

R. R. MURDOCK.
Thill-Coupling.

No. 222,150.

Patented Dec. 2, 1879.

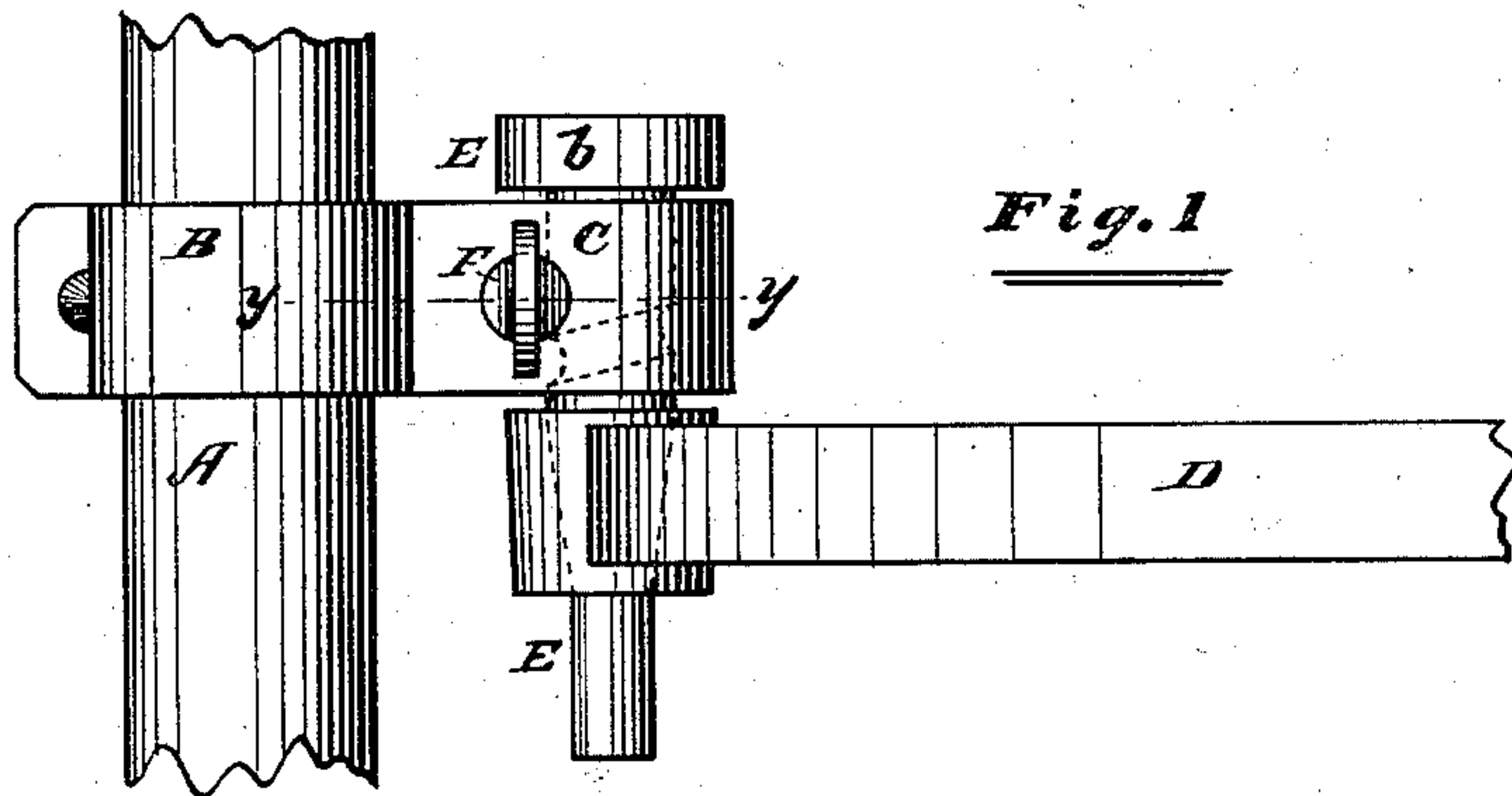
