

H. QUINN.
Elastic Trace Connection.

No. 93,639.

Patented Aug. 10, 1869.

Fig. 1.

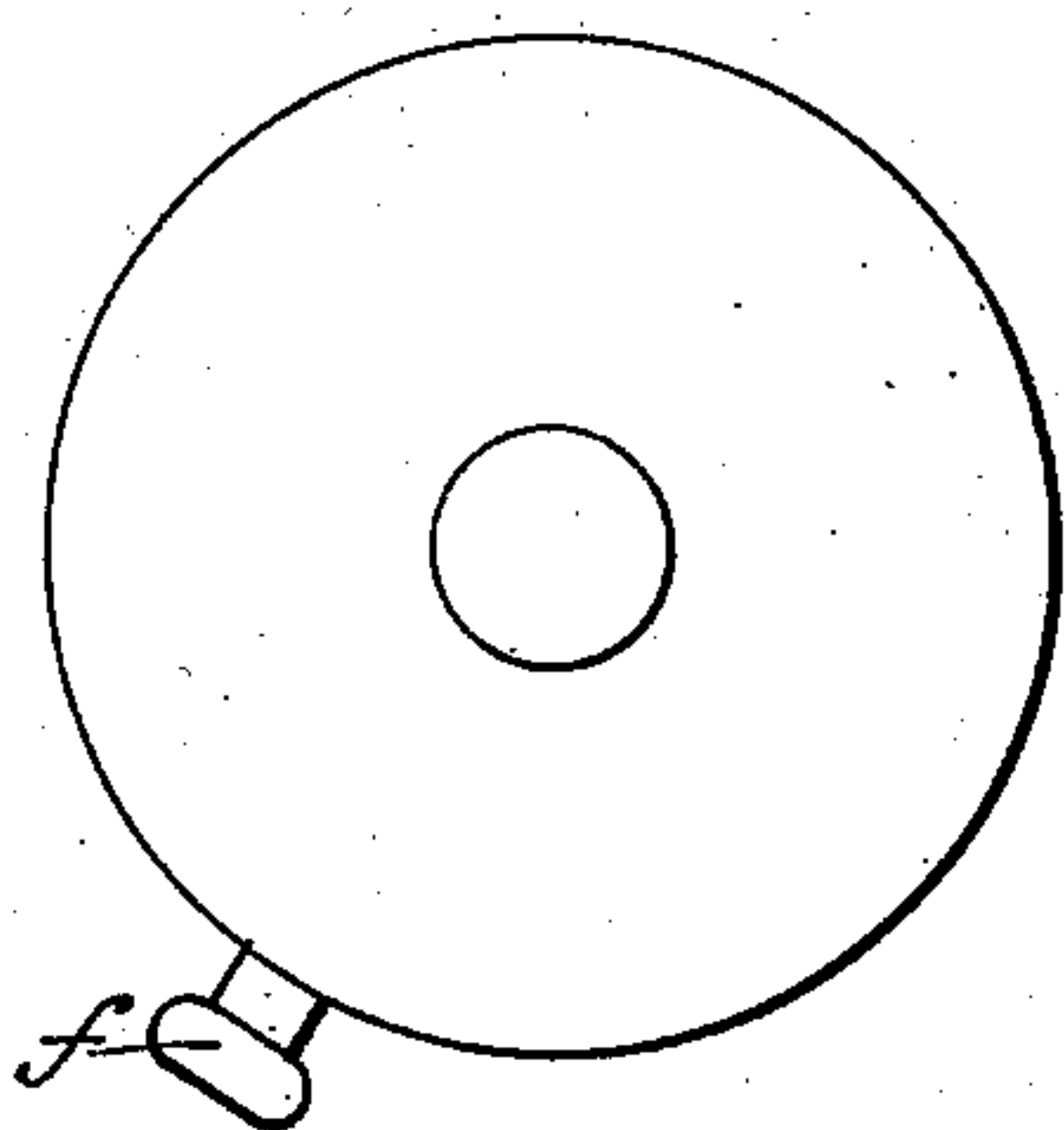


Fig. 3.

