

EDWARD H. WILLIAMSON.

Improvement in Car-Axles.

No. 128,084.

Patented June 18, 1872.

Fig. 1.

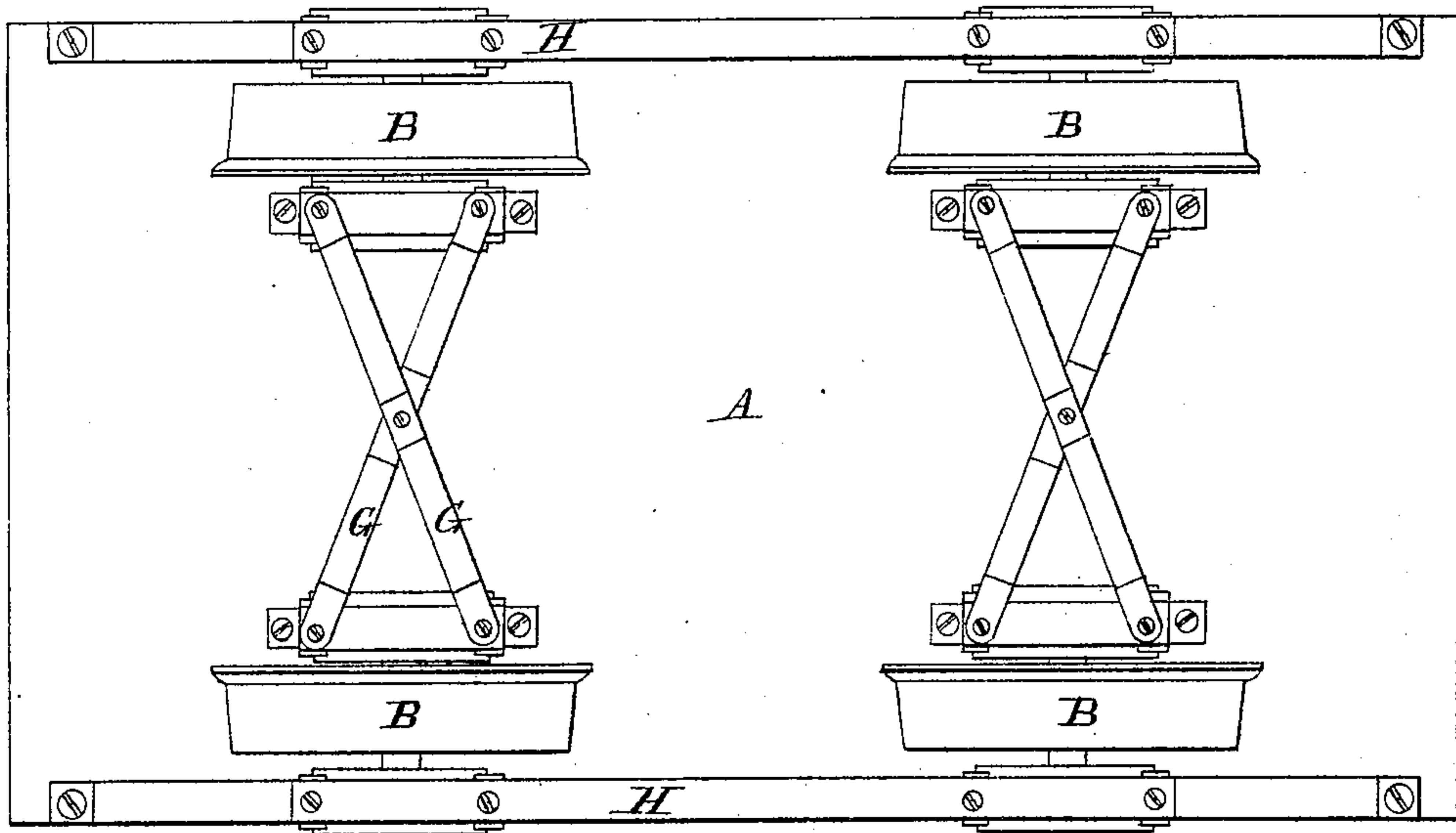
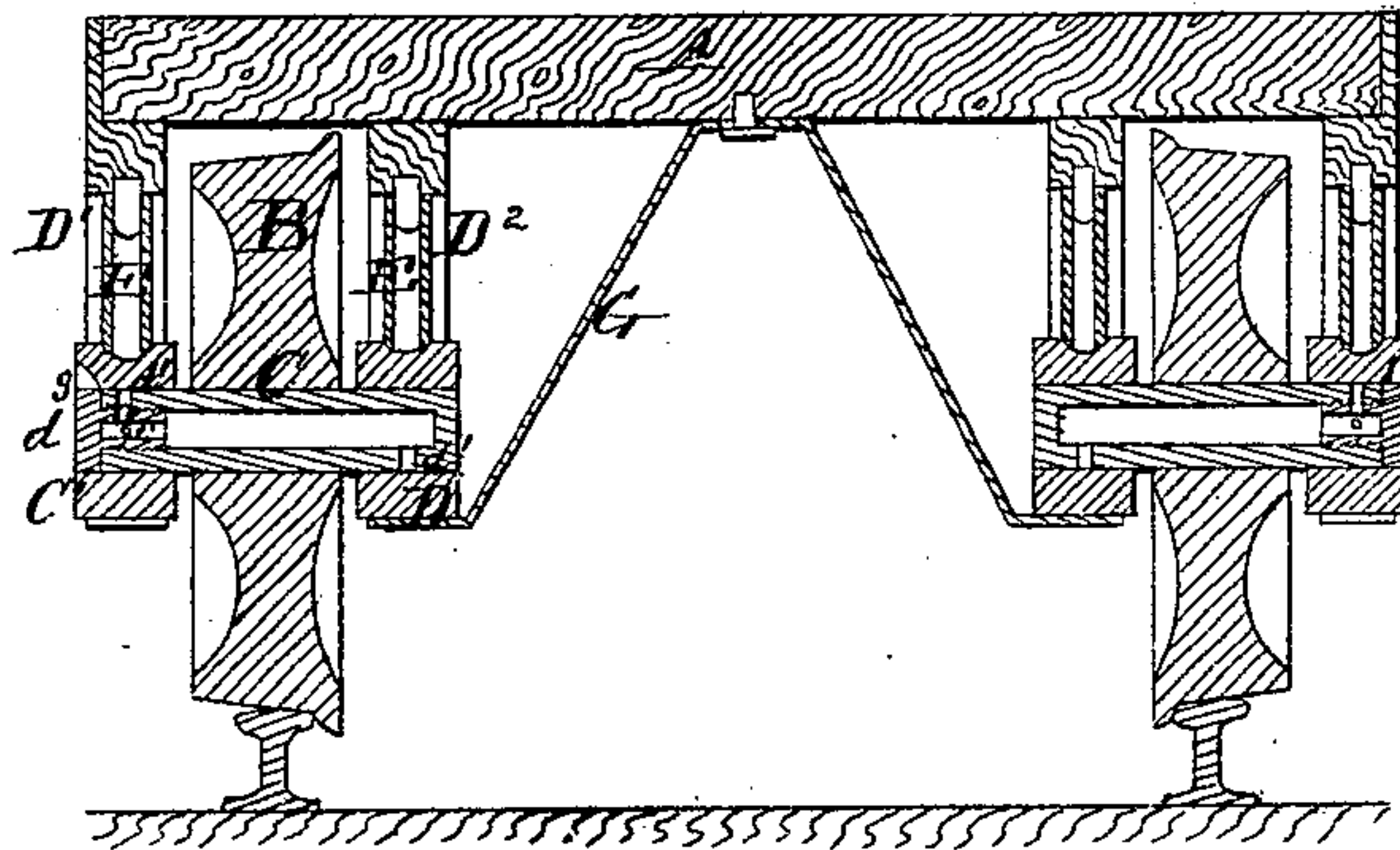


