

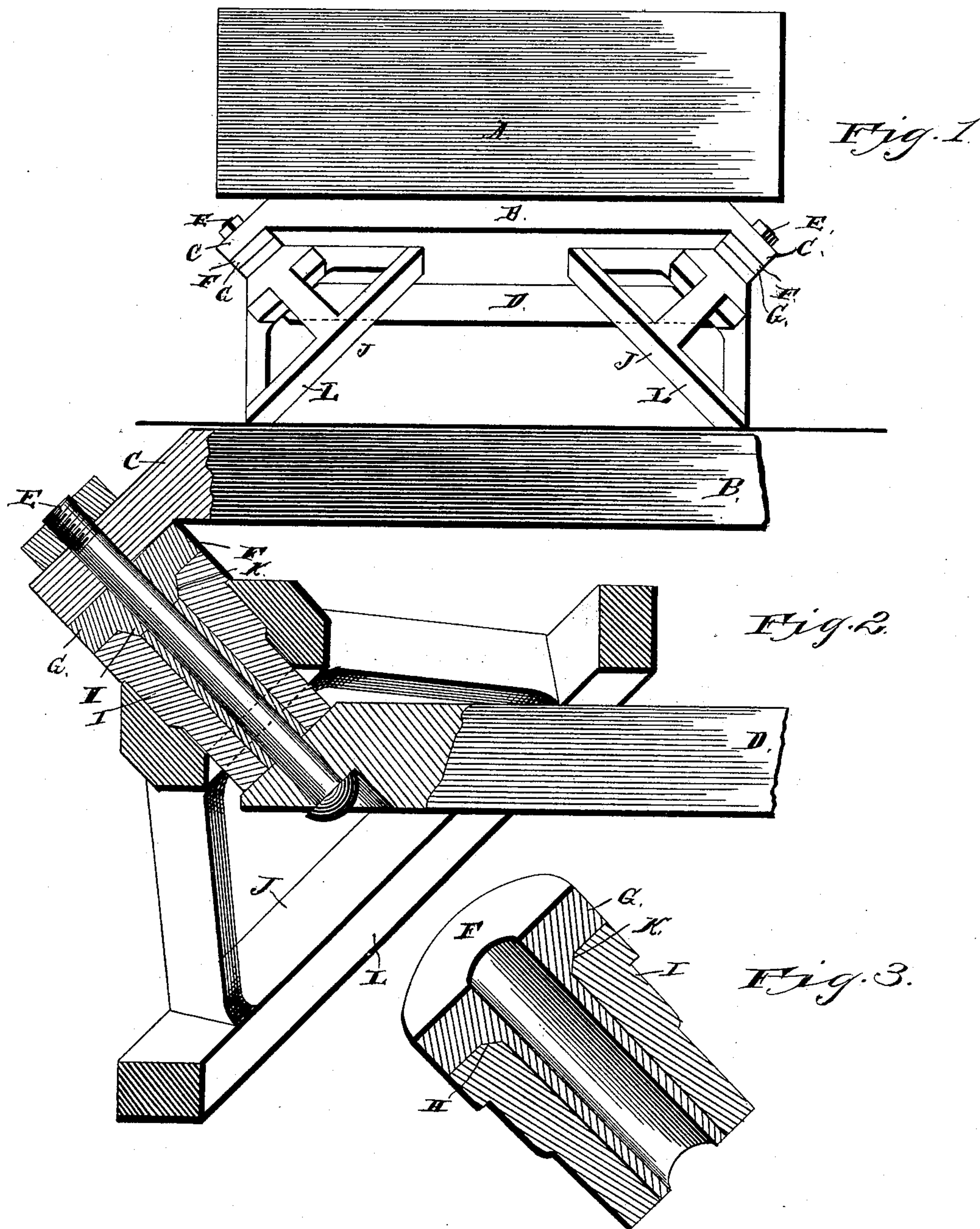
(No Model.)

H. A. ARNOLD.

VEHICLE WHEEL.

No. 387,551.

Patented Aug. 7, 1888.



Witnesses.

