

T. H. ELDER.

Carriage Axle.

No. 88,376.

Patented March 30, 1869.

Fig. 5

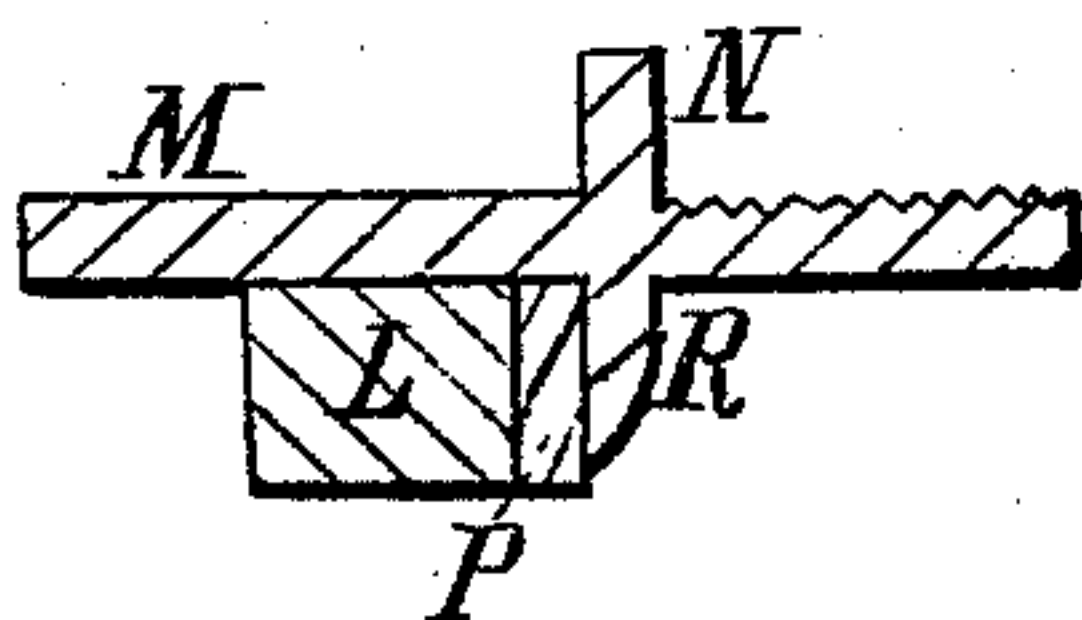


