

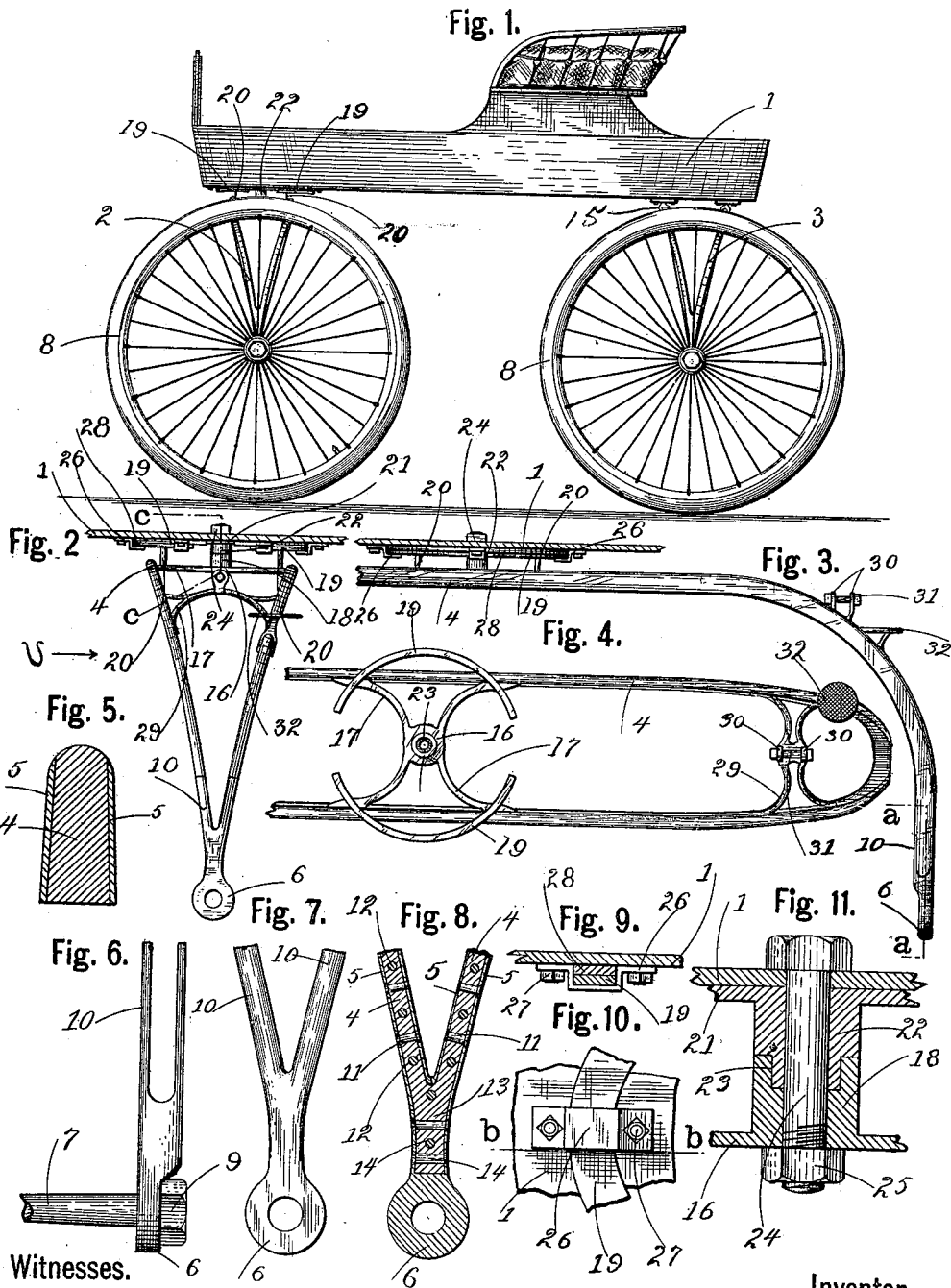
No. 666,955.

R. T. CALLAHAN.
SPEED WAGON.

Patented Jan. 29, 1901.

(Application filed Sept. 27, 1900.)

(No Model.)



Witnesses.

C. Pankow.
W. A. Neubauer.

Inventor.

Richard T. Callahan.
By A. J. Sangster Attorney.

UNITED STATES PATENT OFFICE.

RICHARD T. CALLAHAN, OF BUFFALO, NEW YORK.

SPEED-WAGON.

SPECIFICATION forming part of Letters Patent No. 666,955, dated January 29, 1901.

Application filed September 27, 1900. Serial No. 31,317. (No model.)

To all whom it may concern:

Be it known that I, RICHARD T. CALLAHAN, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Speed-Wagons, of which the following is a specification.

My invention relates to an extremely light vehicle designed especially for speeding purposes; and the main object of the invention is to form the substantially V-shaped curved axles of one integral piece of wood and fit their lower ends in sockets in forked or bifurcated metal portions.

It further relates to the simple and strong means employed to attach the forward axle to the body and to certain details of construction.

For a full understanding of the merits and advantages of the invention reference is to be had to the accompanying drawings and the following description.

