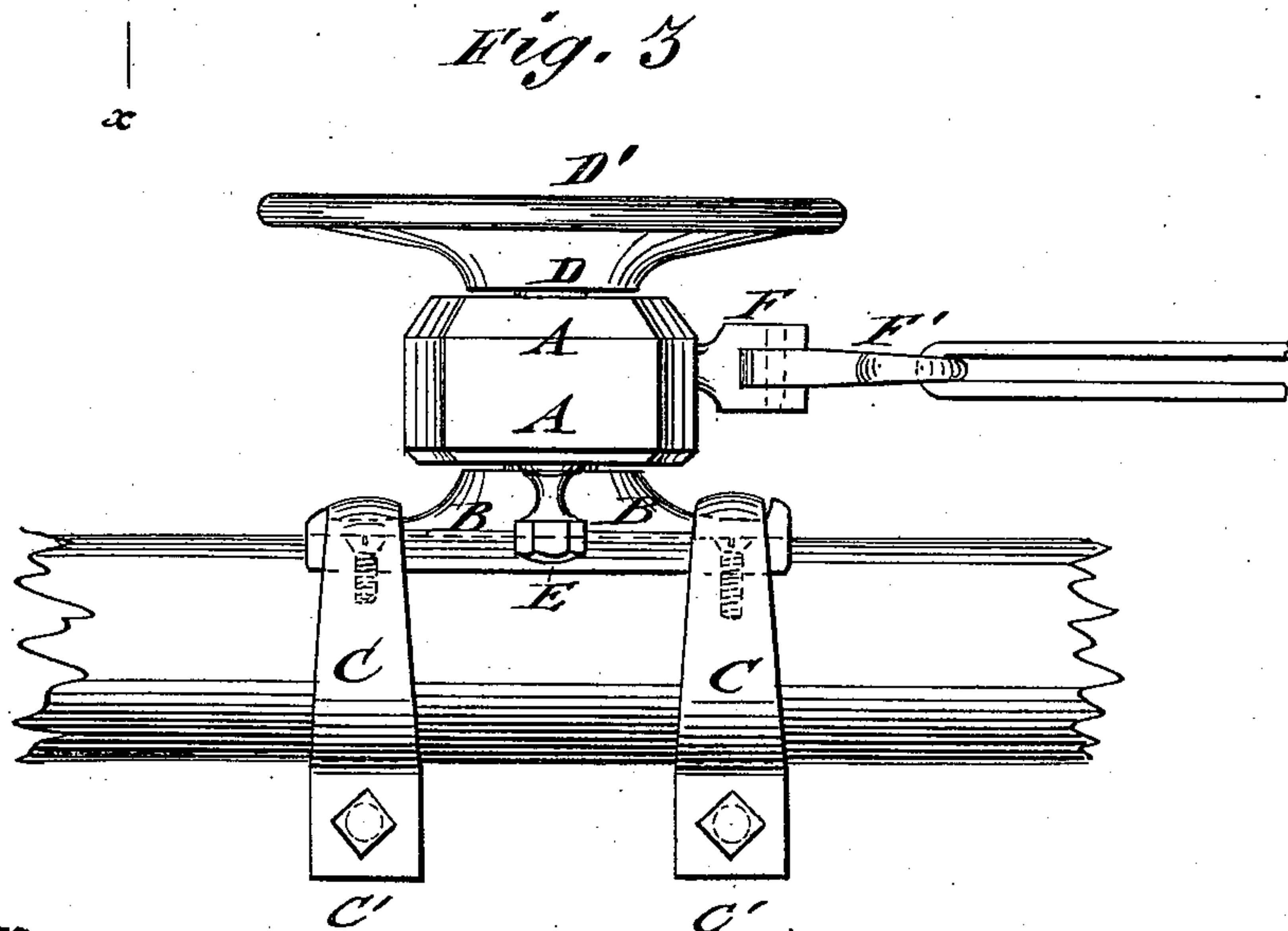