Fig. 6

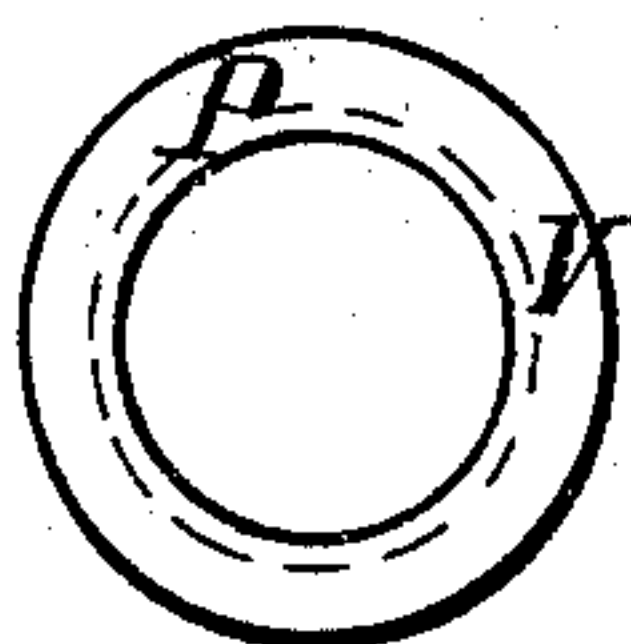


Fig. 1

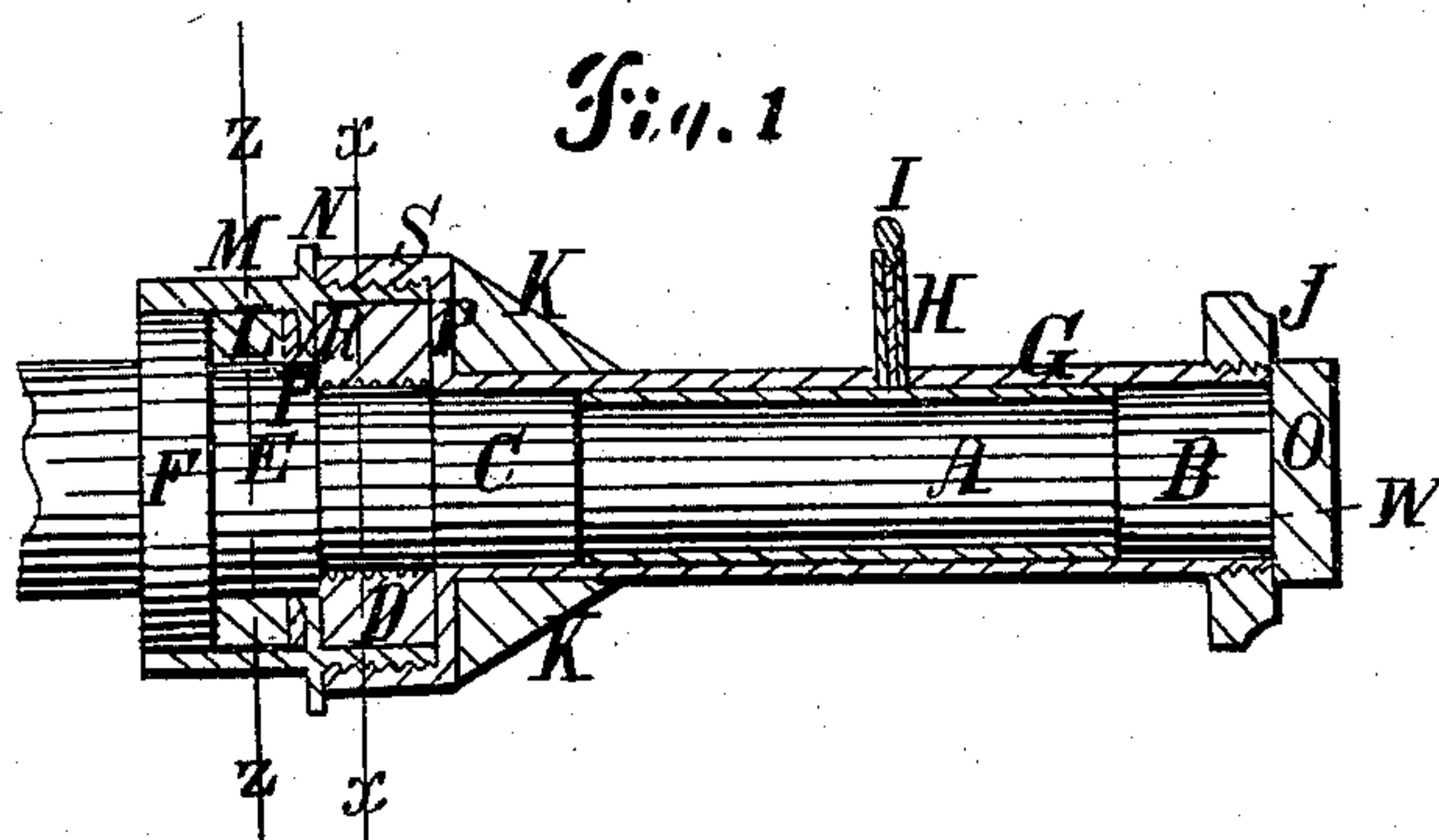


Fig. 3

