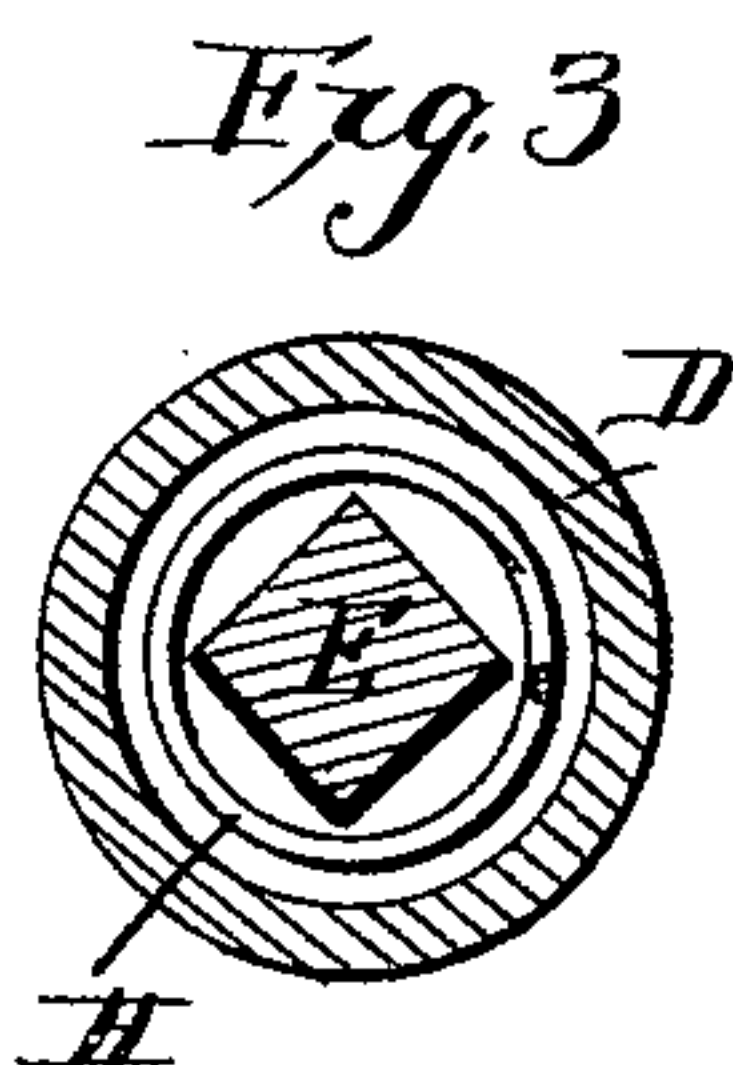
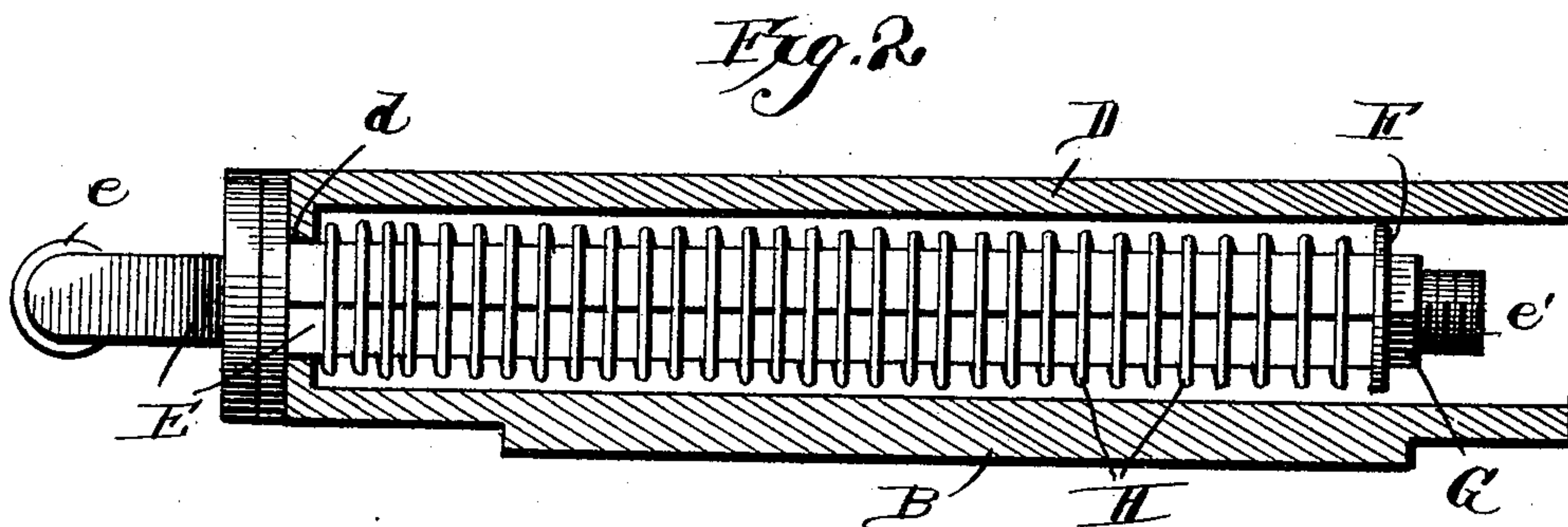