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UNITED STATES PATENT OFFICE.

HENRY ALANSON ARNOLD, OF LAKE GENEVA, WISCONSIN.

VEHICLE-WHEEL.

SPECIFICATION forming part of Letters Patent No. 387,551, dated August 7, 1888.

Application filed April 3, 1888. Serial No. 269,442. (No model.)

To all whom it may concern:

Be it known that I, HENRY ALANSON ARNOLD, a citizen of the United States, residing at Lake Geneva, in the county of Walworth and State of Wisconsin, have invented a new and useful Improvement in Vehicle-Wheels, of which the following is a specification.

My invention is an improved wheel for cars, wagons, and carriages; and it consists in certain novel features, hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a view showing my improved device applied to a wagon. Fig. 2 is a longitudinal section of the same. Fig. 3 is a detail view showing the axle-skein and the bushing in perspective.

Referring to the drawings by letter, A designates the wagon-body having the beams or bolsters B secured to the under side of its bottom at or near the ends of the same, as shown. The outer ends of the beams are bent, as shown at C, at an angle of forty-five degrees, or somewhere near forty-five degrees.

D designates beams or cross-bars that are secured to the beams or bolsters B below and parallel with the same, the outer ends of said cross-bars D being beveled, as shown, at an angle of forty-five degrees, or somewhere near forty-five degrees. The axle-bar E is secured between the outer ends of the bars B D, and is arranged at an angle of forty-five degrees, or somewhere near forty-five degrees, by having its upper end secured in the downwardly-bent portion C of the upper beam and its lower end secured in the outer beveled end of the lower beam, the said lower beam being made shorter than the upper beam in order to secure the proper inclination of the axle-bar, and also to provide room for the turning of the wheel.

F designates the axle-skein, which is secured upon the axle-bar between the ends of the beams in any desired manner. At the upper end of the axle-skein I provide the annular flange G, having the annular beveled portion H.

I is a thimble mounted on the axle-skein and removably secured within the hub of the wheel J. The upper portion of the central opening through the thimble is beveled or

countersunk, as shown at K, and fits around the beveled portion of the skein, upward movement of the thimble being prevented by the annular flange of the skein. The wheel J is substantially a hollow cone, the diametrically-opposite spokes being at right angles, or somewhere near to each other, and the tire L being somewhat beveled, so that the upper portion of the same will be at a right angle, or somewhere near right angle, to the lower portion, which rests on the ground. The hub of the wheel forms the apex of the cone, and is arranged on the thimble in such a manner that the base of the cone, formed by the tire, will be in an oblique plane extending upward and inward.

From the foregoing description it will be seen that I have provided a very simple and efficient wheel. It will be observed that the wheel is arranged so that it is under the body of the vehicle, entirely out of the way in loading and unloading. As the wheel revolves, each spoke, as it in turn supports the load, assumes a perpendicular position, so that its entire strength will be utilized, and as it revolves it assumes a horizontal position between the parallel beams. The wheel thus takes up very little space, so that the vehicle-body can be set nearer the ground, thereby diminishing its liability to overturn, and the wheel, being arranged under the body, cannot throw mud thereinto. The spokes, being at right angles to each other, serve to mutually brace each other, and as the wheels pass under the body the vehicle can be turned in its own length.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of the parallel beams, the inclined axle secured between the outer ends thereof, and the wheel mounted on said axle and having its upper portion passing between the parallel beams, as set forth.

2. The combination of the parallel beams, the upper one having a downwardly-turned end and the lower one having a beveled end, the inclined axle secured between said ends, and the wheel mounted on the axle, as set forth.

3. The combination of the parallel beams,
the inclined axle mounted in the ends of the
beams, the skein surrounding the axle between
the ends of the beams, the thimble mounted on
5 the skein, and the wheel secured to the thim-
ble, as specified.

Intestimony that I claim the foregoing as my

own I have hereto affixed my signature in pres-
ence of two witnesses.

HENRY ALANSON ARNOLD.

Witnesses:

JOHN B. SIMMONS,
JAMES SIMMONS.