E. H. WHEELER.

Axles.

No. 162,729. Patented April 27, 1875.

Fig. 1.

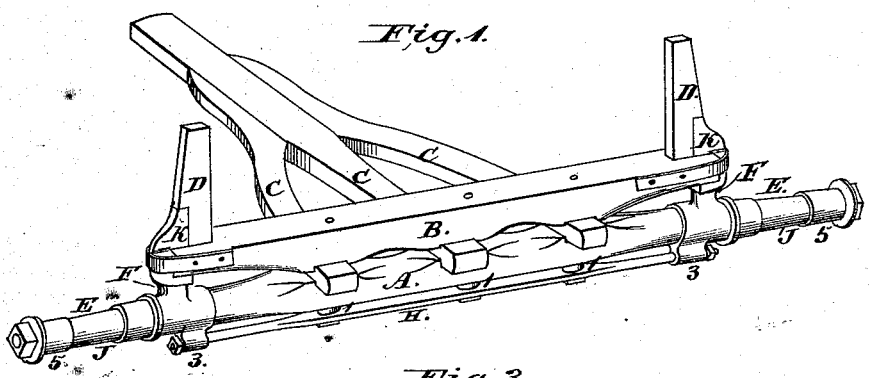
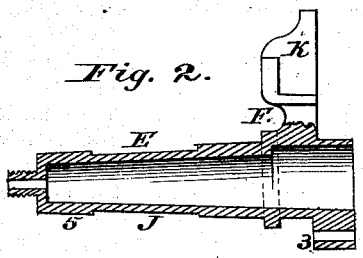



Fig. 3.

Fig. 2.



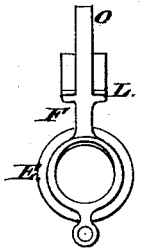




Fig. 4.

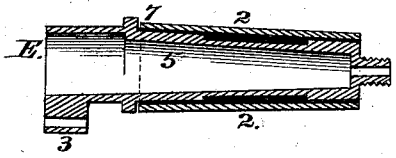
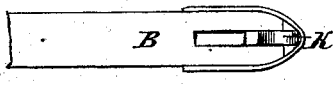



Fig. 6.




Witnesses

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# UNITED STATES PATENT OFFICE.

ELISHA H. WHEELER, OF MEMPHIS, MISSOURI.

## IMPROVEMENT IN AXLES.

Specification forming part of Letters Patent No. **162,729**, dated April 27, 1875; application filed November 14, 1873.

*To all whom it may concern:*

Be it known that I, ELISHA H. WHEELER, of the town of Memphis, in the county of Scotland and State of Missouri, have invented certain new and useful Improvements in Wagon-Axles and Thimble-Skeins; and I hereby declare the following to be a full and exact description thereof.

That others skilled in the art may make and use my invention, I proceed to describe its construction, reference being had to the accompanying drawings, of which—

Figure 1 is a perspective view of the hind gearing with all the parts in position. Fig. 2 is a longitudinal section of the thimble-skein. Fig. 3 is a cross-section of the skein-arm and tenon. Fig. 4 is a sectional view of a skein with box in place. Fig. 6 is a sectional view of the top of bolster or sand-board.

The same letters refer to same parts in all the drawings.

In Fig. 1, A is the axle; B, the bolster. *c c c* are the reach and hounds. D D are the standards. E E are the thimble-skeins. F F are the arms, with shoulder-flanges L, as seen in Fig. 3, for the bolster to rest upon. The arm F extends upward through the bolster in form of tenon O, as is seen in Fig. 3, and may terminate flush with the upper face of the bolster B or form-brace K, as seen in Fig. 1. 5 5 are the spindles or journals for the wheels to turn upon. H is the tension-rod. 3 3 are lugs cast upon the lower wall of the thimble-skein, with holes for the tension-rod H to pass through. J J are recesses upon the journals 5 5. 1 1 1 are washers or eyes formed on the ends of hounds, under braces, and are placed between axle A and tension-rod H, and are made of sufficient thickness to bring the tension-rod H on a line with the openings in lugs 3 3, so that the tension-rod may rest upon a line between the lugs 3 3, in order that it may receive a heavy tensile strain without affecting the other parts. Bolts pass down through the bolster B, hounds *c c c*, axle A, washers 1 1 1, and tension-rod H, and hold all the parts together by means of screw-threads and nuts. By this arrangement, the strain falling upon one skein is not communicated to the other, but falls upon the intermediate bolts. Tension-rod H passes through the holes in lugs 3 3, and is made tight by means of screw-threads and nuts upon its outer ends. Fig. 2 shows the central and inside structure of the thimble-skein and its adjuncts. Fig. 3 shows the relative position of the thimble-skein E, arm F, flanges L, and tenon O. Fig. 4 shows a skein of form long known and used, upon which I construct a large shoulder, 7, upon the upper part of the inside, at the shoulder of the spindle, for the axle A to rest against, and lug 3 upon its lower wall. 2 2 show the walls of the box to be fitted in the hub of wheel to turn on the journal 5, and is a cylindrical tube tapered to conform to the journal. This figure also shows the recess J, as related to the box 2. In this skein the shoulder 7, when made large, and axle A are fitted to it, in combination with lug 3, and tension-rod H forms a truss, that secures greater strength and less liability to bend or spring than the old methods of construction of wagon-axles. Fig. 6 shows the bolster or sand-board B, with the slot-opening for tenon O, or tenon *o* and standard D. A strap-band is passed around the end of the bolster B or sand-board, and secures the parts in place. Recess J is formed upon the spindle 5, instead of within the box 2, as heretofore, and secures a more perfect flow of oil to the places of contact or bearing. The box 2, when fastened in the wheels, is secured on the spindles 5 by means of nut-washers and screw-threads, linchpins, or other suitable device, none of which are shown.

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

1. Axle A, bolster B, thimble-skein E, lugs 3 3, and tension-rod H, in combination with arm F, tenon O, and flanges L, as set forth.

2. The combination of the axle, hound, bolts, washers 1 1 1, tension-rod H, lugs 3 3, as set forth.

ELISHA H. WHEELER.

Witnesses:

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