

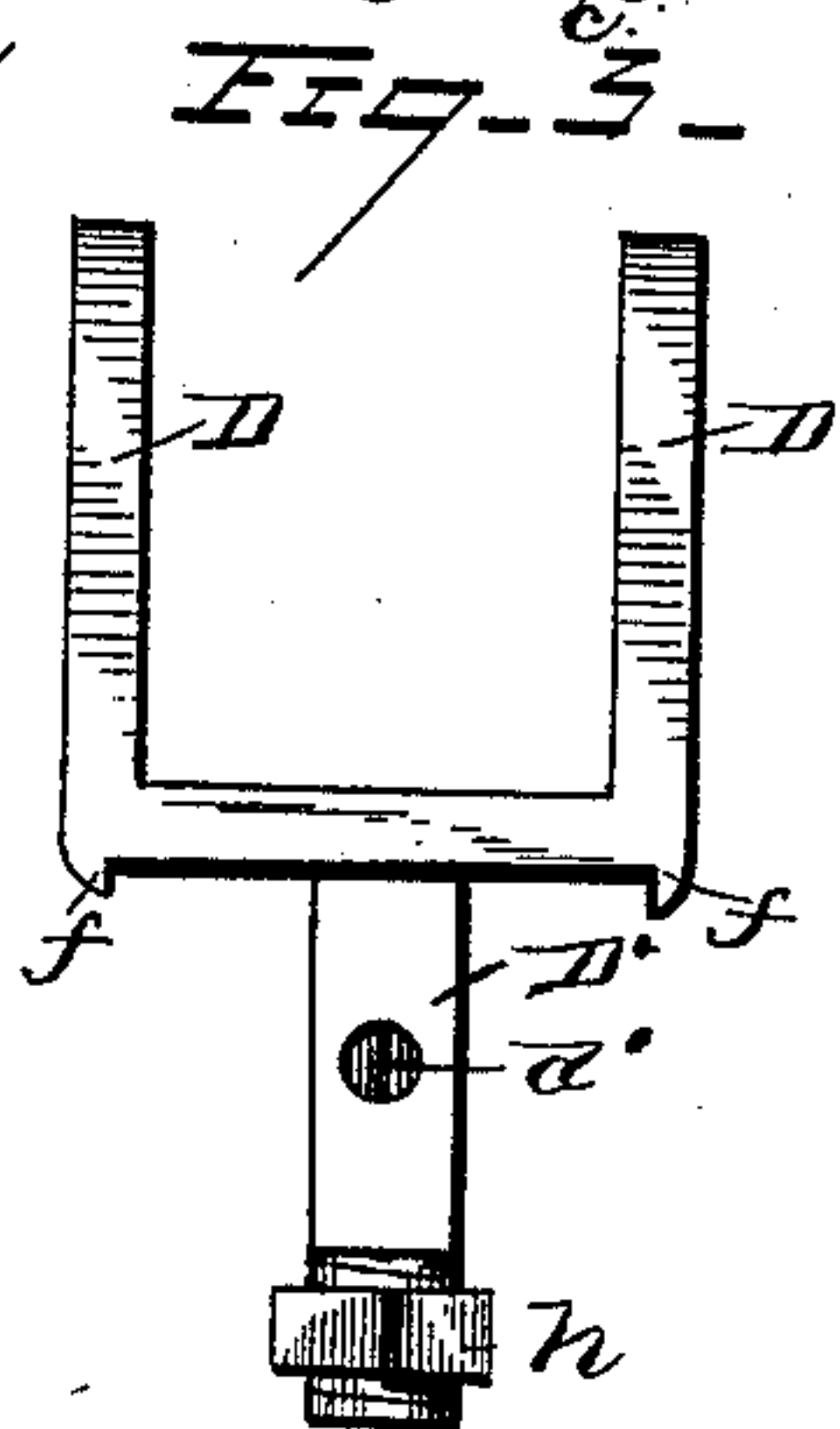
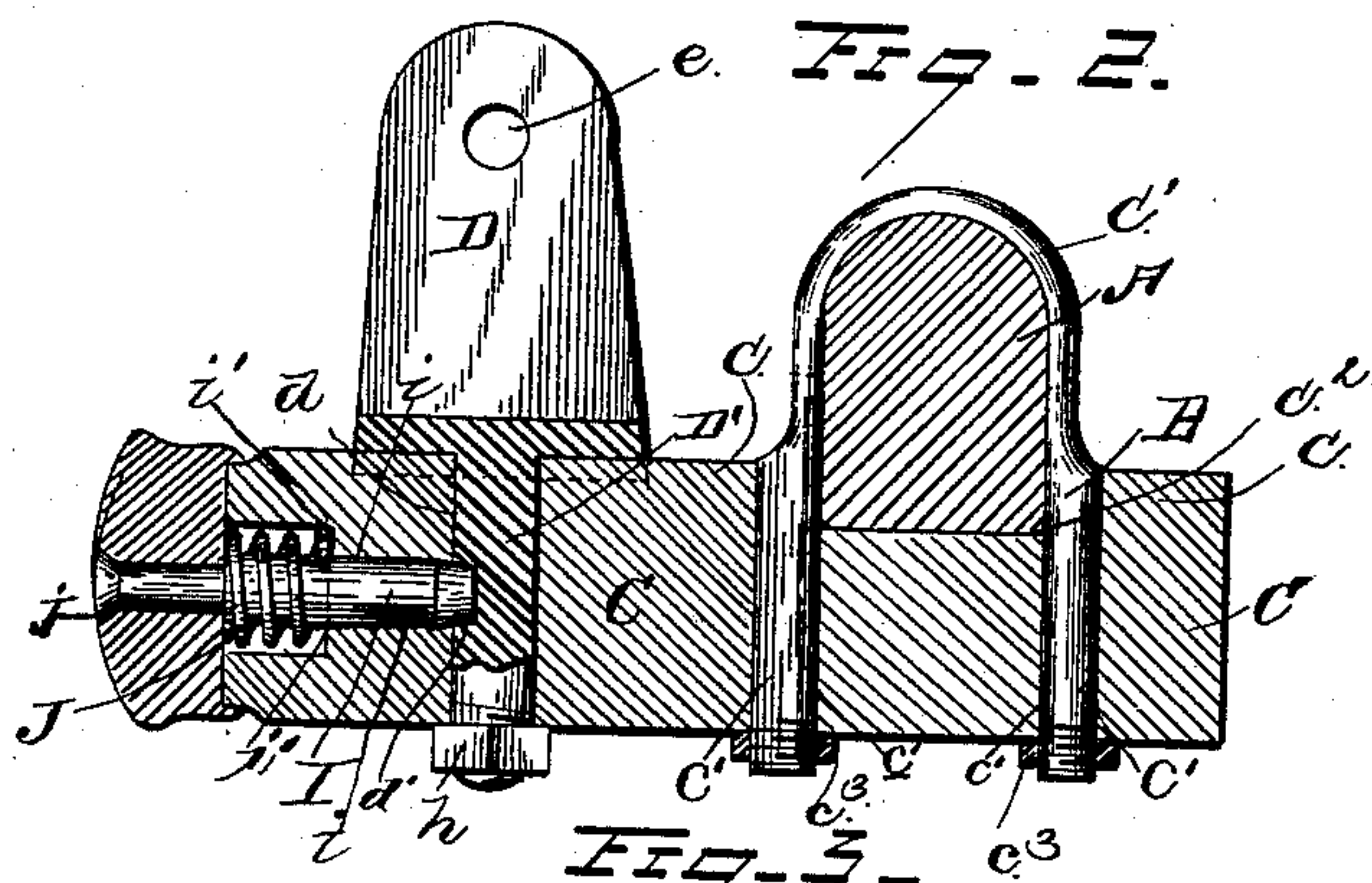
