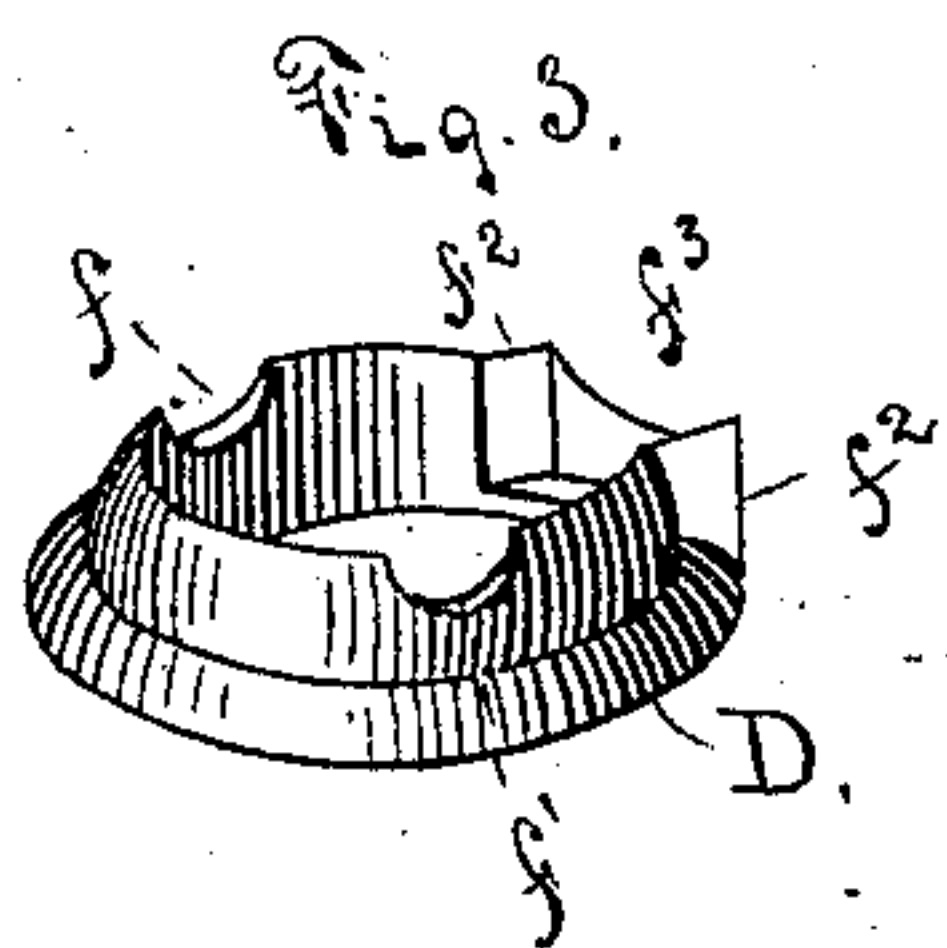
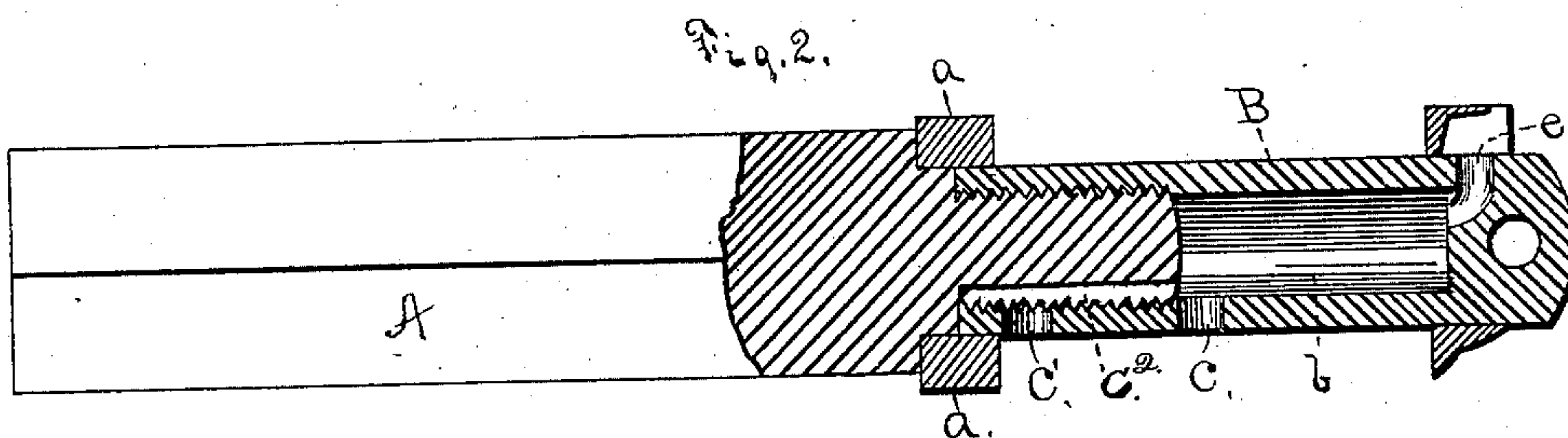