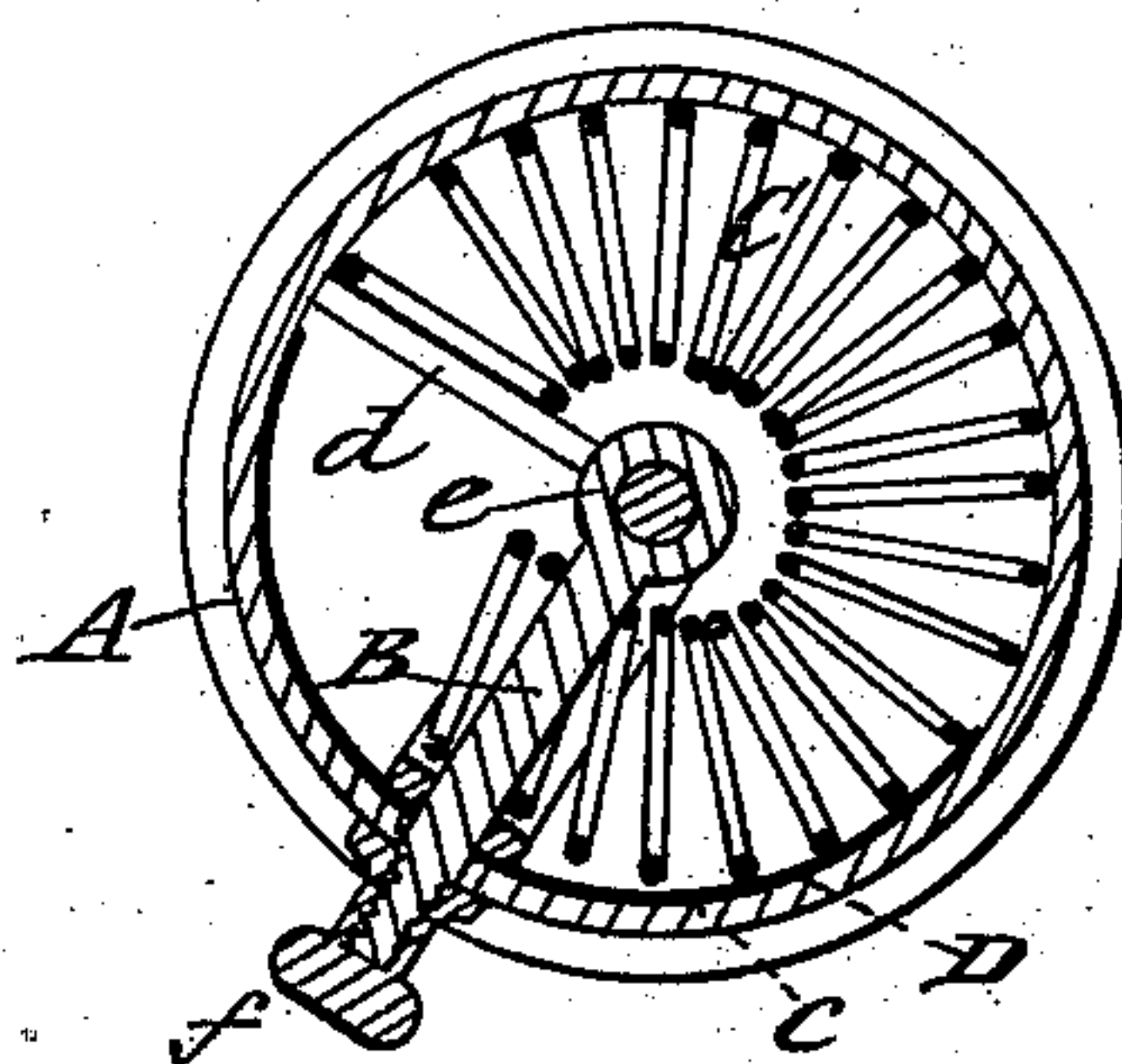


Fig. 2.

