(No Model.)

H. C. REED & A. CLARK.

TRUSSED AXLE FOR VEHICLES.

No. 470,259. Patented Mar. 8, 1892.

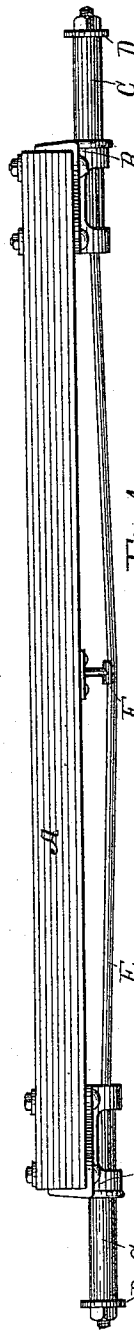

Fig. 1

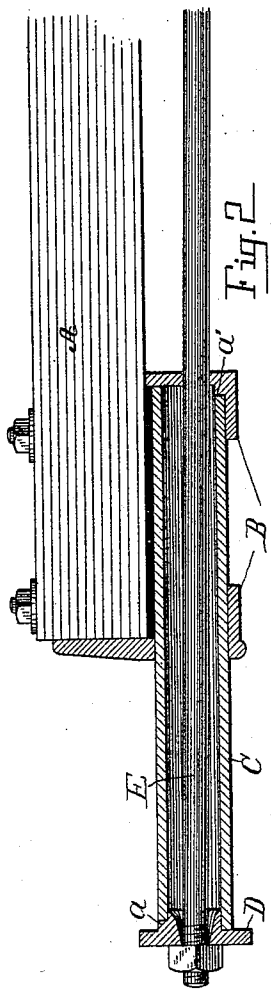

Fig. 2

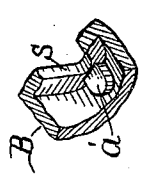

Fig. 6

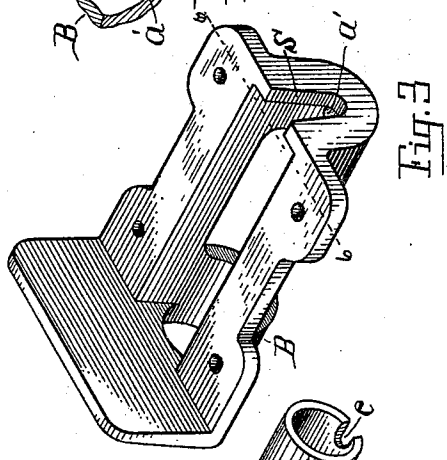

Fig. 3

Fig. 5

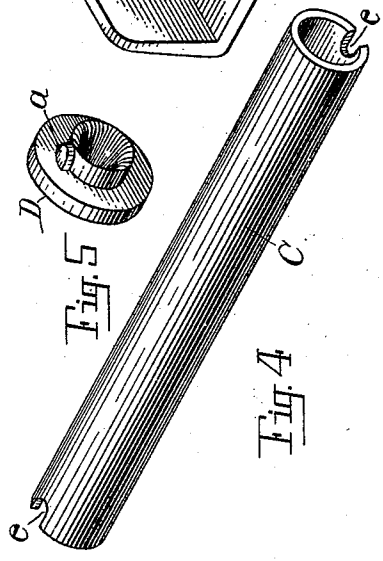

Fig. 4

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

UNITED STATES PATENT OFFICE.

HEBER C. REED AND ASA CLARK, OF KALAMAZOO, MICHIGAN, ASSIGNORS TO THE D. C. & H. C. REED & COMPANY, OF SAME PLACE.

TRUSSED AXLE FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 470,259, dated March 8, 1892.

Application filed November 19, 1891. Serial No. 412,433. (No model.)

To all whom it may concern:

Be it known that we, HEBER C. REED and ASA CLARK, citizens of the United States, residing at Kalamazoo, county of Kalamazoo, State of Michigan, have invented a new and useful Trussed Axle for Vehicles, of which the following is a specification.

This invention relates to that class of truss-axles which employ a truss-rod beneath the axle, said rod passing through end supports attached to the axle and through the thimbles on the extended ends of said rod, upon which thimbles the vehicle-wheels are mounted.