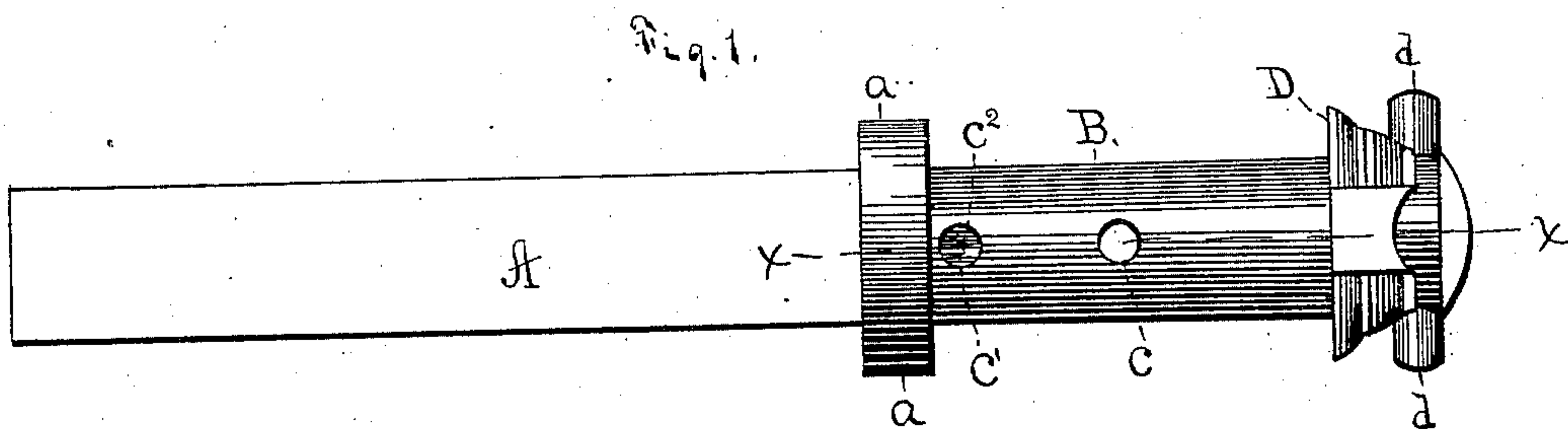