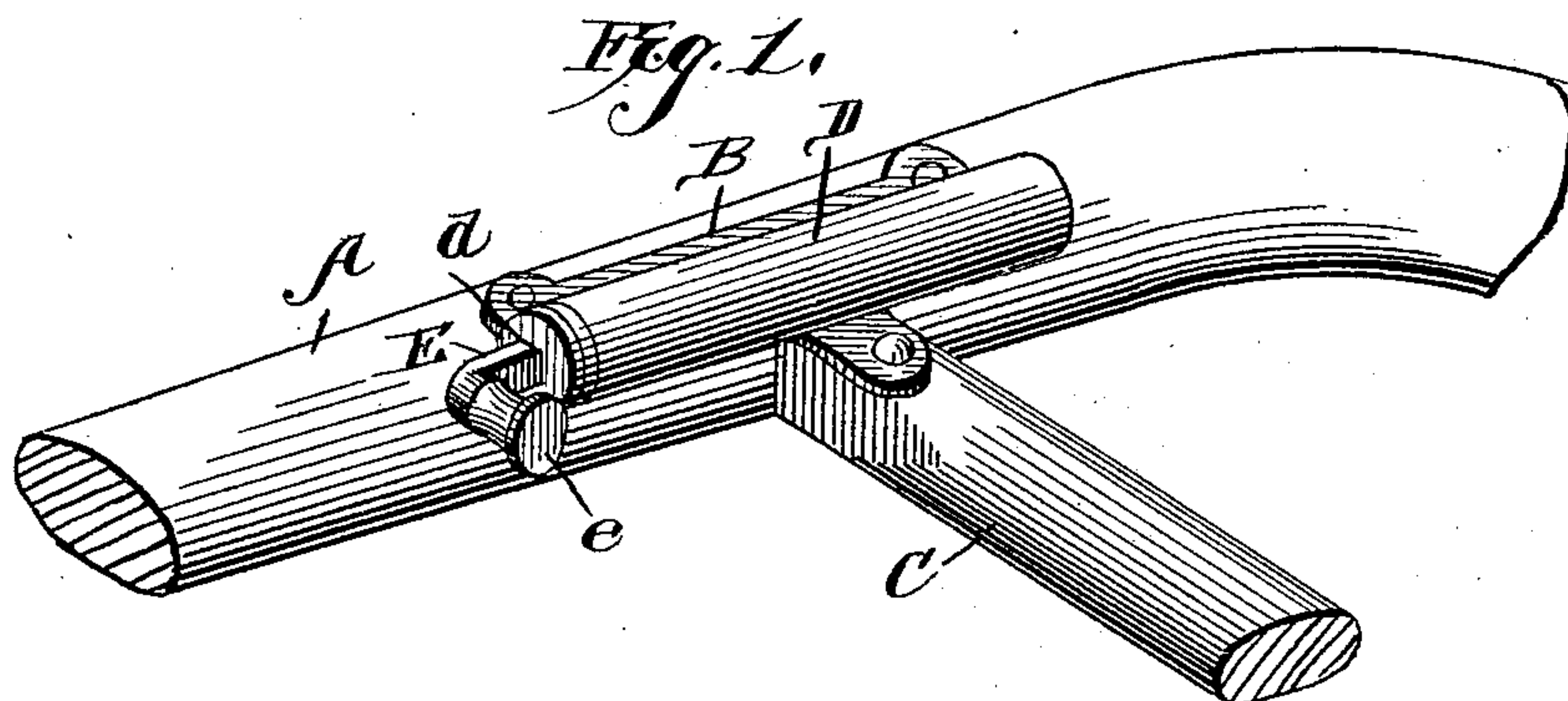