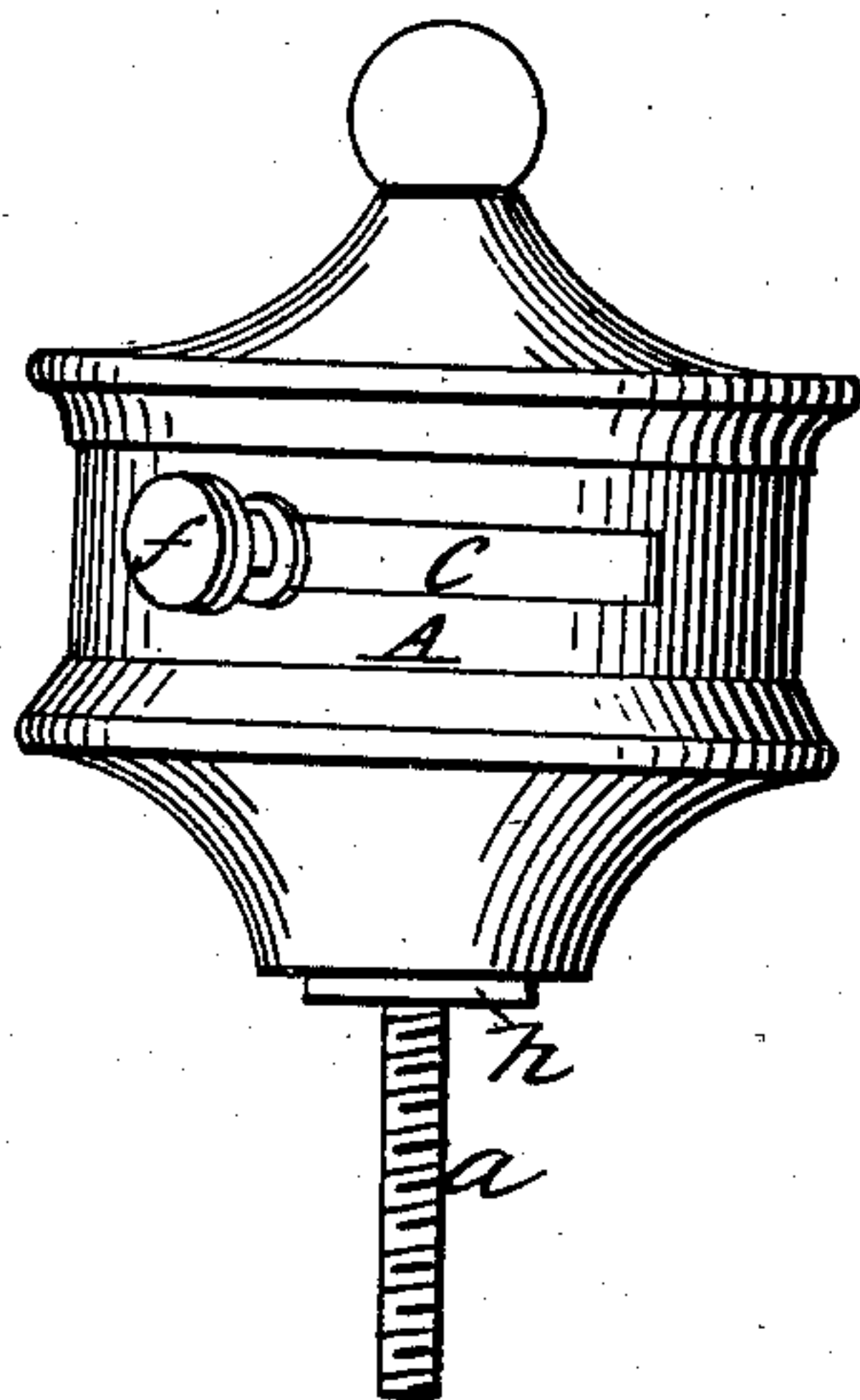
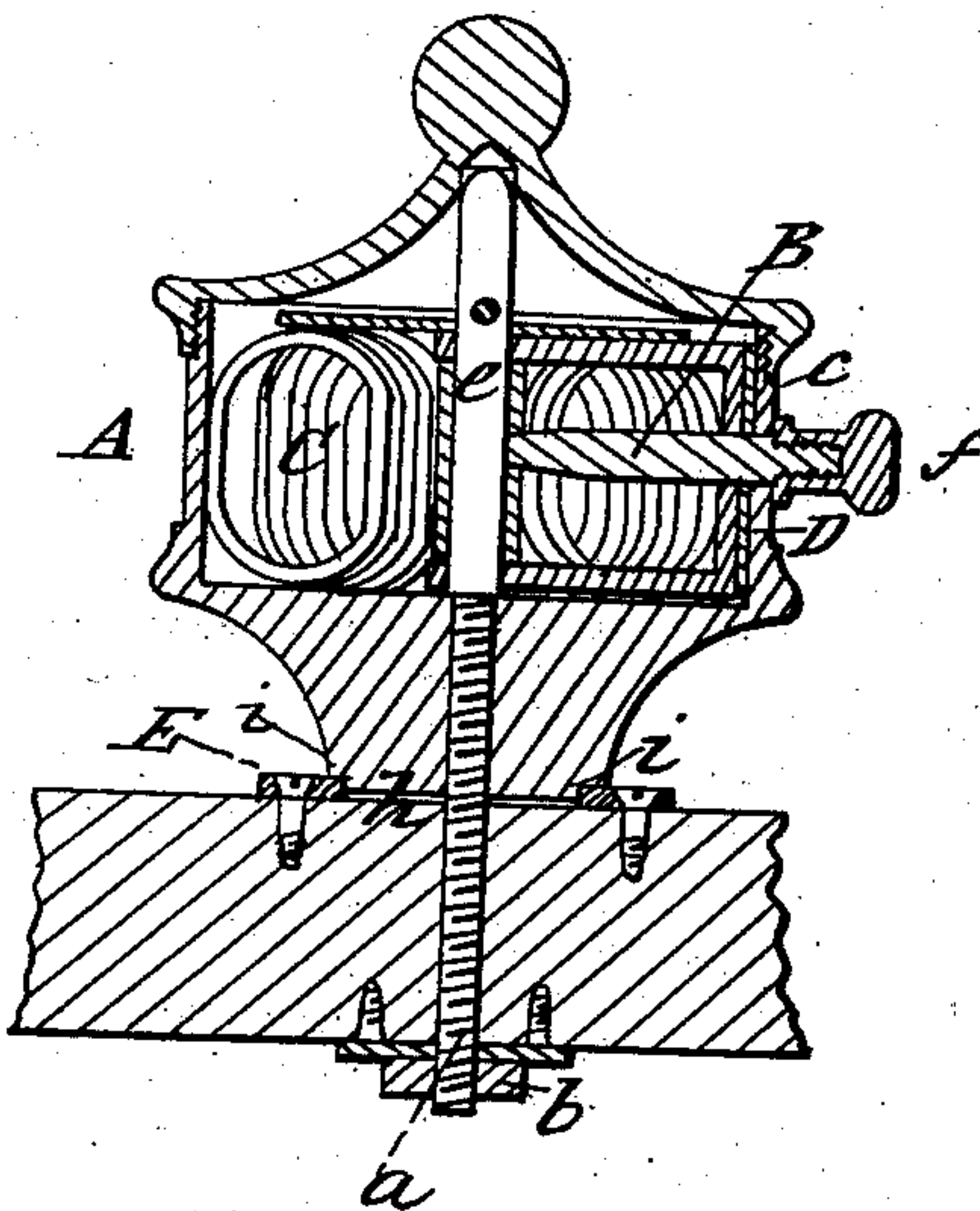