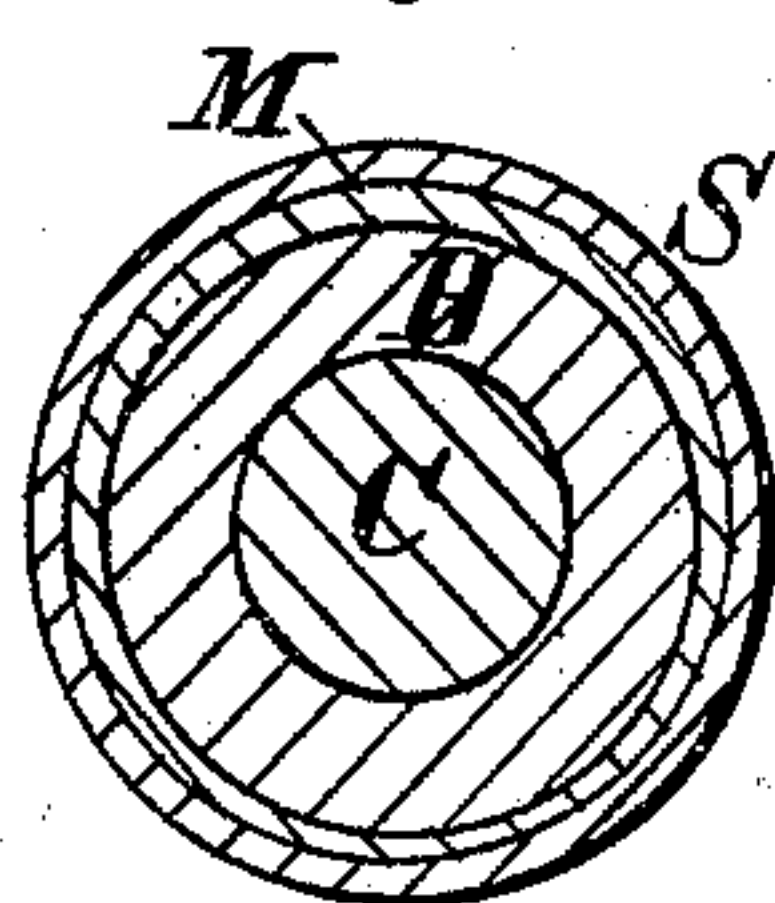


Fig. 4

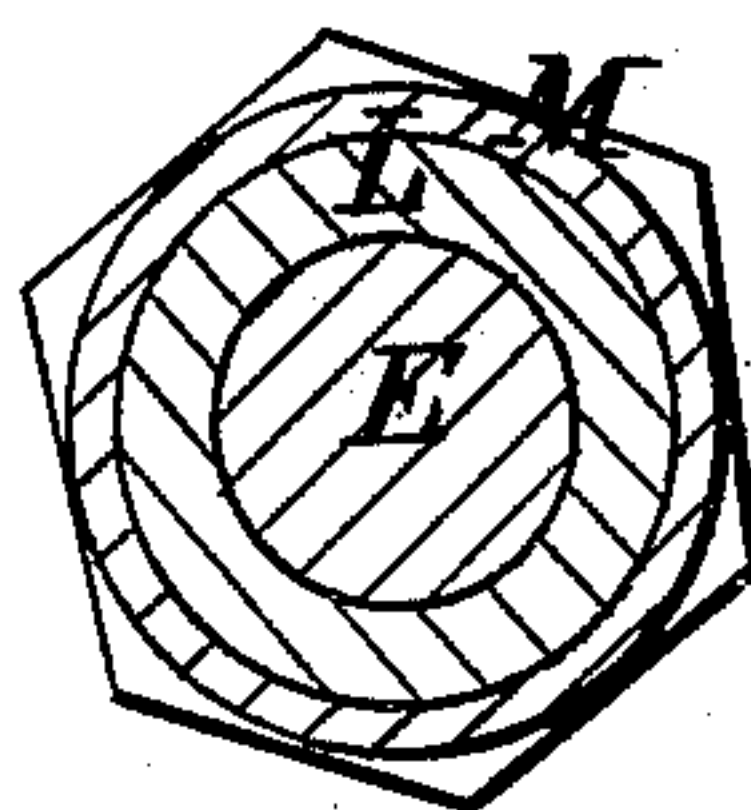
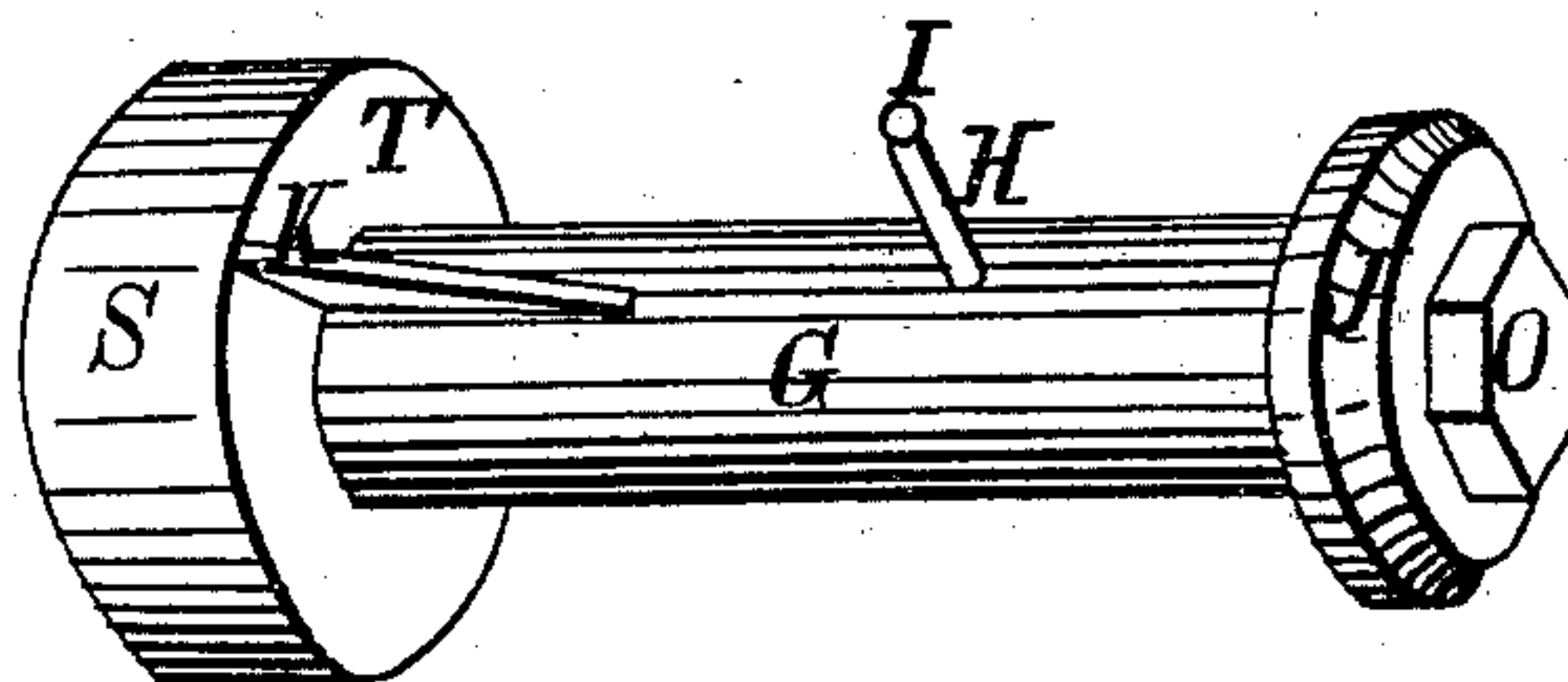