(No Model.)

E. L. HILDERBRAND, H. ROST & C. L. DAVIS.
DRAFT SPRING.

No. 405,162.

Patented June 11, 1889.



Witnesses

Henry J. Dieterich
E. J. Biggs

Inventors
Edward L. Hilderbrand,
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UNITED STATES PATENT OFFICE.

EDWARD L. HILDERBRAND, HENRY ROST, AND CHARLES L. DAVIS, OF
SULLIVAN, INDIANA.

DRAFT-SPRING.

SPECIFICATION forming part of Letters Patent No. 405,162, dated June 11, 1889.

Application filed April 9, 1889. Serial No. 306,586. (No model.)

To all whom it may concern:

Be it known that we, EDWARD L. HILDERBRAND, HENRY ROST, and CHARLES L. DAVIS, citizens of the United States, residing at Sullivan, in the county of Sullivan and State of Indiana, have invented a new and useful Draft-Evener, of which the following is a specification.

The invention relates to draft-eveners.

10 The object of the present invention is to enable horses or other animals to draw loads with greater ease, and to lessen the shocks incidental to travel over rough roads, and to increase the strength and durability of the shafts.

15 The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

20 In the drawings, Figure 1 is a perspective view of a portion of one of a pair of shafts and a cross-bar provided with a draft-evener constructed in accordance with this invention. Fig. 2 is a longitudinal sectional view of the draft-evener. Fig. 3 is a transverse section of the same.

25 Referring to the accompanying drawings, A designates one of a pair of shafts, each of which is designed to be provided with a draft-evener, the base-plate B of which is secured at the junction of the shaft A and the cross-bar C by bolts or the like, which construction strengthens the shafts A at this point and aids in securing the parts together.

30 The base-plate B is T-shaped, and has preferably formed integral with it a sleeve D, which is provided at its front end with a rectangular opening d , which is adapted for the reception of a draft-bar E, that is square in cross-section, whereby the draft-bar E is prevented turning, and a trace-hook e at the front end of said bar is held in the same relative position, which is at right angles to the shaft.

45 Instead of having a rectangular opening

any other form, with the exception of a circular one, may be employed and will accomplish the same result as a square one. The trace-hook is preferably constructed integral with 50 an arm extending at right angles to the draw-bar, thereby enabling the traces to be hooked in the ordinary manner, which is a great advantage; and to prevent the trace-hook being drawn too far inward the draft-bar is 55 provided with an annular flange e^2 , which is located a little in the rear of the trace-hook and abuts against the front end of the sleeve D.

The rear end e' of the draft-bar E is screw-threaded and is provided with a washer F 60 and nut G, the former of which bears against a spring H, that is incased in the sleeve D. The spiral spring H is interposed between the front of the sleeve D and the rear end of the draft-bar E, to which the trace is con- 65 nected, and forms a cushion which prevents all shocks to the horse or jars to the vehicle incident to sudden jerks of the former, occasioned by travel over rough roads and the like.

70 From the foregoing it will readily be seen that draft-eveners constructed in accordance with this invention are simple and inexpensive, and greatly add to the strength and durability of the adjacent parts, and enable the 75 cross-bar to be entirely free from anything that is liable to catch and tear or disfigure a horse's tail.

What we claim is—

1. The combination, in a draft-evener, of 80 the sleeve designed to be secured to a shaft and provided at its front end with a rectangular opening, a draft-bar rectangular in cross-section, terminating at its front end in a trace-hook which is bent laterally at an 85 angle to the shank, and a spring interposed between the front of the sleeve and the rear end of the shaft, substantially as and for the purpose described.

2. A draft-evener comprising the base- 90 plate, the sleeve secured thereto and provided at its front end with a rectangular

opening, the draft-bar rectangular in cross-section, and having a trace-hook *e* at its front end and extending out at right angles to said bar, and provided back of said trace-hook
5 with an annular flange, and a spring interposed between the rear end of the draft-bar and the front of the sleeve, substantially as described.

In testimony that we claim the foregoing as

our own we have hereto affixed our signatures 10
in presence of two witnesses.

EDWARD L. HILDERBRAND.
HENRY ROST.
CHAS. L. DAVIS.

Witnesses:

NICK DAVIS,
WALTER S. MAPLE.