

J. L. GRAFF.  
Whiffetree-Tug Fasteners.

No. 156,921.

Patented Nov. 17, 1874.

Fig. 1.

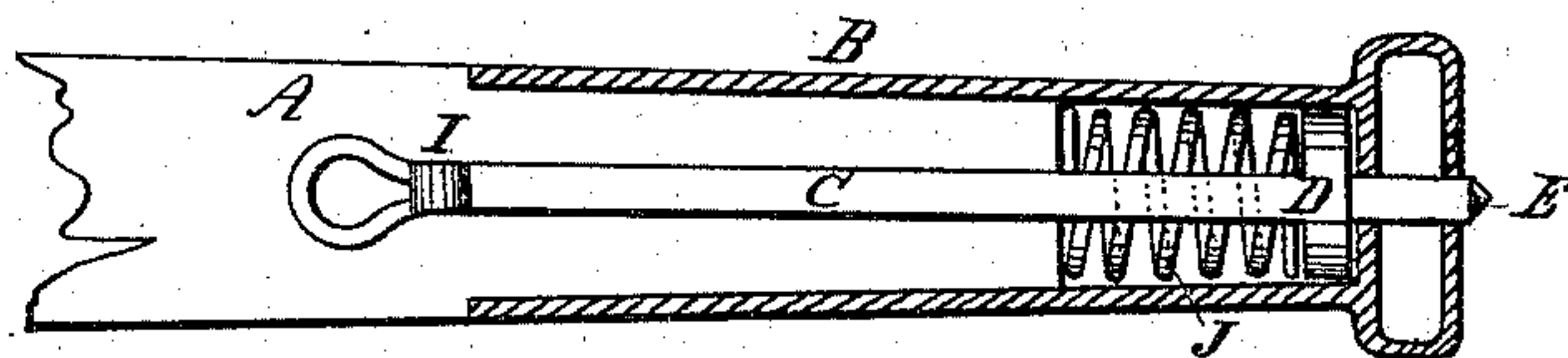


Fig. 2.

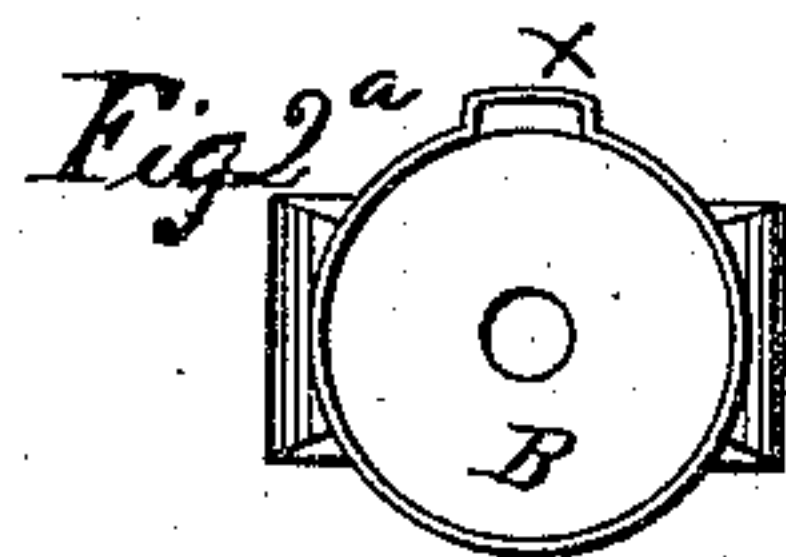
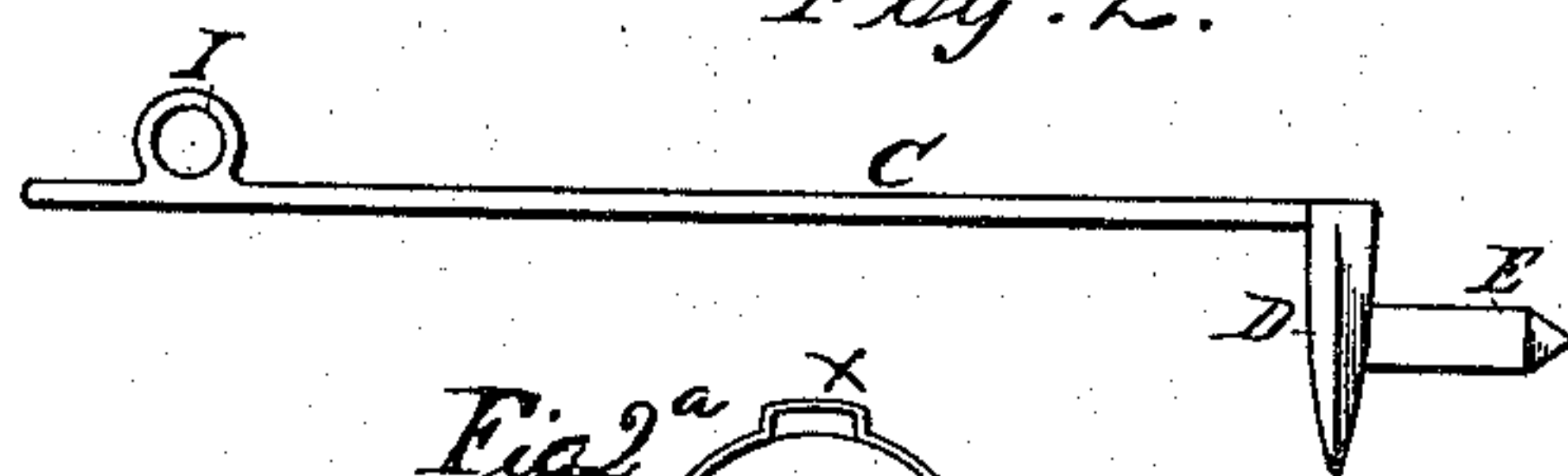
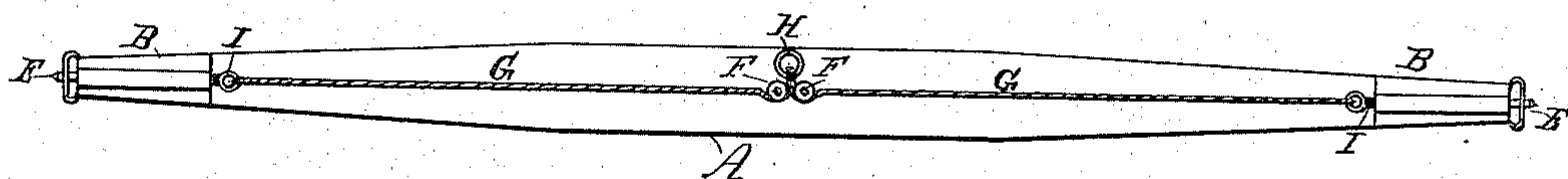