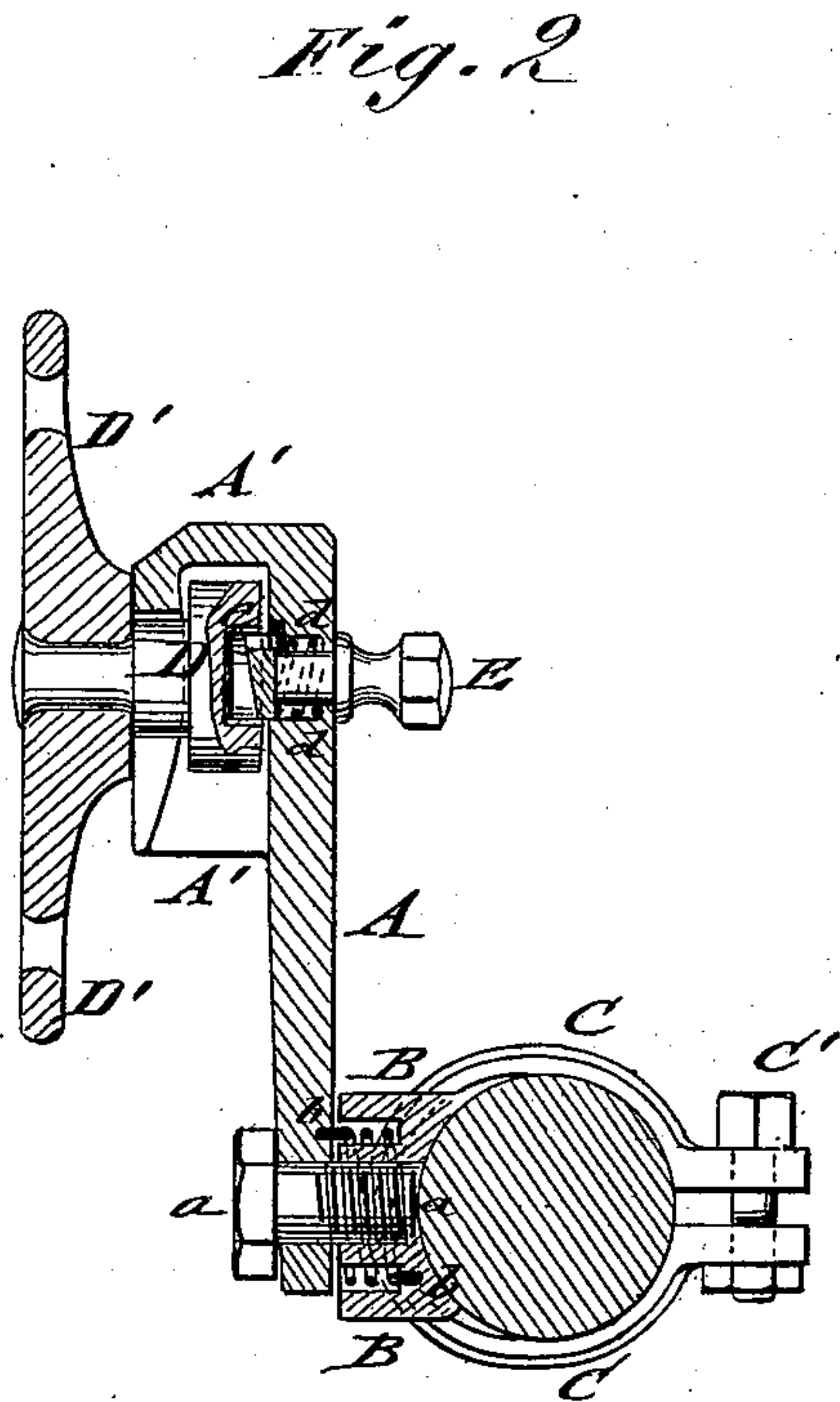