The object of this invention is to add utility by simplifying construction, to prevent the wheels from turning the nuts, and thus binding said wheels or from loosening the parts.

Another object of this invention is to make the thimble upon which the wheel is mounted both detachable and reversible end for end to increase durability.

The vehicle-axle here shown is especially adapted for such implements as horse-rakes and harrows, but can be used in any vehicle.

In the drawings forming a part of this specification, Figure 1 is a rear elevation; Fig. 2, an enlarged view of the left-hand end of Fig. 1, parts being in vertical section; Figs. 3, 4, and 5, enlarged perspective views of lettered details from Fig. 1 below described; and Fig. 6 is a broken detail from Fig. 3, looking from a point at the left of dotted line 6 6 in the latter-named figure.

Referring to the lettered parts of the drawings, A is an axle having a central pendent projection or bridge F. Attached to the under side of each end of this axle is a bracket B, provided with a longitudinal pocket, into which the ends of the thimbles C are detachably inserted, as in Figs. 1 and 2. The rear ends of these brackets are provided with a vertically-elongated opening *s*, through which the truss-rod E passes. This slot *s* is elongated to allow the truss-rod to yield when being tensioned. The center of the truss-rod rests against the bridge F and the ends pass through the brackets B and the thimbles C, as in Fig. 2. After the cap-like washers D are placed onto the ends of the truss-rod and against the ends of the thimbles C (this being done, of course, after the wheels are put on) the nuts on the ends of the truss-rod are thoroughly tightened, thus tensioning the rod, and at the same time the thimbles are rigidly but detachably secured in their pockets in the brackets B. It is preferable that the inner end of the hole through the washer D shall flare outward in funnel form to allow the truss-rod B to yield when being tensioned or tightened; but this may not be necessary in all instances. In each end of the thimble is a niche cut into it, as at *e e* in Fig. 4. One of these niches catches over a projection *a* at the rear end of the pocket in the bracket B, and a like projection *a* on the washer D catches into the other niche *e* at the other end of the thimble C. Thus when the nuts on the ends of the truss-rod are firmly set there is no possibility of the thimbles nor the washers turning; hence no possibility for the nuts to be turned farther on or off, and thus either set the wheels or loosen the parts bound by the nuts, as in some instances heretofore. These thimbles C are detachable and reversible, and the axle can be supplied with new ones when unduly worn, and changed end for end when the end upon which the wheel is first mounted becomes unduly worn.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent of the United States, is—

1. An axle having a center bridge and provided with the end brackets having the pockets, in combination with the truss-rod the ends of which pass through the pockets of said brackets, the thimbles on the ends of the truss-rods and detachable and reversible in the pockets of said brackets, the washers contacting with the outer ends of the thimbles, and the binding ends, substantially as set forth.

2. An axle having the center bridge and provided with the end brackets having the pockets, said pockets having the vertically-elongated slot in the inner end and the projection in said end to engage with a niche in the end of the thimbles of the pockets, in combination with the truss-rod the ends of which pass through the pockets of said brackets, the thimbles on the ends of the truss-rod

and detachable and reversible in the pockets of said brackets, said thimbles being provided with end niches, the washers contacting with the outer ends of the thimbles, said washers being provided with the lug for engaging with the niche in the thimbles, and the binding ends, substantially as set forth.

3. An axle having the center bridge and provided with the end brackets having the pockets, said pockets having the vertically-elongated slot in the inner end and the projection in said end to engage with a niche in the end of the thimbles of the pockets, in combination with the truss-rod the ends of which pass through the pockets of said brackets, the thimbles on the ends of the truss-rod and detachable and reversible in the pockets of said brackets, said thimbles being provided with end niches, the washers contacting with the outer ends of the thimbles, said washers being provided with the lug and having the hole through them internally flaring outward at the inner end for engaging with the niche in the thimbles, and the binding ends, substantially as set forth.

In testimony of the foregoing we have hereunto subscribed our names in the presence of two witnesses.

HEBER C. REED.
ASA CLARK.

Witnesses:
C. E. WINTER,
JESSIE ROBERTS.