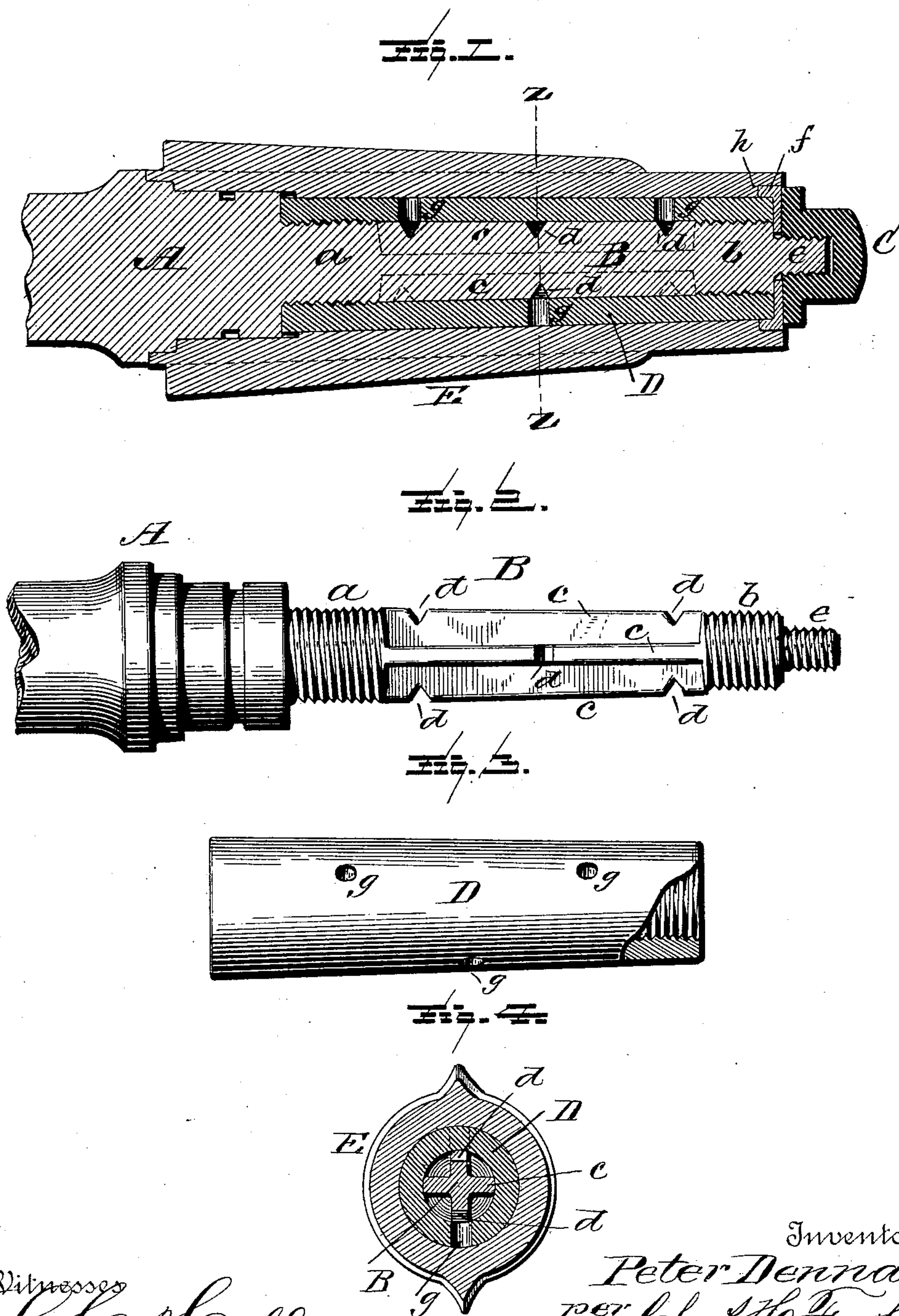


(No Model.)

P. DENNAU, Sr.  
AXLE LUBRICATOR.

No. 480,765.

Patented Aug. 16, 1892.



Witnesses  
*L. C. Hills.*  
*E. H. Bond.*

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Attorney



# UNITED STATES PATENT OFFICE.

PETER DENNAU, SR., OF MONTAGUE, MICHIGAN.

## AXLE-LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 480,765, dated August 16, 1892.

Application filed November 17, 1890. Renewed June 25, 1892. Serial No. 438,047. (No model.)

*To all whom it may concern:*

Be it known that I, PETER DENNAU, Sr., a citizen of the United States, residing at Montague, in the county of Muskegon and State of Michigan, have invented certain new and useful Improvements in Vehicle-Axles; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

Figure 1 of the drawings represents a longitudinal section through the axle spindle, sleeve, box, and nut, showing them in their relative positions; Fig. 2, a side elevation of the axle-spindle; Fig. 3, a similar view of the sleeve, partly in broken section; Fig. 4, a cross-section taken on line *z z* of Fig. 1.

The present invention has for its object to provide a simple self-lubricating vehicle-axle that will secure an easy-running wheel and one that will possess strength and durability and superior in many of its details of construction over the axles in common use, which objects are attained by the construction substantially as shown in the drawings, and hereinafter described and claimed.

In the accompanying drawings, A represents the axle, and B the spindle thereof having at its extremities circumferential threaded extensions *a b*, which are joined by webs *c*, disposed at right angles to each other, as shown more clearly in Fig. 4 of the drawings. These webs *c* have notches *d* in their edges to form oil-receptacles, and the screw-threaded extension *b* has a screw-threaded nipple *e* to receive a suitable flanged washer *f* and the usual axle-nut C. A sleeve D is placed over the axle-spindle B and is retained thereon by interior screw-threads at its ends engaging with the screw-threaded extension *a b* and has holes or perforations *g*, which register with the notches *d* when the sleeve is in place

on the spindle, as shown in Fig. 1 of the drawings.

Around the sleeve D is placed the usual axle-box E, which is held thereon by the washer *f* and nut C, said box at its outer end being cut away or reduced to form an annular shoulder *h* for the flange of the washer *f* to abut against to form a tight joint at the extremities of the axle-box, axle, and sleeve.

The lubricant is retained between the webs *c* of the axle-spindle and fed to the axle-box through the notches *d* and holes or perforations *g*.

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

1. The combination, with an axle-spindle having longitudinal webs with notches in the edges thereof, of a perforated sleeve and axle-box, substantially as and for the purpose described.

2. The combination, with an axle-spindle having screw-threaded ends and intermediate notched webs, of the perforated sleeve and axle-box, said sleeve having interior screw-threads at its ends to engage with the screw-threads on the spindle, substantially as and for the purpose specified.

3. An axle-spindle having screw-threaded ends and screw-threaded nipple and longitudinal webs, notched as shown, in combination with a perforated and screw-threaded sleeve, a box having an annular shoulder at its outer end, and a flanged washer and nut, substantially as and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

PETER DENNAU, SR.

Witnesses:

MAURICE DOWNEY,  
MORRIS STRENG.