

D. DALZELL.
Axle Lubricator.

No. 106,470.

Patented Aug. 16, 1870.

Fig. 1.

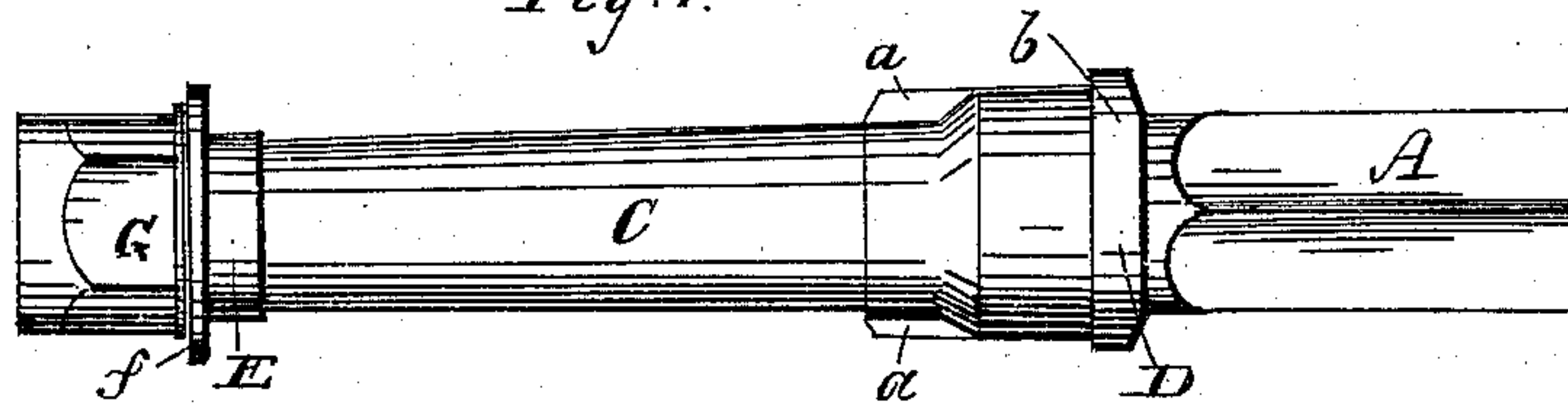


Fig. 2.

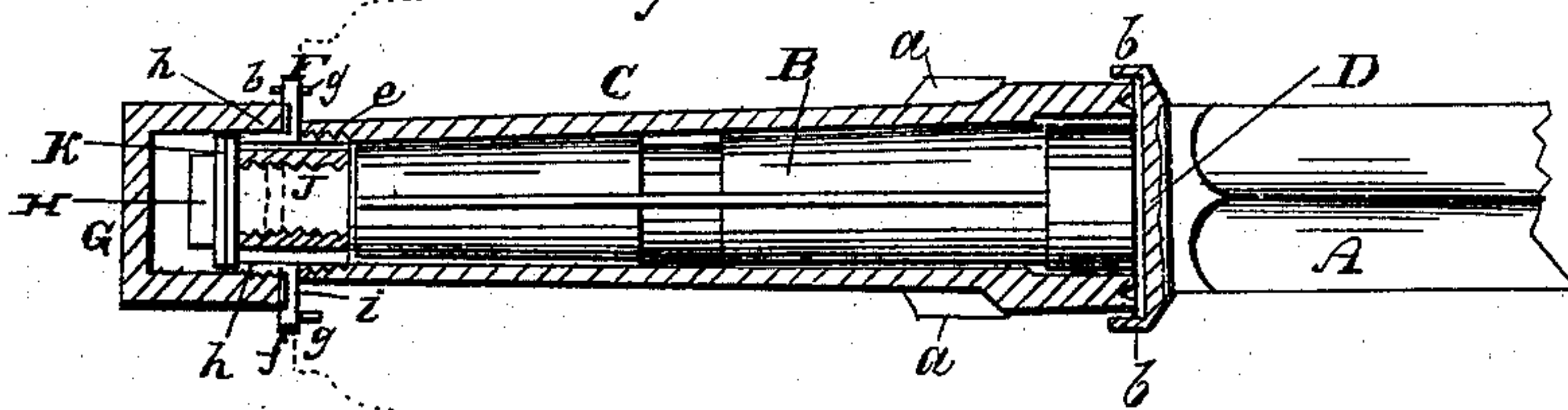


Fig. 3.

