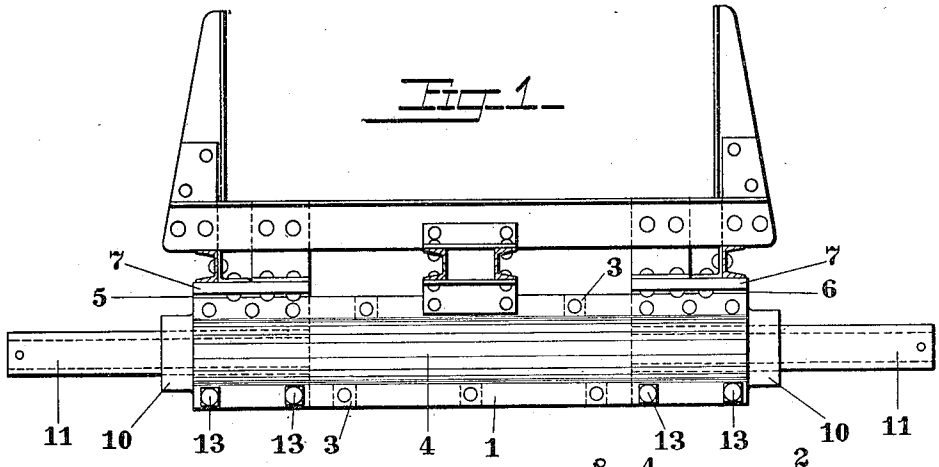
W. F. BIRD.

AXLE FOR VEHICLES.

APPLICATION FILED AUG. 25, 1913. RENEWED JUNE 30, 1916.

1,224,262. Patented May 1, 1917.

Fig. 1.



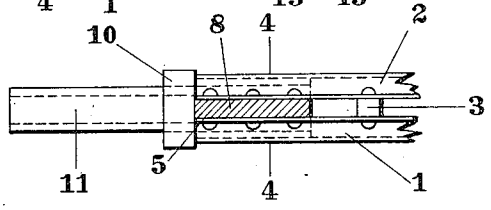


Fig. 3.

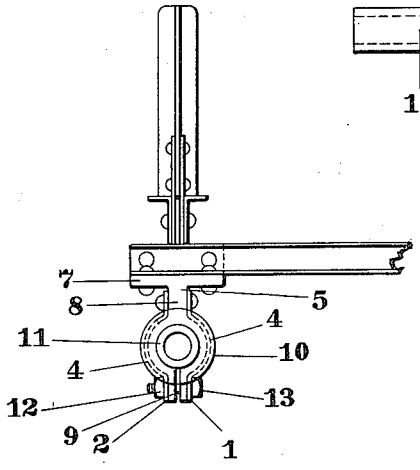


Fig. 2.

Witnesses:

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM F. BIRD, OF DAVENPORT, IOWA, ASSIGNOR TO DAVENPORT WAGON COMPANY OF ILLINOIS, OF DAVENPORT, IOWA, A CORPORATION OF ILLINOIS.

AXLE FOR VEHICLES.

1,224,262. Specification of Letters Patent. Patented May 1, 1917.

Application filed August 25, 1913, Serial No. 786,595. Renewed June 30, 1916. Serial No. 106,958.

To all whom it may concern:

Be it known that I, WILLIAM F. BIRD, a citizen of the United States, residing at Davenport, in the county of Scott and State of Iowa, have invented certain new and useful Improvements in Axles for Vehicles, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to axles for vehicles, and more particularly to that class in which the axles are constructed of several parts secured together.

The object of my invention is to provide an axle in which a greater strength is secured with a reduction in weight and cost of production.

Referring to the drawings in which similar numerals indicate identical parts—

Figure 1 is a front elevation. Fig. 2 is an end elevation, and Fig. 3 is a detail in part section.

The main body of the axle consists of metallic plates 1 and 2, riveted together at their edges, and having spacing blocks 3 interposed between the edges through which the rivets are passed. The central portion of each plate is curved centrally of its length so that when the plates 1 and 2 are secured together they form a tube 4. Between the plates 1 and 2 and at each end thereof are members 5 and 6 extended laterally at the upper end to present a broad bearing 7 to which other parts of the vehicle structure may be secured in any suitable manner.

The members 5 and 6 centrally are tubular longitudinally to fit the central portion of the plates 1 and 2; a portion 8 of the members is of equal width with the spacing blocks 3, and the upper edge of the plates is secured thereto preferably by rivets as shown.

A collar 10 forms part of each member and projects circumferentially beyond the ends of the plates 1 and 2; the lower portion 9 of the members 5 and 6 is split and provided with suitable holes registering with similar holes in the lower edge of the plates 4. Spindles 11 on which wheels are to be mounted are inserted in the tubular portion of the members 5 and 6 and secured therein by turning nuts 12 on the ends of bolts 13 which pass through the holes in the lower edge of the plates 4 and the members 5 and 6; the spindles 11 are preferably tubular and are rigidly held in place by the clamping action of the split portion of the members 5 and 6. By this manner of securing the spindles 11 in place it can be readily seen that they can be removed by loosening the nuts 12 on the bolts 13, so that a spindle can be replaced by a new one when the former becomes so worn as to impair its utility, or a spindle in use may be turned end for end to provide a new wearing surface; it is also possible to have greater width between wheels by withdrawing, for a short distance, the spindles from the members 5 and 6, but in any event the spindle is rigidly secured in place by tightening the nuts 12 on the bolts 13.

Spacing the plates apart by the blocks 3, provides an opening through which dirt, snow or water can readily pass, keeping the structure clean and adding to its durability.

What I claim is—

1. An axle for vehicles, comprising longitudinally disposed plates opposed and secured together, the longitudinal central portion of said plates being curved to form the sides of a tube, spindle holding members between the plates at each end thereof and forming a tube within the tubular portion of the axle and having their lower portions split, a spindle in each member, and means to draw the split portion of said members together to hold the spindles in position.

2. An axle for vehicles comprising longitudinally disposed plates opposed and secured together at the edges thereof, the longitudinal central portion of said plates being curved to form the sides of a tube, spacing blocks secured between the edges of said plates to form openings diametrically through said axle, spindle holding members secured between the plates at each end thereof and forming a tube within the tubular portion of the axle and having their lower portions split, a spindle in each member, and bolts passing through said plates and split portion of the spindle holding members to draw said split portion together.

3. An axle for vehicles comprising longitudinally disposed plates, spacing blocks secured between the edges of said plates to form openings diametrically through said axle, the longitudinal central portion of said plates being curved to form the sides of a

tube, spindle holding members between the plates, and secured thereto, and forming a tube within the tubular portion of the axle, the upper part of said members being laterally extended to form supports, the lower portion of said members being split, a spindle in each member, and bolts passing through said plates and split portions to draw them together to hold the spindles in position.

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

WILLIAM F. BIRD.

Witnesses:
H. F. EVANS,
FRANK HEEDE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."