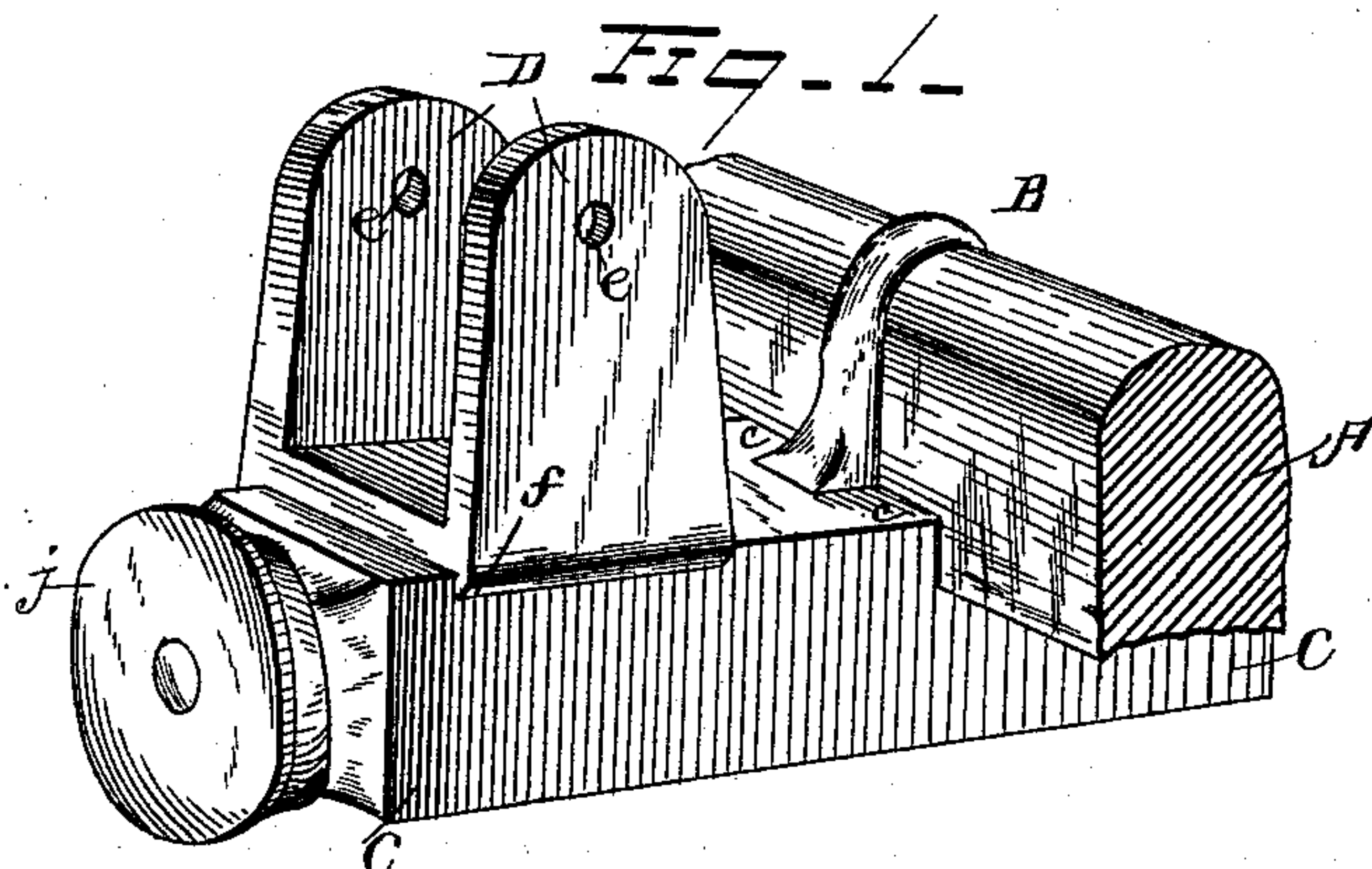
(No Model.)