Fig. 3.



Witnesses

J. W. Clokey  
Thos S. Minniss

Inventor

J. L. Graff

# UNITED STATES PATENT OFFICE.

JAMES L. GRAFF, OF PETROLIA, PENNSYLVANIA.

## IMPROVEMENT IN WHIFFLETREE-TUG FASTENERS.

Specification forming part of Letters Patent No. **156,921**, dated November 17, 1874; application filed January 26, 1874.

*To all whom it may concern:*

Be it known that I, JAMES L. GRAFF, of Petrolia, in the county of Butler and State of Pennsylvania, have invented a new and Improved Trace-Fastener for Whiffletrees; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a longitudinal section of a fragment of a whiffletree, showing my improved device. Fig. 2 is a plan of the sliding bar or fastener proper, detached from the whiffletree cap or socket. Fig. 2<sup>a</sup> is an end view of the cap or socket. Fig. 3 is a plan view of a whiffletree provided with the fastener and a suitable arrangement of cord and pulleys for the purpose of operating the same.

The invention relates to the class of trace-fasteners for whiffletrees in which sliding rods or bars are arranged to enter holes or slots in the traces and to be withdrawn, to release them, by means of cords acting against spiral springs.

Hitherto whiffletrees have been bored longitudinally to receive such rods or bars and the cords for operating them. It is obvious this weakens the whiffletree at all points, particularly at the ends, which are reduced to receive the metal cap or trace-holder.

My invention consists in such construction of the cap or socket and the sliding rods or bars as adapts them to operate efficiently for their legitimate end, and yet avoids weakening the whiffletree by reducing its cross-sectional area.

Referring to the drawing, B is a cylindrical metal cap or socket applied to each end of the whiffletree A. C is a sliding rod or bar having a knob or thumb-piece, I, at one end and a plate or disk, D, at the other end, which is formed at a right angle to it. A short pin, E, projects from the center of disk D in a plane parallel with the bar C. The latter slides in

a socket, X, formed or struck up on the rear side of the cap or socket B, while the disk D projects interiorly of the socket and the pin E projects through the loop formed on the end of the socket. (See Fig. 2<sup>a</sup>.) The coiled spring J is placed in the cap B between the end of the whiffletree and the disk D, as shown in Fig. 1. The ends of the traces are inserted in the loops formed on the ends of the cap or socket B, the pins E having been first drawn back into the sockets by pressure applied to the knobs or thumb-pieces I, and are there secured by the pins E.

To release the traces the bars C are drawn toward each other by the cords G G, which are joined to a ring, H, between the centrally-arranged pulleys F F.

By this construction and arrangement of parts the whiffletree is not weakened, since its cross-sectional area is not reduced, while the fastening devices are accessible for repair or other purposes.

I do not claim the combination of sliding rods, springs, trace-locking pins, and cords or wires for operating the same.

I am aware that it is not broadly new to provide sliding spring-bolts for attaching to and detaching traces from whiffletrees, said bolts being inserted in each end of the whiffletree and protected by a casing having bearings for the bolt and a protecting-cap.

I claim—

The combination, with the cap B having an independent socket, X, formed on one side of the sliding spring-bolt C, to move in said independent socket, and having a disk, D, and projecting central pin E located within the cap, all constructed to operate as shown and described.

J. L. GRAFF.

Witnesses:

J. N. McCLOSKEY,  
THOS. S. MINNIS.