

No. 627,210.

Patented June 20, 1899.

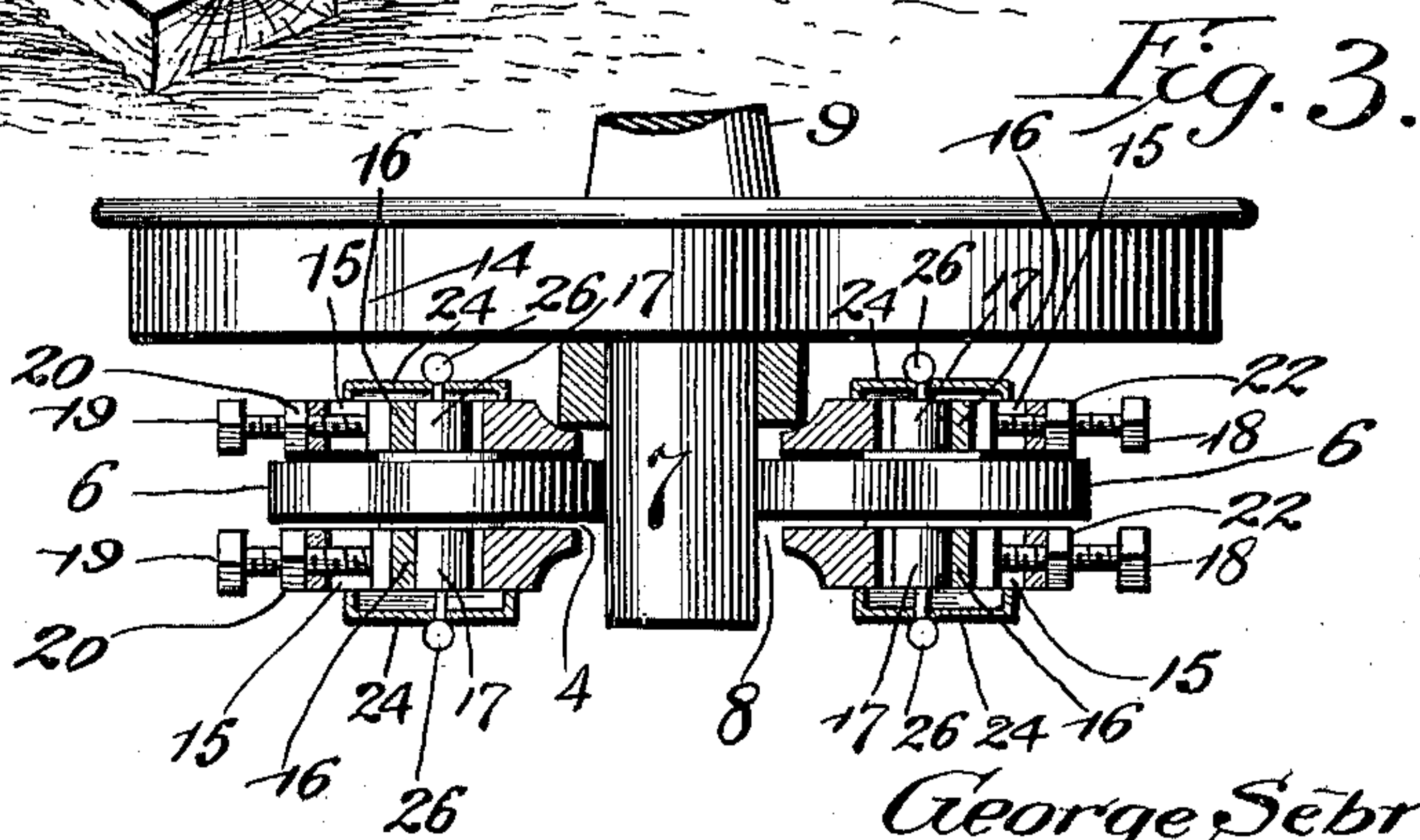