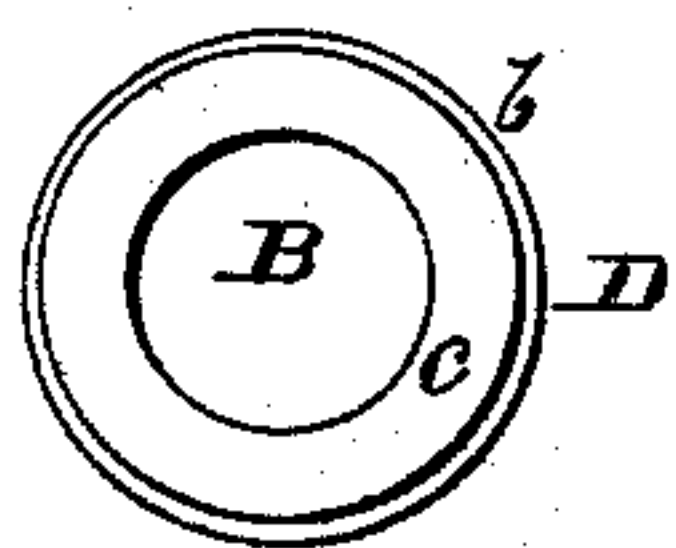
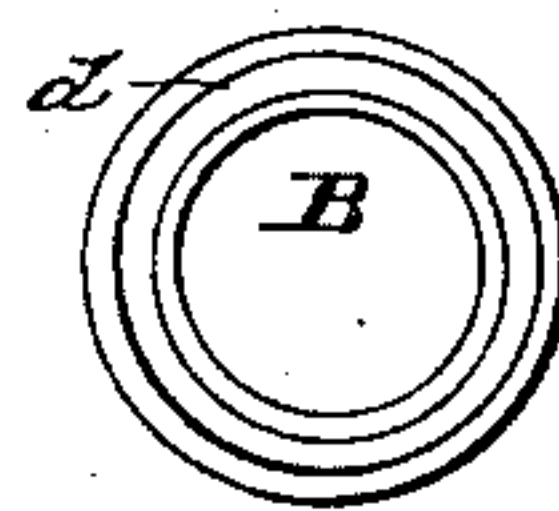


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

DAVID DALZELL, OF SOUTH EGREMONT, MASSACHUSETTS.

IMPROVED AXLE FOR VEHICLES.

Specification forming part of Letters Patent No. 106,470, dated August 16, 1870.

To all whom it may concern :

Be it known that I, DAVID DALZELL, of South Egremont, in the county of Berkshire and State of Massachusetts, have invented a new and Improved Axle for Wheel Vehicles; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, making a part of this specification.

This invention relates to a new and useful improvement in axles for wheel vehicles.

My invention consists in a certain peculiarity of construction, as hereinafter fully shown and described, whereby the axle is kept in a perfectly lubricated state, the oil prevented from escaping, the admission of dust obviated, and a long bearing obtained to insure steadiness of the motion of the wheel, and prevent wear and tear of the axle and its box.

In the accompanying drawing, Figure 1 is an external view of my invention; Fig. 2, a longitudinal central section of the box and its attachments, the axle, which is represented within the box, not being in section; Fig. 3, a face view of a flanged collar at the inner end of the arm of the axle; Fig. 4, a face view of the inner end of the box.

Similar letters of reference indicate corresponding parts in the several figures.

A represents a portion of the main part of the axle, and B is the arm of the axle. C is the box which is inserted within the hub, the latter being indicated by dotted lines, and the box provided with ears *a a*, as usual, to prevent it from turning within the hub.

On the inner end of the arm B there is a fixed collar, D, provided at its edge with a flange, *b*, which projects outward all around from its face, forming a cup or recess to receive a packing, *c*. (See Fig. 2.) The inner end of the box C is also received within this cup or recess, and abuts against the packing *c*, the face side of this inner end of the box having an annular groove, *d*, in it to prevent the escape of oil out from the arm B, between said face and the packing *c*, the groove *d* serving as a break to the outward flow of oil. (See Figs. 2, 3, and 4.) On the outer end of the box C, at its exterior, there is cut a screw-thread, *e*, on which an oil-cup, E, is screwed. This cup is provided with a flange, *f*, which is secured by screws *g* to the outer end of the hub, as shown in Fig. 2. On the outer end of the cup E there is cut, externally, a screw-thread, *h*, to receive a cap,

G, which abuts, at its inner end, against a packing, *i*, fitted in an annular recess in the outer side of the flange *f* of the oil-cup E. (See Fig. 2.) The outer end of the arm B is turned down, so as to be of less diameter than the other portion, and on this diminished end a screw-thread, *j*, is cut to receive a nut, H, which is provided with a flange, *k*, to abut against the outer end of the oil-cup E, and retain the hub on the axle, a packing being interposed between the flange and the outer end of the cup. The screw *j* at the outer end of the arm passes entirely through the oil-cup E, and projects beyond it, and the cap G entirely covers the nut. A hole is made through the screw portion of the cap, at its outer end, to admit of oil being poured therein, the oil feeding itself along on the arm, a groove, *l*, in the latter facilitating the passage of the oil. The nut H may be prevented from casually unscrewing by a pin passing through it and the screw on the arm. (See dotted lines in Fig. 2.)

From the above description it will be seen that the oil cannot escape from the arm of the axle at either end, nor the dust admitted, and, at the same time, a long arm or bearing for the hub to turn on is obtained. By removing or unscrewing the cap G from the oil-cup E the nut H may be readily unscrewed, and the hub detached from the arm of the axle, all the parts being, therefore, readily accessible for cleaning purposes, while the oil may be applied at any time by simply unscrewing the cap G.

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

1. The detachable oil-cup E, on the outer end of the box C, constructed and arranged substantially as and for the purpose set forth.
2. The annular groove *d*, at the inner end of the box C, for the purpose of preventing the escape of oil out from the arm B, between said inner end of the box and the packing *c* in the flanged collar D, at the inner end of the arm, substantially as described.
3. The cap G, in combination with the oil-cup E and nut H, all being constructed and arranged substantially as and for the purpose specified.

DAVID DALZELL.

Witnesses:

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