F. McKINSTER.

THILL COUPLING.

No. 348,985.

Patented Sept. 14, 1886.



Witnesses

W. P. Hill
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By his Attorneys

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UNITED STATES PATENT OFFICE.

FRANK MCKINSTER, OF ADRIAN, MICHIGAN, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO TIMOTHY P. RANDALL AND RICHARD D. CALBUTH, BOTH OF SAME PLACE.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 348,985, dated September 14, 1886.

Application filed April 16, 1886. Serial No. 199,112. (No model.)

To all whom it may concern:

Be it known that I, FRANK MCKINSTER, a citizen of the United States, residing at Adrian, in the county of Lenawee and State of Michigan, have invented a new and useful Improvement in Thill-Couplings, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to improvements in thill-couplings; and it consists of the peculiar and novel construction and combination of the various parts for service, substantially as hereinafter fully set forth, and particularly pointed out in the claims.

The object of my invention is to provide an improved coupling for thills of carriages and the like, which will permit the thill to be easily and quickly detached, and which shall be simple and strong in construction, thoroughly effective in operation, and cheap and inexpensive of manufacture.

In the accompanying drawings, Figure 1 is a perspective view of my improved thill-coupling. Fig. 2 is a central longitudinal sectional view thereof. Fig. 3 is a detached view of the journal-plates.

Referring to the drawings, in which like letters of reference denote corresponding parts in all the figures, A designates the axle of a vehicle to which my improved thill-coupling is applied to detachably secure or connect the thill therewith.