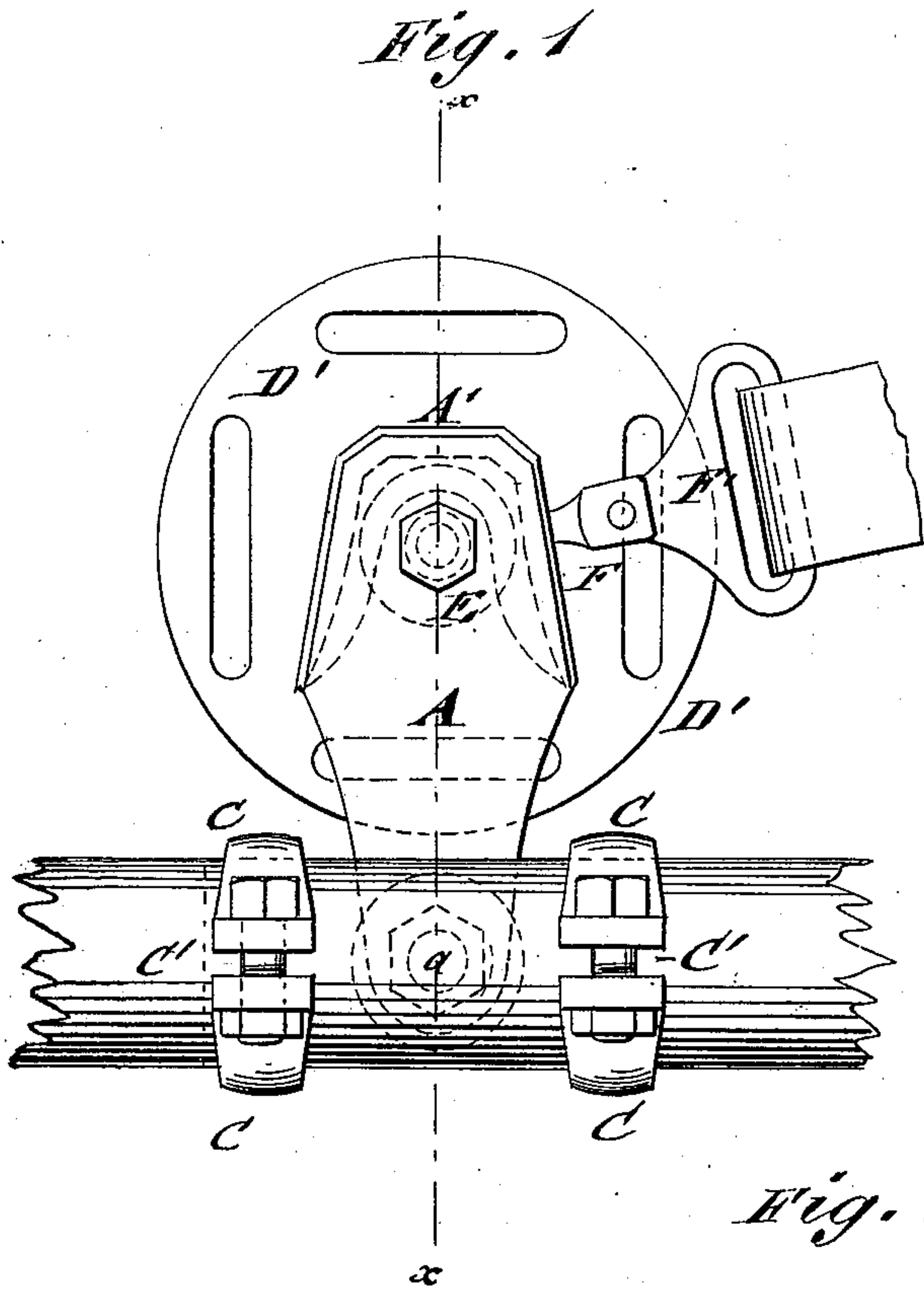


