim—

1. The combination, with the neck-yoke bar
15 having the clamp B, and a metallic pole-tip, D, having the coincident recesses *e e*, of independent plates *c c*, each having an integral projection, *d*, corresponding with the tip-recesses fitted upon the clamp ends, and the bolts
20 G, passing through the said independent plates and the clamp ends, whereby said plates are secured to the clamp and to the pole-tip to pivot projections which are independent of the clamp.

25 2. In a neck-yoke, the metallic pole-tip hav-

ing the recesses *e e* and the clamp B, having the coincident openings *b b*, in combination with the independent plates *c c*, each having a projection, *d*, adapted to pass through the clamp-openings, said plates being fitted upon the
30 outer sides of the clamp-plates, and the bolts G G, passing through the said plates on each side of the pole-tip, substantially as described.

3. The combination, with the yoke-bar clamp B and the pole, of independent pivot-carrying
35 plates *c d*, fastened to said clamp and interlocking with the pole-tip, substantially as described, whereby the yoke-pivots may be renewed without renewing the clamp.

4. In a neck-yoke, the pole-tip head formed
40 with the contracted sides, the shoulders *e' e'*, and the coincident recesses *e e*, combined with the yoke-bar clamp, the pivot-carrying plates *d d*, and the bolts G G, arranged on opposite sides of the tip-head, as and for the purpose
45 specified.

ROBT. E. LUNDIN.

Witnesses:

J. W. REA,

T. W. REA.