The invention is susceptible to various changes in the form, proportion, and minor details of construction without departing from the principle or sacrificing any of the advantages thereof, and to a full disclosure of the invention an adaptation thereof is shown in the accompanying drawings, in which—

Figure 1 represents a side elevation of my improved wagon. Fig. 2 is an enlarged side elevation, partially in section, of a fragment of the body and the forward axle. Fig. 3 is a front elevation of the body and a fragment of the forward axle looking in the direction of the arrow V, Fig. 2. Fig. 4 is an enlarged top plan view of a fragment of the forward axle. Fig. 5 is a transverse section through one of the members or forks of an axle. Fig. 6 is an enlarged detached edge view of one of the forked socketed portions, also showing a fragment of one of the spindles. Fig. 7 is an enlarged detached side elevation of one of the forked socketed portions. Fig. 8 is a longitudinal section through a fragment of one of the axles on line *a a*, Fig. 3. Fig. 9 is a section on line *b b*, Fig. 10. Fig. 10 is a fragmentary view of the wagon-body, showing one of the clips for fastening the curved rods to the body. Fig. 11 is an enlarged fragmentary section on line *c c*, Fig. 2.

In referring to the drawings for the details

of construction like numerals designate like parts.

The body 1 of the vehicle is formed as light and strong as possible. The front and rear axles 2 and 3 are constructed exactly alike, so the description of one will suffice for the description of the other. The axle proper, 4, is formed of one integral piece of wood, which is bent in the substantially bow or U shaped formation required and then split longitudinally to within a short distance of its ends by sawing or other means to form the forks or members of the axle. These members or forks are reinforced on their sides throughout their length by metal strips 5. The lower ends of the axle parts are fitted in forked socketed portions, which are formed substantially as shown in Figs. 6, 7, and 8. These socketed portions each have a lower eye part 6, through which the spindle 7 of one of the wheels 8 passes and is fastened by the nut 9 and substantially V-shaped extensions 10, each of which is cut away to leave two parallel sides or forks, substantially as shown in Fig. 6, which are formed so as to fit upon the wooden surface of the axle end between the reinforcing-strips 5. By this means the lower end of the wooden axle, including the portion of its bifurcations or forks, is firmly incased or inclosed within metal walls or reinforcements, substantially as shown in Fig. 8, and is thus prevented from splitting or breaking from vibrations or shocks.

The reinforcing-strips 5 are firmly riveted in place by the rivets 11, and the V-shaped extensions 10 are rigidly fastened to the wooden axle by rivets 12, which extend substantially at right angles to the rivets 11, fastening the metal strips in place. (See Fig. 8.) The intermediate part 13 of each socketed portion in which the united end of the wooden axle is seated has rivets 14 passed through it and the axle end, substantially as shown in Fig. 8.

It will be noticed by referring to Fig. 5 that the axle members above the socketed portions are reinforced on their sides only and that the distance between the top and bottom surfaces is of sufficient extent to render the axle strong and staunch enough to withstand severe shocks and jolts.

It will be noticed by referring to Fig. 2 that

the axle members curveslightly outward. Although this is caused by the integral formation of the members, it prevents any outward buckling of the axle members under strain, which
 5 is a very important advantage in these exceedingly light vehicles.

The upper members of the rear axle 3 are rigidly fastened to the rear of the body by the clips 15. The forward axle 2 is provided with
 10 a bracket 16, which has four curved arms 17, bolted or otherwise rigidly secured to the members of said forward axle, and a central tubular hub 18. Two curved rods 19 are supported above the bracket 16 by the vertical
 15 arms 20. The rods are curved to substantially the same circle and are arranged at substantially the same distance from the center hub 18. A metal plate 21 is secured to the bottom of the front end of the wagon, and a
 20 tubular portion 22 is fastened to said plate and has a reduced lower end, which fits in the upper part 23 of the opening in the tubular hub, which is enlarged sufficiently to receive it, substantially as shown in Fig. 1. A king-
 25 bolt 24 is passed vertically through the tubular portion 22 and the hub 18 and is secured in place by the nut 25. (See Fig. 11.) By this means a large proportion of the strain or shock which ordinarily is directly upon the
 30 king-bolt is sustained by the interlocking hub and tubular portion.

In order to additionally secure the front axle to the body, and thereby prevent it from being detached from said body upon the
 35 loosening of the king-bolt, a series of metal fastenings 26 are bent over the curved rods 19 and secured at their ends to the body by

the bolts 27, substantially as shown in Figs. 9 and 10. The fasteners also secure the curved rods directly beneath the annular ring 28, secured to the bottom of the body, upon which
 40 the said rods slide when the axle is turned. Brackets 29 are also rigidly fastened between the members of the forward axle 2 on each side of the central bracket 16 and have projecting forks 30, between which bolts 31 are
 45 passed and on which the shafts or thills are pivoted. A step 32 is also mounted on one side of the forward axle, substantially as shown in Figs. 3 and 4.
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In assembling the wagon parts the lower ends of the bifurcated axles are inserted in the V-shaped sockets by forcing them into place between the forks 10, the opening between the forks easily permitting this to be
 55 done, (see Fig. 6,) and the axle and socket portion are fastened together by rivets, as before described.

I claim as my invention—

A speed-wagon having curved bifurcated
 60 axles; each axle formed of one integral piece of wood cut longitudinally to a point near its ends to form bifurcations, metal reinforcing-strips extending throughout the sides of said
 65 axles, and metal end pieces each having a socket to receive an end of an axle and forked extensions; each fork being cut away to leave separated strips which fit the surface of the axle between the reinforcing-strips substantially as set forth.

RICHARD T. CALLAHAN.

Witnesses:

A. J. SANGSTER,
 G. A. NEUBAUER.