M. H. M. SMITH.
Apparatus for Attaching Harness to the Shafts.
No. 200,486. Patented Feb. 19, 1878.



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UNITED STATES PATENT OFFICE.

MILTON H. M. SMITH, OF ITHACA, NEW YORK.

IMPROVEMENT IN APPARATUS FOR ATTACHING HARNESS TO THE SHAFTS.

Specification forming part of Letters Patent No. **200,486**, dated February 19, 1878; application filed January 9, 1878.

To all whom it may concern:

Be it known that I, MILTON H. M. SMITH, of Ithaca, county of Tompkins and State of New York, have invented a new and Improved Apparatus for Attaching Harness to the Shafts, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a side view; Fig. 2, a vertical transverse section on line *x x*, Fig. 1; Fig. 3, a top view of my improved apparatus for attaching harness to the shafts.

Similar letters of reference indicate corresponding parts.

The invention relates to an improved device for attaching the harness to the shafts of hose-trucks, buggies, and other vehicles drawn by one horse, in such a manner that it can be accomplished rapidly by the dropping of the thills, being then locked in reliable manner to the harness without weakening the shafts or harness.

The invention consists of a flanged and spring-cushioned socket-plate that is pivoted to a plate clamped to the vehicle-shaft, and carried, by the lowering of the shaft, over a recessed button of a side plate of the harness, so that a spring snap or catch of the socket-plate locks to the button of the side plate.

Referring to the drawing, A represents a socket-plate, and B a shaft-plate that is concaved at one side, so as to fit the shaft, and attached sidewise thereto by clips or bands C and clamp-screws C', which forms a strong and durable attachment, that prevents the playing loose of the shaft-plate, and does not weaken the shaft by holes for screw-bolts or rivets.

The socket-plate A swings on a pivot-bolt, *a*, of the plate B, and is acted upon or cushioned by a spiral spring, *b*, attached to socket and shaft plate, and arranged in a recess of the latter, so as to be protected against dust and injury. The spring *b* gives a certain play to the socket-plate, and imparts to it a tendency to assume a forward inclined position at the inner side of the shaft.

The upper part of plate A is cast with a flanged socket, A', that is open at the lower part, and provided with wider or flaring sides,

so as to pass readily over a button, D, of a plate, D', supported at the side of the harness.

The socket-plate A carries also, centrally to the socket part, a sliding and spring-acted snap or catch, E, that projects to the inside of the socket, having an inclined inner end, and an outer end formed in the shape of thumb-piece or button, as shown in Fig. 2.

The spiral spring *d* of the catch E is placed in a recess of the socket-plate around the shank of the catch, so as to be protected against dust. The catch is retained in the socket-plate by a pin entering a groove of the snap or catch.

The button D of plate D' has a central recess, *e*, into which the spring-catch snaps, so as to lock the socket-plate reliably to the button. The side plate D' is preferably made round and arranged with four loop-holes or slots, to which the different straps of the harness are applied—the collar-strap to the front loop-hole, the saddle of the harness to the upper loop-hole, the holdback-strap to the back loop-hole and to the breeching-ring, and the lower loop-hole to belly-band.

To the socket-plate is screwed or otherwise attached a recessed support, F, for the loop F' of the trace, which is applied at the rear end to whiffletree.

All that is required to attach the shafts to the harness is to lower them down at both sides of the horse, and pass the socket-plates over the side buttons of the harness, the spring-snaps locking automatically by the downward pressure thereon.

For detaching the horse from the shafts, the spring-catches of the socket-plates are withdrawn, and the shafts raised with the traces.

By means of this attachment the horse works with a perfectly free and easy motion of the body with either hame or breast collar. The harness and shafts are so connected as not to get detached by anything coming in contact with the device, nor by any jarring or twisting, as the buttons of the side plates and the socket-plates turn readily in their connections.

The harness and shaft attachment secures the connection and safety at all times, though the traces should break.

The facility of hitching the horse to the

shafts, and the small expense by which the device may be attached to any harness and shafts, render the same of especial advantage for hose-carriages in fire-departments, as well as for private vehicles of all kinds.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. The snap attached to the thill by a pivot

through a side concaved plate clamped to said thill, as shown and described.

2. The snap cushioned to the pivot-plate on thill by a spring that allows an easy and gradual back pressure, as specified.

MILTON H. M. SMITH.

Witnesses:

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