

TIBBETS & MERRIEL.

Car Axle.

No. 48,114.

Patented June 6, 1865.

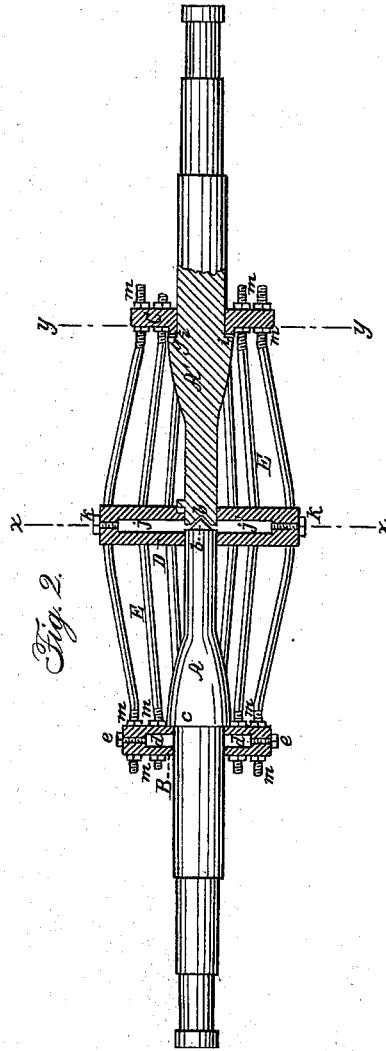


Fig. 4.

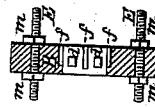


Fig. 3.

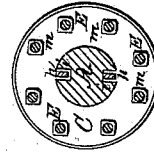
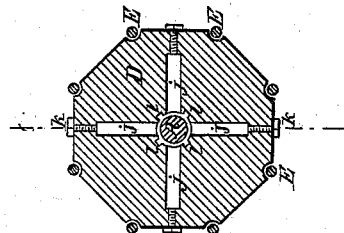


Fig. 1.



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UNITED STATES PATENT OFFICE.

JONATHAN S. TIBBETS AND W. M. MERRIEL, OF JEFFERSONVILLE, IND.

IMPROVEMENT IN AXLES FOR WHEEL-VEHICLES.

Specification forming part of Letters Patent No. 48,114, dated June 6, 1865.

To all whom it may concern:

Be it known that we, JONATHAN S. TIBBETS and WILLIAM M. MERRIEL, of Jeffersonville, in the county of Clarke and State of Indiana, have invented a new and Improved Axle for Wheel-Vehicles; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a transverse section of our invention, taken in the line *x x*, Fig. 2; Fig. 2, a side view of the same partly in section; Fig. 3, a transverse section of the same taken in the line *y y*, Fig. 2; Fig. 4, a central section of one of the heads pertaining to the same.

Similar letters of reference indicate corresponding parts.

This invention relates to a new and improved axle for wheel-vehicles—such as are generally termed “compound axles,” on account of being composed of two or more parts so arranged that one part may rotate independently of the other.

The invention consists in a peculiar construction of the axle, whereby the same is rendered strong and durable, and at the same time light, and capable of being kept perfectly lubricated, so as to run with but little friction.

The axle proper or main portion is composed of two equal parts, *A A'*, the inner end of the part *A* having a conical point, *a*, which is fitted in a corresponding recess, *b*, in the inner end of the part *A'*, as shown in Fig. 2, and on the parts *A A'*, near their outer ends, the wheels are permanently keyed or secured in any proper manner. On the part *A* of the axle there is a shoulder, *c*, against which a circular head, *B*, bears. This head *B* has radial openings *d* made in it, in the outer ends of which there are fitted screws *e*, to serve as plugs. These openings *d* serve to admit oil or other lubricating material to the part *A*, and the inner part of the head, where it is in contact with the axle, has grooves *f* made in it to receive Babbitt metal. (See Fig. 4.) On the other part, *A'*, of the axle there is a shoulder, *g*, against which a circular head, *C*, bears. This head *C* is connected with the part *A'*, so as to turn with it, by means of projections *h* on the head fitting in notches or recesses *i* in the shoulder *g*. (See Fig. 3.) The head *C* is about the same diameter as the head

B; but the former need not be as thick as the latter, as no oil-openings are required to be made in it.

D is a circular head, which is considerably larger in diameter than the heads *B C*, and, like the head *B*, is provided with radial openings or oil-passages *j*, the outer ends of which have screw-plugs *k* fitted in them. (See Figs. 1 and 2.) The inner ends of both parts *A A'* of the axle are fitted in a central hole in the head *D*, and the inner end of the part *A'* is keyed in *D*, so as to cause the latter to turn with *A'*. The head *D* may be bushed with Babbitt metal, like the head *B*, as shown at *l* in Fig. 1.

E represents a series of brace-rods, which pass through the two heads *B C*, and have screw-threads cut on them at their ends to receive nuts *m*, which are at each side of the heads *B C*, said rods being fitted in notches in the periphery of the head *D*.

From the above description it will be seen that by straining the brace-rods *E*, through the medium of the nuts *m*, the heads *B C D* will be retained in proper position and the two parts *A A'* of the axle kept in line with each other, while both parts of the axle are allowed to rotate freely in their bearings, and one part allowed to rotate independently of the other in consequence of the part *A* not being connected to the heads *D B*. At the same time it will be seen that strength is combined with lightness and the axle kept perfectly lubricated.

The invention will prove highly valuable for railroad-cars, and in all cases where the wheels of a vehicle are attached permanently to the axle, so as to turn with it.

We claim as new and desire to secure by Letters Patent—

1. A divided axle, or one composed of two parts, *A A'*, connected by a bridge or skeleton hub composed of the heads *B C D* and brace-rods *E*, arranged and applied to the axle in the manner substantially as and for the purpose herein set forth, and the ends of the parts *A A'* fitted together by a cone-joint.

2. Providing the heads *B D* with radial openings or oil-passages, and having said heads bushed with Babbitt metal, substantially as herein described.

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