Fig. 2.



WITNESSES.

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# UNITED STATES PATENT OFFICE.

EDWARD H. WILLIAMSON, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN CAR-AXLES.

Specification forming part of Letters Patent No. 128,084, dated June 18, 1872.

*To all whom it may concern:*

Be it known that I, EDWARD H. WILLIAMSON, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and valuable Improvement in Car-Trucks; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a bottom view of my invention. Fig. 2 is a transverse vertical section of the same.

This invention has relation to railroad-trucks; and the novelty consists in the general improved construction and arrangement of the independent tubular axles adapted to contain lubricating oil, and to allow the same to escape so as to keep all the bearings properly and continually lubricated, all as hereinafter described.

Referring to the accompanying drawing, A represents the bed of a railroad truck or car. B represents the wheels, each attached to an independent axle, C, having its bearings in journaled boxes C' D, arranged in the usual manner between the sides of the depending brackets or standards D<sup>1</sup> D<sup>2</sup>. E represents India-rubber springs, resting on the movable journal-boxes C' D. G designates V-shaped braces, secured to the bed A and at their ends to the bottom parts of the standards D<sup>2</sup>. These braces, as will be seen, are arranged in pairs crossing each other in X-form. The object of said braces is to strengthen and support the standards D<sup>2</sup>, which, by reason of their positions, are subject to the greatest strain. The outer standards D<sup>1</sup> are supported and braced by means of metal bars H, which are arranged in the direction of the length of the car, con-

necting the outer standards D<sup>1</sup>, and are bent up at their ends for attachment to the under side of the bed A. The axles C are tubular. The inner ends thereof are permanently closed, while the outer ends are stopped by means of closely-fitting screws *d* having heads. The cavity in each axle is designed to contain lubricating oil, which escapes from the apertures *d'*, bored at either end and running in opposite directions from the center of the axle. The oil is to be expelled to oil the bearings by centrifugal force when the axle revolves; hence the apertures *d'* are arranged as stated to facilitate the flow. In the side of the screw which closes the outer end of the tubular axle an aperture, *e*, is made to coincide with the aperture in the side of the axle and allow the oil to escape freely; the screw-shank being also tubular. Other apertures are made in the screw-shank, as shown at *e'* so that oil may be supplied to the axle by unscrewing said screw a little and pouring the oil through either of the apertures. It is necessary that oil should be supplied in this way in order to prevent waste. Above the head of the screw *d* a notch, *g*, is formed in the box C' to admit the spout of an oil-can.

What I claim as my invention, and desire to secure by Letters Patent, is—

The tubular axle C, constructed with the apertures *d'*, located at either end and running in opposite directions, and provided with the perforated screws *d*, substantially as and for the purpose specified.

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

EDWARD H. WILLIAMSON.

Witnesses:

A. P. RUTHERFORD;  
HENRY POLSZ.