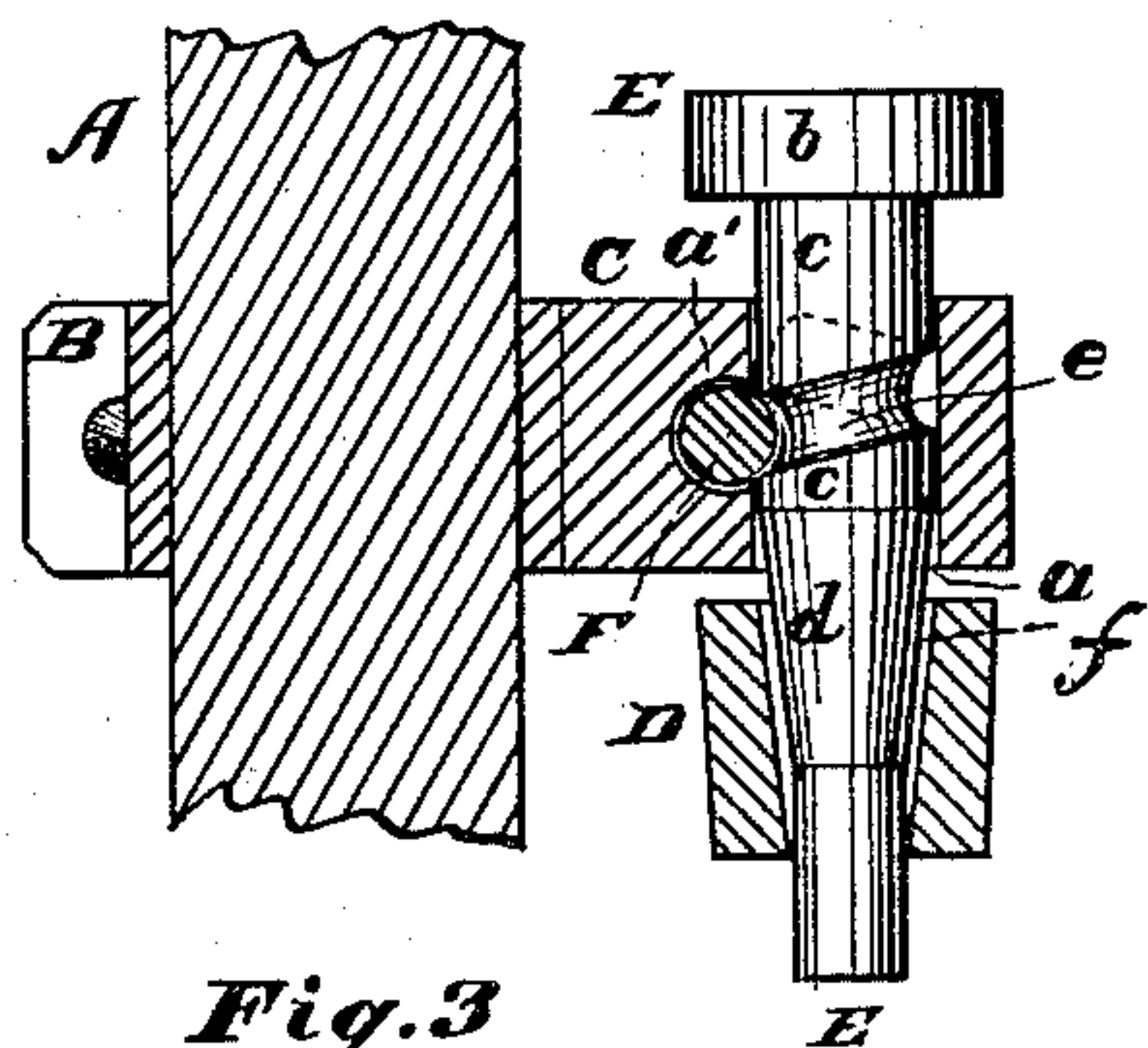
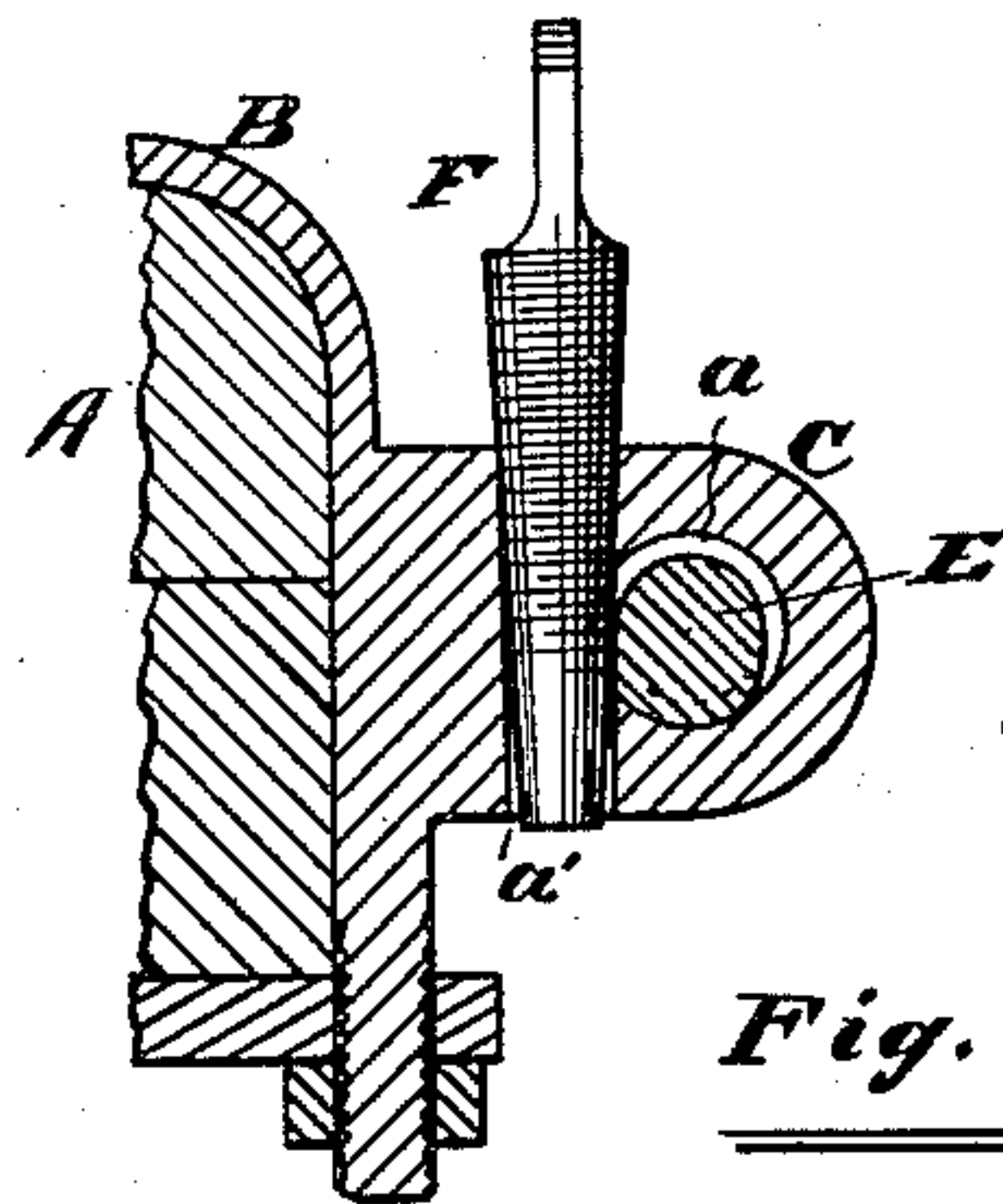