(No Model.)

J. GOWLAND.
CARRIAGE AXLE.

No. 294,222.

Patented Feb. 26, 1884.



Witnesses,
W. A. Holark,
E. M. Fowler.

Inventor,
John Gowland
by Geo. W. Dyer

Att'y

UNITED STATES PATENT OFFICE.

JOHN GOWLAND, OF PHILIPSBURG, PENNSYLVANIA.

CARRIAGE-AXLE.

SPECIFICATION forming part of Letters Patent No. 294,222, dated February 26, 1884.

Application filed June 30, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN GOWLAND, of Philipsburg, in the county of Centre and State of Pennsylvania, have invented a new and useful Improvement in Axles or Spindles; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to an improvement in spindles or axles, and has special reference to that class of such devices wherein is provided means for a continuous lubrication of the wheels mounted on said spindles or axles.

The object of the invention is the construction of a device of the character described which will be simple, durable, and effective; and to that end the invention consists of the novel construction and arrangement of certain of the parts, and of the novel combination of such parts, all as will be hereinafter fully described, illustrated, and claimed.

For the better understanding of the invention, reference will be made to the accompanying drawings, which form part of this specification, and in which—

Figure 1 is a side view of an axle provided with my improvements; Fig. 2, a section taken on line *xx*, Fig. 1; and Fig. 3, a view in detail of a collar or sleeve used to exclude dust or dirt from the oil-chamber.

Like letters refer to corresponding parts in each of the several views.

In the drawings, A represents a spindle or axle, which may be made of malleable or wrought iron, or of steel castings, as desired. To the outer ends of this spindle A is secured a hollow sleeve, B. This sleeve is secured to spindle A, either by means of a ring, *a*, shrunk thereon, or by pressure, or by means of a screw-thread, as shown in Fig. 2. It extends out a sufficient distance beyond the end of said spindle A to form an oil-chamber, *b*. (Shown clearly in Fig. 2.) The sleeve B is, as shown, perforated at *c c'*, the perforations *c* opening into oil-chamber *b*, thus allowing oil to pass from said chamber to the wheel to be mounted upon said sleeve. The perforation *c'* opens directly into a groove, *c''*, which is made in the outer end of the spindle, and which communicates with oil-chamber *b*. Oil passes from chamber *b* through groove *c''* and

perforation *c'* to the wheel mounted on the sleeve, thus assuring the constant lubrication of the entire wheel. For a short distance from its outer end this sleeve is formed solid, and through this solid portion an opening is made, through which is inserted a linchpin, *d*, which may be of any well-known and desired form. An opening, *e*, is also formed in this solid portion of the sleeve, which opening is, however, drilled only about half through the sleeve, and then communicates with the oil-chamber *b*, before referred to.

Passed around the sleeve B and occupying a position between the wheel and the linchpin is a movable collar, D. This collar, which is clearly shown in Fig. 3, is provided with semicircular notches *f f'*, arranged diametrically opposite to each other. These notches are of such a size that the linchpin will fit closely therein when desired, as will be described.

At a point on the collar D, and about midway between the notches *f f'*, is formed a raised portion, *f''*, which is provided with a notch, *f'''*, similar in form and size to the notches *f f'*.

When the parts are in position, and it is desired to fill the chamber *b* with oil, the collar D is revolved until the raised portion *f''* is brought over the opening *e*, which communicates with said chamber. This brings the notches *f f'* opposite to the linchpin, one end of said linchpin entering notch *f* and the other entering notch *f'*. When the oil has been supplied, and it is desired to close the opening *e* and exclude all dust or dirt from the oil-chamber, the collar D is revolved until the position of notches *f f'* with respect to the linchpin is changed—i. e., the end of the linchpin which in the first instance entered notch *f* now enters notch *f'*, the same change occurring with respect to the end of the linchpin which first entered notch *f'*. In this way the raised portion *f''* of collar D is moved from opening *e*, and said opening covered by a portion of said collar, and the entrance of dust or dirt into the oil-chamber is rendered impossible.

I am aware that grooved spindles and perforated sleeves are old, and therefore do not broadly claim the same; but

What I claim as new therein, and that for which I desire to secure Letters Patent, is—

1. The collar D, provided with notches $f f'$, raised portion f^2 , and notch f^3 , substantially as described and shown.

2. The combination, with the axle A, having groove e^2 , of the hollow sleeve B, provided with the perforations e , e' , and e , and secured to said spindle, substantially as described and shown.

3. In the device as described, the combination, with the hollow perforated sleeve B, of

the movable collar D, provided with notches $f f'$, raised portion f^2 , and notch f^3 , substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN GOWLAND.

Witnesses:

H. O. HOFFER,
G. E. PARKER.