My improved thill-coupling B comprises a clip-plate, C, which is provided at its rear ends with vertical lugs *c*, which are separated or spaced apart, to provide a slot or space, *c*², in which the lower edge of the axle fits, as clearly shown in Fig. 2. The lower ends of the axle bear on the clip-plate within the space *c*² thereof, and the side edges of the axle rest or bear against the vertical opposing faces of the lugs *c*, and the clip-plate is further provided with vertical openings *c*¹, through which are passed the threaded ends of a clip, C'. The clip C', which is of common form, straddles the axles and receives nut *c*³, which bear against the plate C, and causes the latter to bind against the axle, and be thereby firmly and rigidly secured in place. The clip-plate

is extended forwardly of the axle, and at or near its middle it is provided with a vertical opening, *d*, that is substantially squared or rectangular in cross-section, and through which passes the shank or arm D' of the journal-plates D. These journal-plates are arranged parallel with each other, and they and the shank D' are cast in a single piece of metal. The journal-plates are provided at their upper edges with aligned openings *e*, for the passage therethrough of a pivot-pin or bolt that serves to secure the draw-iron thereto, which draw-iron is fitted between the journal-plates. The journal-plates are further provided with depending ledges or flanges *f* at the sides thereof, and the lower edges of the plates rest or bear on the clip-plate, while the ledges thereof bear on the side faces of the said plate, to prevent lateral play of the journal-plates. The shank of the journal-plates D is made square or angular in cross-section, and fits in the opening *d*, provided therefor in the clip-plate. The lower end of the shank projects beneath the lower edge of the clip-plate, and is threaded to receive a nut, *h*, that secures the shank to the clip-plate; or, if it is desired, the nut may be dispensed with, and a sliding bolt, I, may be employed to secure the shank and its journal-plates to the clip-plate. A longitudinal opening or passage, *i*, is formed in the clip-plate C, which opens at its rear end into the vertical opening *d* of the plate and at its front end through the front vertical face of the clip-plate; and this longitudinal passage is enlarged near its front end to provide a shoulder or abutment, *i*¹, a short distance from the vertical face of the clip-plate. The bolt I is arranged to slide freely in the longitudinal passage *i* of the clip-plate, and the rear end of this bolt is reduced or tapered, as shown, and is adapted to fit in a recess or opening, *d*¹, that is formed in one of the vertical faces of the shank D' of the journal-plates, to assist in retaining the said shank securely in place. The free end of the bolt is provided with an enlarged head or knob, *j*, which abuts or bears against the outer vertical face of the clip-plate to limit or stop the inward movement of the bolt I, and the

said bolt is normally impelled inwardly into engagement with the recess d' of the shank D' by means of a coiled spring, J , which encircles the bolt, and is fitted or arranged in the enlarged end of the longitudinal passage i . One end of the retracting-spring bears against the shoulder i' of and is secured to the clip, and the other end is secured to the bolt itself.

When it is desired to withdraw the inner end of the sliding bolt from the recess d' of the shank D' and remove the journal-plates, the head j of the bolt is grasped by the hand and the bolt pulled outwardly from the passage i of the clip-plate against the tension of the coiled retracting-spring J , and upon release of the strain or pull on the bolt the spring impels or forces it within the passage i , the inward movement of the bolt being limited by the head j coming in contact with the front vertical face of the clip-plate.

It will be observed that the journal-plates are arranged above the plane of the clip-plate and of the axle; and as the draw-iron is pivoted in the upper ends of the journal-plates, the line of draft thereon is arranged above the lower edges of the axle.

The journal-plates can be easily and readily removed from the clip-plate to detach the thills therefrom, and as readily connected thereto when it is desired.

Having thus fully described my invention, what I claim is—

1. In a thill-coupling, the combination of the clip-plate having the vertical opening, the journal-plates having the shank fitted in the opening and provided with the flanges at its side edges bearing against the clip-plate, the draw-iron journaled in the upper free end of the journal-plates, and a sliding bolt for securing the shank to the clip-plate, substantially as described.

2. In a thill-coupling, the combination of the clip-plate having the integral lugs and the vertical opening d , the journal-plates having the integral shank fitted in the opening and provided with the recess d' , a nut fitted on the lower end of the shank, a sliding bolt normally in engagement with the recess of the shank, a spring for normally impelling the bolt inwardly and in engagement with the shank, and the draw-iron pivoted in the upper free end of the journal-plates, which are provided with the depending flanges at their side edges, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

FRANK MCKINSTER.

Witnesses:

JNO. D. CONELY,

PERCY D. DWIGHT.