Fig. 2



Witnesses

G. H. Chapin  
E. E. Gibson

Inventor.

T. H. Elder

# United States Patent Office.

T. H. ELDER, OF CHICAGO, ILLINOIS.

Letters Patent No. 88,376, dated March 30, 1869.

## IMPROVEMENT IN CARRIAGE-AXLES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, T. H. ELDER, of Chicago, in the county of Cook, and State of Illinois, have invented an Improvement in "Wagon-Boxes and Axles;" and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, and letters marked thereon; making a part of this specification, in which—

Figure 1 is a longitudinal sectional elevation of a box and axle arranged with my improvement.

Figure 2, a perspective representation of the box.

Figure 3, a transverse section, taken on line *x x*, fig. 1.

Figure 4, a transverse section, taken on line *z z*, same figure.

Figure 5, an enlarged semi-section of those parts which have similar letters in fig. 1.

Figure 6, an elevation of the leather packing removed from the axle.

The present invention relates to an improved construction in that class of axles and boxes in which the boxes are so arranged that they are held to the axles by means of cylindrical flanges, secured to collars, or shoulders on the axles; and

Its nature consists more especially in the peculiar method of attaching the box to the axle, and so securing a compound packing as to prevent the lubricating-material from escaping, as hereinafter fully set forth.

A B C represent the arm of an axle, which has an annular recess, A, forming a chamber, to secure a suitable supply of oil to lubricate the axle for a considerable time, the enlarged parts, B C, being the usual bearings, on which the box G turns.

D represents a flange, which fastens to the axle by a screw-thread, and bears against an enlarged part, E, the object of which is to form a shoulder for the flange T, fig. 1, of the box G, to bear against, and to support one end of a cylinder, M, to which a cylinder, S, projecting outward from the flange T, fastens with a screw-thread.

A flange, N, projecting outward from the cylinder

M, and bearing against the end of cylinder S, prevents the flange T from being drawn so closely against the flange D as to tighten the box on the axle.

The inner end of the cylinder M is so fitted as to bear on the inner periphery of a flange, F, which is secured to the axle, either by a screw-thread or bolt, as most convenient.

Attached to and projecting inward from the cylinder M, is a curved flange, R, figs. 1 and 5, which has a sharp edge, so formed as to embed itself into a leather packing, P, figs. 1, 5, and 6, at a point which is a little outside of its inner periphery, as shown by dotted lines V, fig. 6.

Between the leather ring P and the flange F is placed a rubber packing-ring, L, which is designed to prevent any oil which may, by chance, pass under the leather, from escaping at the inner end of the box, and also to hold the leather in place against the flange R.

By means of this arrangement, the leather is so held, relative to the enlarged part, E, of the axle, as to wear equally on all parts of its inner periphery.

This desirable object is not attained when the leather bears a flat surface. Therefore the arrangement, in this respect, is considered an important improvement in the packing of oil-tight boxes.

The box G is arranged to receive a suitable nut, O J, to make a finish at the end of the hub, a leather packing, W, being placed between the two, as shown at fig. 1, to prevent too great concussion; and an ordinary oil-tube, H, for the purpose of filling the chamber around the recessed part A with lubricating-material.

Having thus described my invention,

What I claim, and desire to secure by Letters Patent of the United States, is—

The combination of the box G, flanges T F D N R, cylinders S M, axle A B C, and packing L P, constructed and arranged as set forth.

T. H. ELDER.

Witnesses:

G. L. CHAPIN,  
E. E. GIBSON.