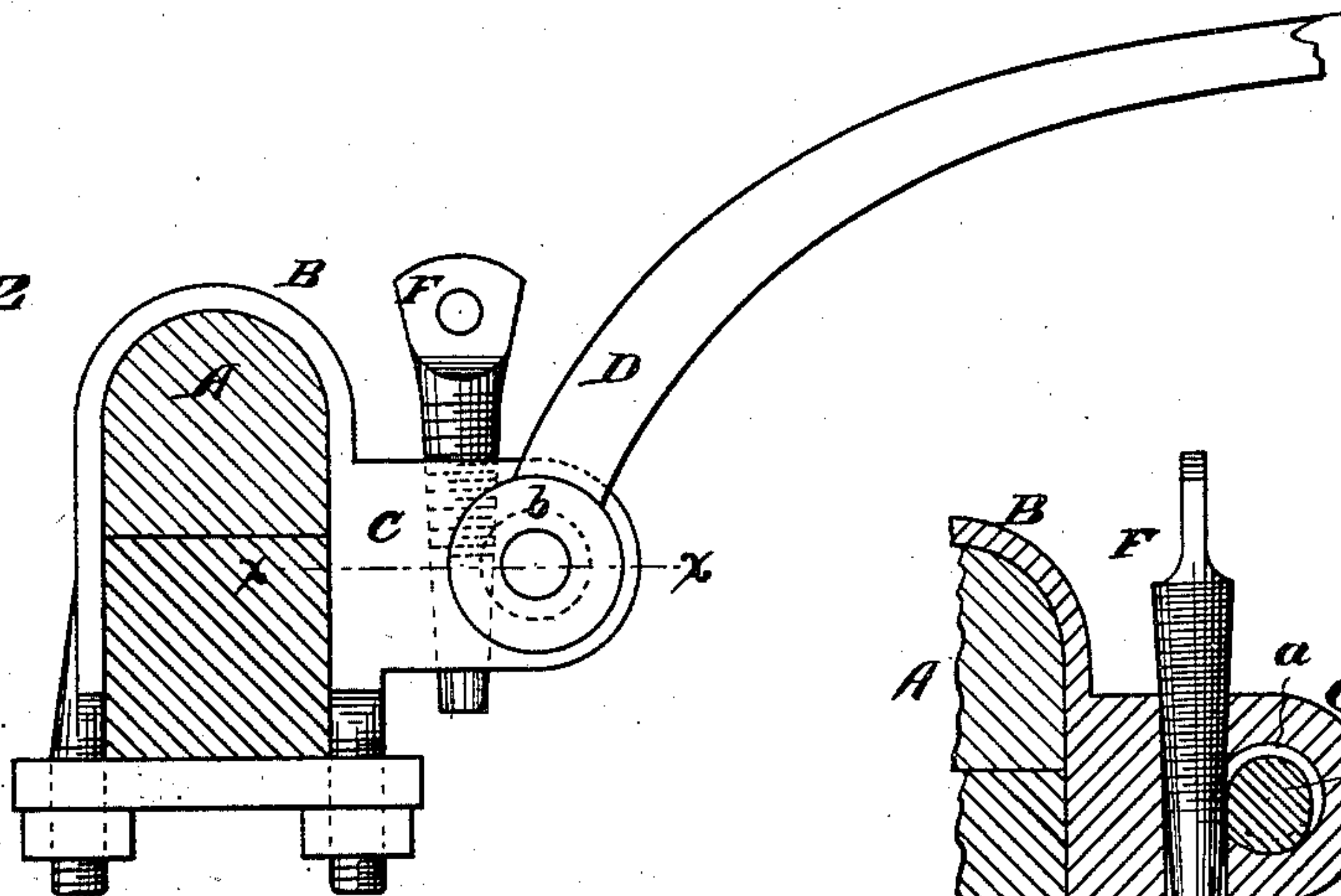