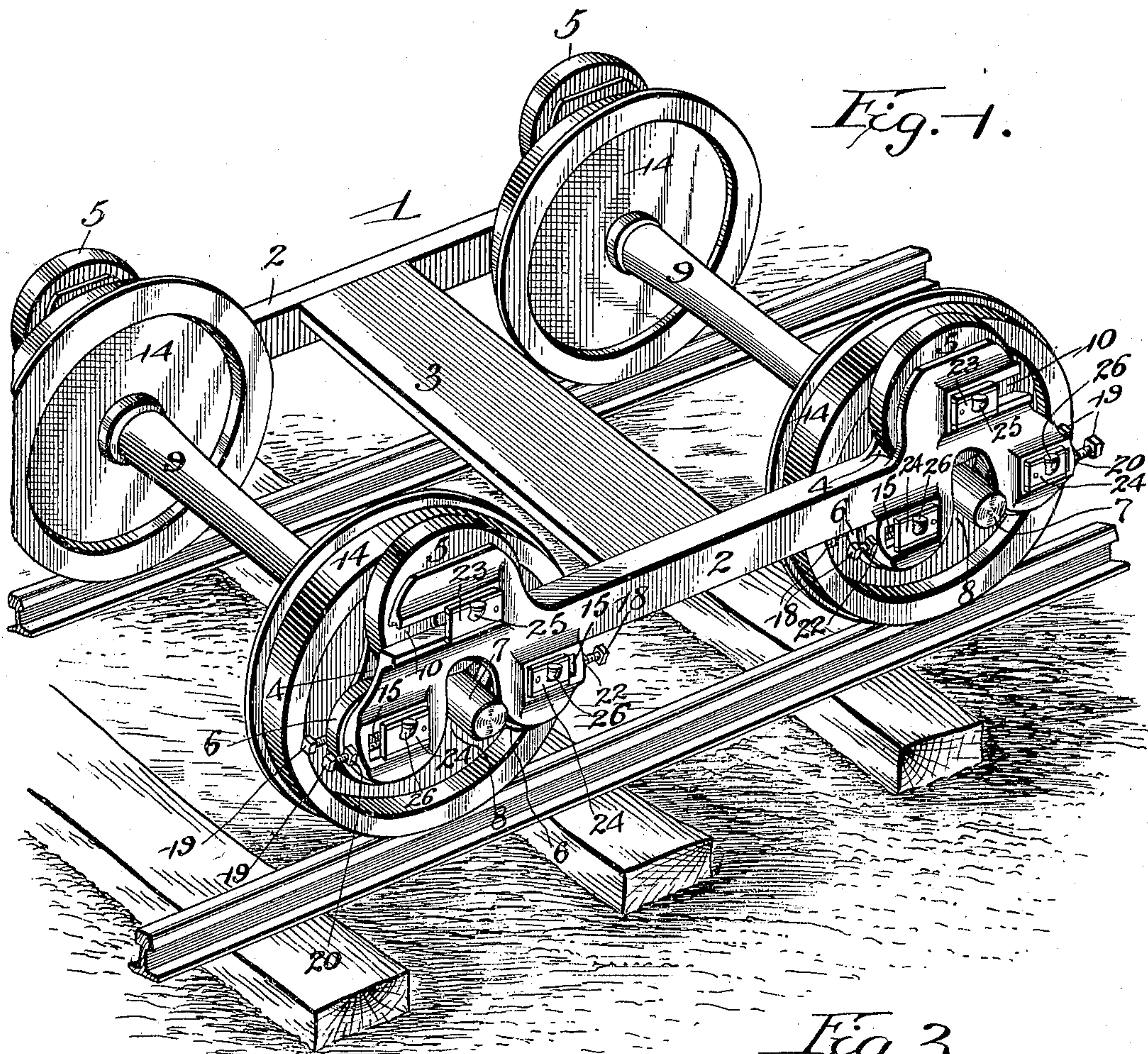
G. SEBRING & J. & C. E. ARNER.