Fig. 4.



Witnesses:
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United States Patent Office.

HUGH QUINN, OF CHARLESTOWN, MASSACHUSETTS.

Letters Patent No. 93,639, dated August 10, 1869.

IMPROVED ELASTIC TRACE-CONNECTION.

The Schedule referred to in these Letters Patent and making part of the same.

To all persons to whom these presents may come:

Be it known that I, HUGH QUINN, of Charlestown, of the county of Middlesex, and State of Massachusetts, have invented an improved Elastic Trace-Connection; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a top view;

Figure 2, a front elevation;

Figure 3, a horizontal section; and

Figure 4, a vertical and transverse section of it.

The body A of the connection is a cylindrical case or box, provided with a screw shank, *a*, extended down from its bottom, the said shank being for the purpose of fixing the body to the cross-bar of a pair of thills, a nut, *b*, screwed on the shank, being employed in the fixation of the shank to the said cross-bar.

There is a slot, *c*, made through the front side of the box, and parallel with its bottom, and there is also within the box, and extended radially from its inner circumference, an abutment, *d*.

Arranged centrally within the box is a pin, *e*, which may be a continuation of the shank.

It serves as a pivot for an arm, B, which extends through the slot *c*, and is provided with a button, or knob, *f*, on which the end of a trace is to be buttoned or hitched when the trace-connection may be in use.

A helical spring, C, arranged within the box in manner as represented in the drawings, bears at one end against the abutment, and at the other against, or is thereabouts fixed, to the arm.

Furthermore, there is also fixed to the arm, and so as to extend from it and between the spring and the inner circumference of the box, a curved plate or spring guard D. This plate, by moving with the arm and the spring, prevents the spring, while contracting, from jamming against the inner circumference of the box, or being worn through or injured by contact therewith, as it would be soon likely to be during use of the trace-connection.

The guard D also serves as a cover to the aperture, or slot *c*, while the arm may be in movement as the guard is to extend in both directions from the arm, in manner as represented.

The guard thus answers to keep mud or dust or foreign matters from going through the slot and into the box when such would be likely to impede the action of the spring or be otherwise injurious.

The lower part of the box A is provided with a prismatic tenon, *h*, and also with a disk, or plate, E, made with a socket, *i*, corresponding with and to receive such tenon. This disk, or socketed plate is to be screwed on the cross-bar of the thills, and is to aid in supporting the trace-connection and preventing it from turning around thereon under the draught of the trace.

When this trace-connection is in use, the strain of draught will be borne by the spring, which will be contracted by the force exerted by the horse. Consequently, the animal, as well as the carriage, will be relieved from the jarring effects of sudden forward movements of the horse, effects to which they would be liable were the trace fixed to an inelastic connection.

I am aware that an elastic trace-connection is not new, or, in other words, that the application of a spring to the shafts and trace or breast-band of a harness, so as to intervene between the shafts and the trace or breast-band, in order to relieve the carriage and horse from the effects of sudden forward movements of the latter, is old. Therefore, I make no claim to such, in the abstract.

What I claim as my invention or improvement is as follows, viz:

The arrangement of the box A, abutment *d*, pivot *e*, helical spring C, and the movable arm B, provided with the trace-button, as explained.

Also, the combination and arrangement of the spring guard D with the radial arm B, the helical spring C, the abutment *d*, and the box A, and the slot *c* thereof, the whole being substantially as and for the purpose specified.

HUGH QUINN.

Witnesses:

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