Fig. 2



Attest:

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UNITED STATES PATENT OFFICE.

RANSOM R. MURDOCK, OF PAXTON, ILLINOIS.

IMPROVEMENT IN THILL-COUPPLINGS.

Specification forming part of Letters Patent No. **222,150**, dated December 2, 1879; application filed May 15, 1879.

To all whom it may concern:

Be it known that I, RANSOM R. MURDOCK, of Paxton, in the county of Ford and State of Illinois, have invented certain new and useful Improvements in Thill-Couplings, of which the following, in connection with the accompanying drawings, is a specification.

In the drawings, Figure 1 is a top view of a thill-coupler embodying my invention; Fig. 2, a side elevation thereof, the axle to which it is applied being shown in section; Fig. 3, a section in the plane of the line *x x*, and Fig. 4 a section in the plane of the line *y y*.

Like letters of reference indicate like parts.

A represents the forward axle of a carriage. B is the clip, and C is a single or unforked ear extending forward therefrom. D is the thill-iron; E, the coupling-pin, and F the clamp.

The ear C has a cylindrical eye, *a*, therein, extending horizontally through it, and another, *a'*, passing vertically through it. The pin E is headed on one end, as shown at *b*, and from this head, for some way, is cylindrical in form, and this cylindrical part is of such a size as to fit the eye *a*, as shown at *c*. From the cylindrical part *c* outward toward the unheaded end the pin E is conical or tapering in form, as shown at *d*. A spiral groove, *e*, is made in the cylindrical part of the coupling-pin, as shown. The lower end of the thill-iron has a conical eye, *f*, therein, to fit the conical part of the pin E. The clamp or stay-pin F is also conical in form, and is screw-threaded near its upper end, and the upper part of the eye *a'* is also screw-threaded, to mate the thread on the pin F.

The eye *a'* is arranged to intersect the eye *a*, so that when the pin F is dropped into the former eye the pin will enter the groove *e* and serve as a male screw in connection therewith.

It will be perceived from the foregoing description, and from reference to the drawings, that the coupling-pin extends laterally or projects from the side of a single or unforked ear. It will also be perceived that when the pin F is in contact with the pin E the latter may be screwed into and out of the eye *a* by being rotated for that purpose, and then clamped firmly and made rigid by screwing the pin F

down into the eye *a'*, the two pins being thus crowded together.

To use this coupling for the purpose for which it is intended, I arrange the thill-irons, by preference, outside the ears on the clips, and then pass the coupling-pins through the ears into the eyes in the thill-irons, the latter being entered by the conical or tapering ends of the coupling-pins, and the pins F F being dropped into their eyes, so as to engage the groove *e e* and admit of the coupling-pins being screwed so that conical parts thereof may thereby be moved out into the conical eyes in the thill-irons. Having arranged the parts thus, I turn the coupling-pins until they are crowded, but not too tightly, into the thill-irons, and I then turn or screw down the pins F F firmly upon the pins E E, when all the parts will be firmly held in their places.

It will also now be perceived that the coupling-pins are adjustable in the thill-irons, and that, by being conical or tapering and entering tapering eyes in the said irons, a good tight fit may always be produced and compensation made for wear. Rattling will also be prevented, and the thills will nevertheless be permitted to work or turn sufficiently on the coupling-pins during the movements of the horse. The thills may be coupled and uncoupled with facility, and the coupling is adapted to couple poles as well as thills, and is cheap and readily constructed, and durable.

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

1. The combination of the single or unforked ear C, having a cylindrical eye, *a*, therein, arranged horizontally, the coupling-pin E, having a cylindrical part, *c*, at one end and a tapering part, *d*, at the other, the said tapering part being diminished or contracted from the said cylindrical part to or toward the said other end, and the part *c* having a spiral groove or screw, *e*, therein, and a clamp entering the said ear and arranged for contact with the pin E, substantially as and for the purposes specified.

2. The combination of the ear C, having therein the cylindrical eye *a*, the coupling-pin E, having a cylindrical part, *c*, and a conical

and tapering part, *d*, and a groove or screw, *e*, and a clamp or binder for locking the coupling-pin, all adapted and arranged for operation together in connection with a thill-iron having a tapering eye, for the purposes set forth.

3. The combination of the clip B, provided with the ear C, having therein the intersecting eyes *a* and *a'*, the coupling-pin E, having in its periphery the spiral groove *e* and a tapering or conical end, and the conical screw

pin or clamp F, arranged in the eye *a'*, and having its conical or tapering part in the groove *e*, and all adapted, substantially as described, for operation together in connection with a thill-iron having a conical coupling-eye, for the purposes set forth.

RANSOM R. MURDOCK.

Witnesses:

S. L. DAY,

MARK L. DAY.