CAR TRUCK.

(Application filed Apr. 28, 1899.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses
A. Roy Appleman
J. F. Riley

George Sebring, Inventors
By Their Attorneys, Joseph Arner,
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C. A. Snow & Co.

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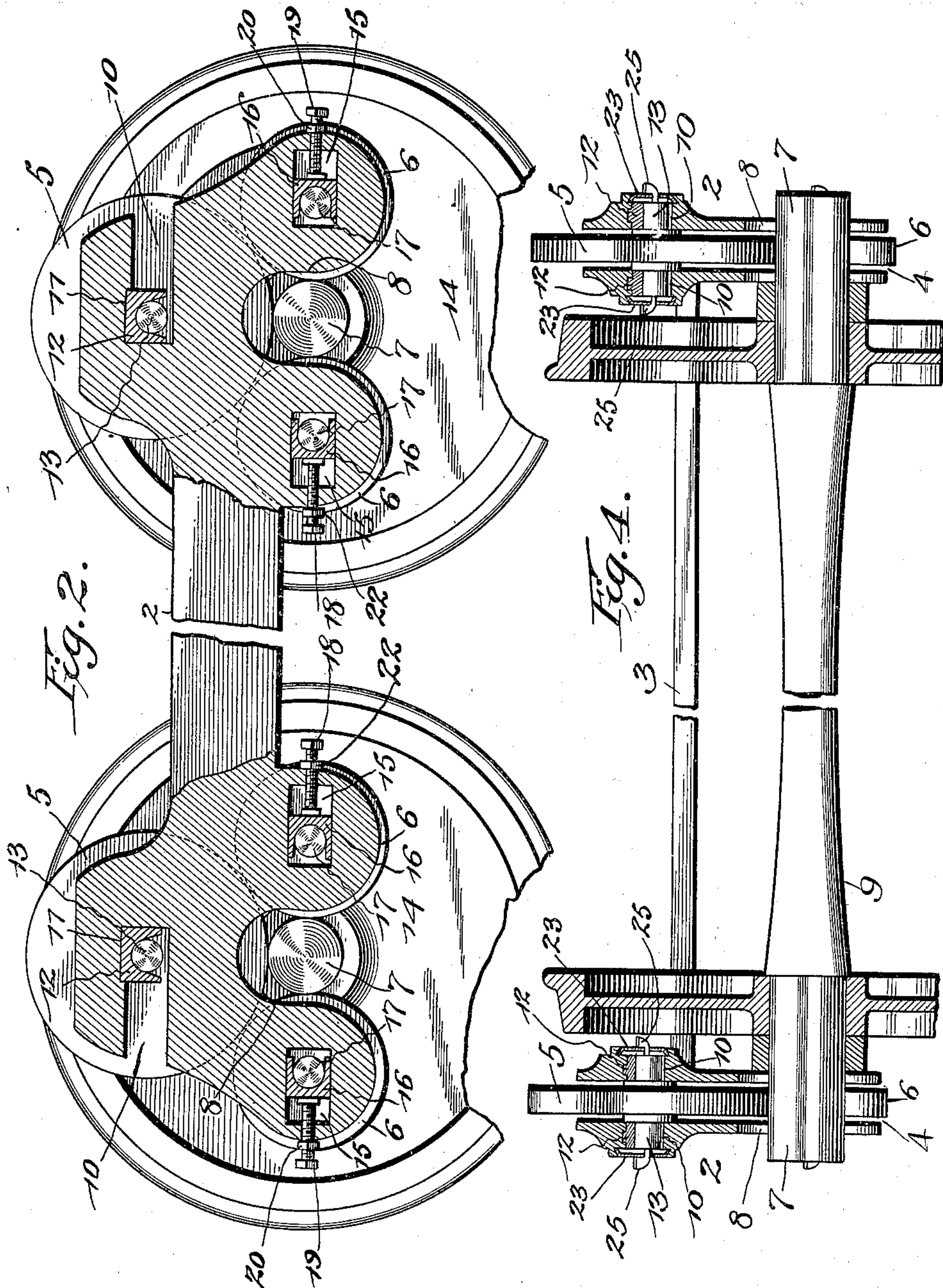
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2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

GEORGE SEBRING, OF LEHIGHTON, AND JOSEPH ARNER AND CALVIN E. ARNER, OF WEISSPORT, PENNSYLVANIA.

CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 627,210, dated June 20, 1899.

Application filed April 28, 1899. Serial No. 714,846. (No model.)

To all whom it may concern:

Be it known that we, GEORGE SEBRING, residing at Lehighton, and JOSEPH ARNER and CALVIN E. ARNER, residing at Weissport, in the county of Carbon and State of Pennsylvania, citizens of the United States, have invented a new and useful Car-Truck, of which the following is a specification.

The invention relates to improvements in car-trucks.

The object of the present invention is to improve the construction of trucks, more especially the means for journaling the car-wheels, and to reduce the friction to a minimum and effectually prevent what is known as a "hot box" and at the same time reduce the force required for drawing a train of cars, and thereby effect a saving in power.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of a truck constructed in accordance with this invention. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a horizontal sectional view of one end thereof. Fig. 4 is a vertical sectional view of one side of the truck.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a truck-frame composed of sides 2 and a transverse connecting-piece 3, extending across the truck at the center thereof and designed to constitute a spring board or plank and to receive the cushioning-springs of the truck. The sides 2 of the truck are provided at each end with a vertical longitudinal opening or bifurcation 4, which receives an upper antifriction-wheel 5 and a pair of lower antifriction-wheels 6, located at opposite sides of a journal 7, upon which the upper or main antifriction-wheel 5 rests. The end portions of the sides of the truck-frame are arched, as shown, to provide lower bearing-recesses 8 for the reception of the journals of the axles 9, and the said journals by bearing against the peripheries of the antifriction-wheels are rendered practically frictionless.

The inner and outer walls of the opening or bifurcation 4 are provided near the top of the arched portion with horizontal slots 10, extending inward from the outer edges of the said walls and provided at their inner ends with recesses 11, in which are seated journal-brasses 12, which are arranged on the journals 13 of the main antifriction-wheel, and these journals 13 may be either formed integral with the wheel or may consist of a separate shaft or spindle. As the main antifriction-wheel, which supports the weight of the truck, engages the journal or spindle of the axle, it will be clear that it travels at a less rate of speed than the car-wheel, and the parts are preferably proportioned so that when the car-wheel 14 makes four revolutions the main antifriction-wheel will make one revolution. This proportion will effectually prevent the occurrence of a hot box, and under ordinary conditions the journal-brass may not be employed, as the friction on the journals 13 with ordinary trains will not materially affect the operation of the construction.

The sides or walls of the bifurcation or opening are provided at their lower portions with horizontal slots 15, in which are arranged journal-brasses 16, which engage the outer sides of the journals 17 of the lower antifriction-wheels. These journal-brasses are retained in position by inner and outer screws 18 and 19, disposed horizontally and arranged in suitable threaded perforations of the truck-frame. The adjusting-screws 18 and 19 of the inner and outer walls of the bifurcation 4 have their heads located beyond the edges of the truck-frame and are adapted to be readily manipulated, and these screws are secured at any desired adjustment by jam or lock nuts 20 and 22. By adjusting the brasses or bearings 16 inward and outward the width of the space between the lower antifriction-wheels may be varied to accommodate journals of different diameters, which adjustment is exceedingly advantageous, as it will enable the car wheels and axles of old trucks to be applied to trucks provided with the improvements herein shown and described.

The journals 13 and 17 may be covered by caps 23 and 24, and oil-cups 25 and 26 may be provided and arranged as illustrated in Fig. 1 of the accompanying drawings; but

any other form of lubricators may be employed and the general construction of the truck may be varied to adapt the same to the character of car to which it is to be applied, as the improvements, while being especially designed for electric and other street-railway cars, are adapted for use on railroads and on all kinds of conveyances.

The invention has the following advantages:

- 10 The car-truck, which is simple and comparatively inexpensive in construction, is strong and durable, and it is capable of reducing the friction to a minimum and of effectually preventing hot boxes. The main antifriction-wheel, which supports the weight of the truck, rotates at a much less rate of speed than the car-wheels, so that there is no danger of its bearings becoming overheated through any speed attained by a train of cars. The device greatly reduces the power necessary for drawing a train of cars, and it will thereby effect a great saving in fuel. The antifriction-wheels between which the journals are arranged are capable of adjustment to adapt the truck for the reception of journals of different diameters, and by this construction the car wheels and axles on the trucks now in use may be applied to trucks provided with the present improvements.
- 30 Changes in the form, proportion, size, and the minor details of construction within the scope of the appended claims may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention, such as arranging the antifriction-wheels to form the bearings for various kinds of shafts.

What is claimed is—

1. In a device of the class described, the combination of a frame having a bifurcation or opening and provided with a journal-receiving recess, an upper main antifriction-wheel journaled on the frame and mounted within the upper portion of the bifurcation or opening and adapted to rest upon a journal or shaft, and the lower antifriction-wheels mounted on the frame within the opening or bifurcation and arranged to engage a journal or shaft at opposite sides thereof, substantially as described.
2. In a device of the class described, the combination of a frame having an arched portion provided with an opening or bifurcation, said arched portion forming a recess for the reception of a shaft or journal, an upper main antifriction-wheel journaled on the frame and resting upon the shaft or journal and adapted to support the weight of the frame and the lower wheels, substantially as described.
3. In a device of the class described, the combination of a frame having an arched portion forming a recess for the reception of a shaft or journal, a main antifriction-wheel mounted at the top of the arched portion, and the side antifriction-wheels arranged at the bottom of the arched portion and capable of

adjustment to vary the distance between them to adapt the device for journals and shafts of different diameters, substantially as described.

4. In a device of the class described, the combination of a frame having a recess or opening for the reception of a shaft or journal, a main antifriction-wheel mounted on the frame at the top of the opening or recess, the adjustable antifriction-wheels located at opposite sides of the same, and the adjusting-screws mounted on the frame and engaging the journals of the adjustable antifriction-wheels, substantially as described.

5. In a device of the class described, the combination of a frame having an upper horizontal slot and provided at the inner end thereof with an upper recess, a journal bearing or brass arranged in the slot and interlocked with the recess, an upper or main antifriction-wheel having its journal arranged in the journal bearing or brass, and the lower antifriction-wheels, substantially as described.

6. In a device of the class described, the combination of a frame having a recess or opening adapted to receive an axle or shaft, an upper or main antifriction-wheel, journal bearings or brasses removably mounted on the frame and arranged above the journals of the said antifriction-wheel, the side antifriction-wheels, and the adjustable journal bearings or brasses removably mounted on the frame and engaging the journals of the side antifriction-wheels at the outer sides thereof, substantially as described.

7. In a device of the class described, the combination of a frame provided at its bottom with horizontal slots, an upper antifriction-wheel journaled on the frame, lower antifriction-wheels having journals arranged in the said slots, and means for adjusting the said journals in the slots, substantially as described.

8. In a device of the class described, the combination of a frame provided with opposite slots and having an opening, an upper antifriction-wheel mounted on the frame, lower antifriction-wheels arranged in said slots, the inner and outer adjusting-screws mounted on the frame, and adapted to hold the lower antifriction-wheels at the desired adjustment and having their heads located beyond the frame and the jam-nuts arranged on the adjusting-screw, substantially as described.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

GEORGE SEBRING.
JOSEPH ARNER.
CALVIN E. ARNER.

Witnesses:

H. SEABOLDT,
JAMES FREESTONE.