

No. 777,727.

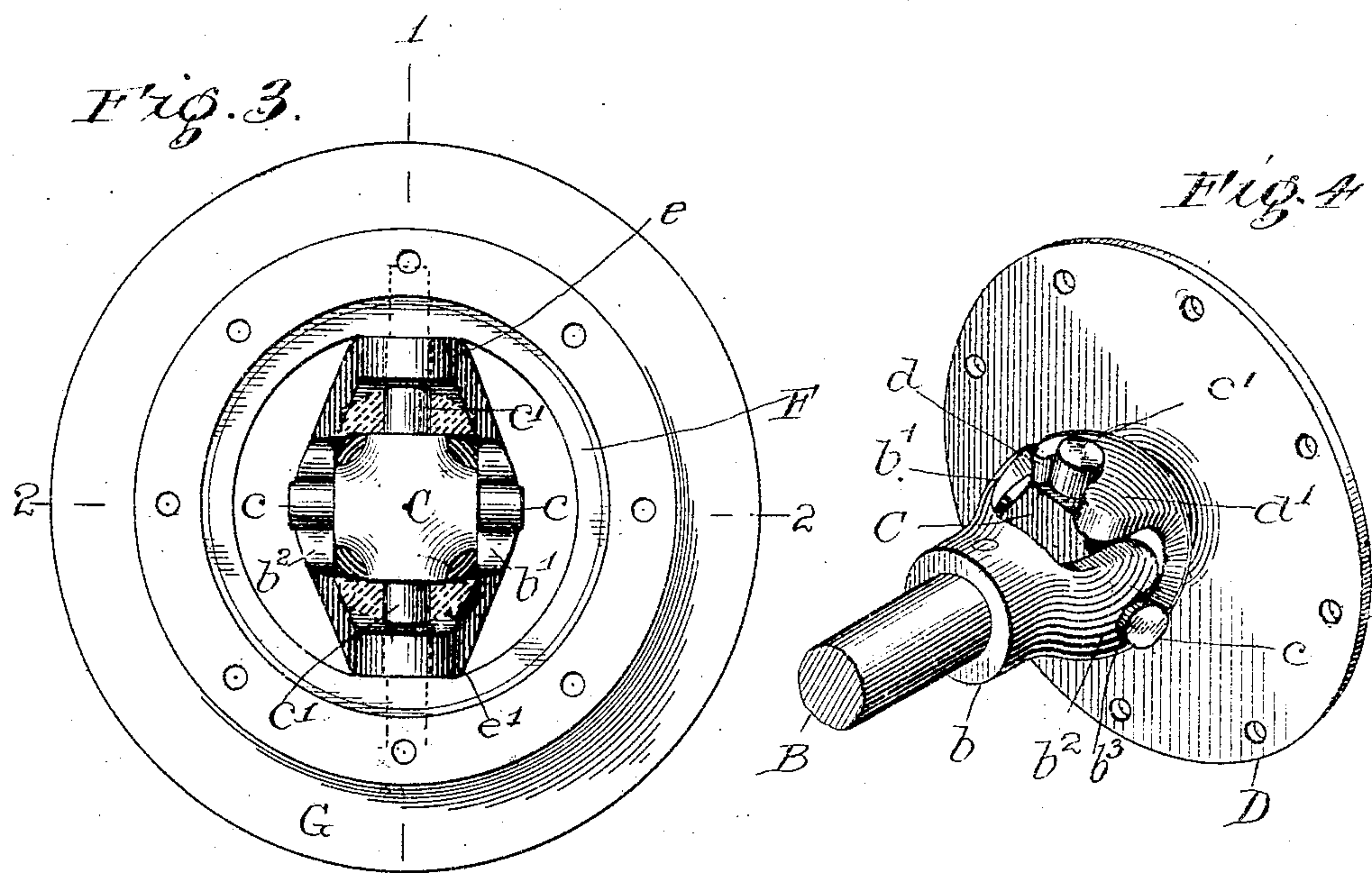
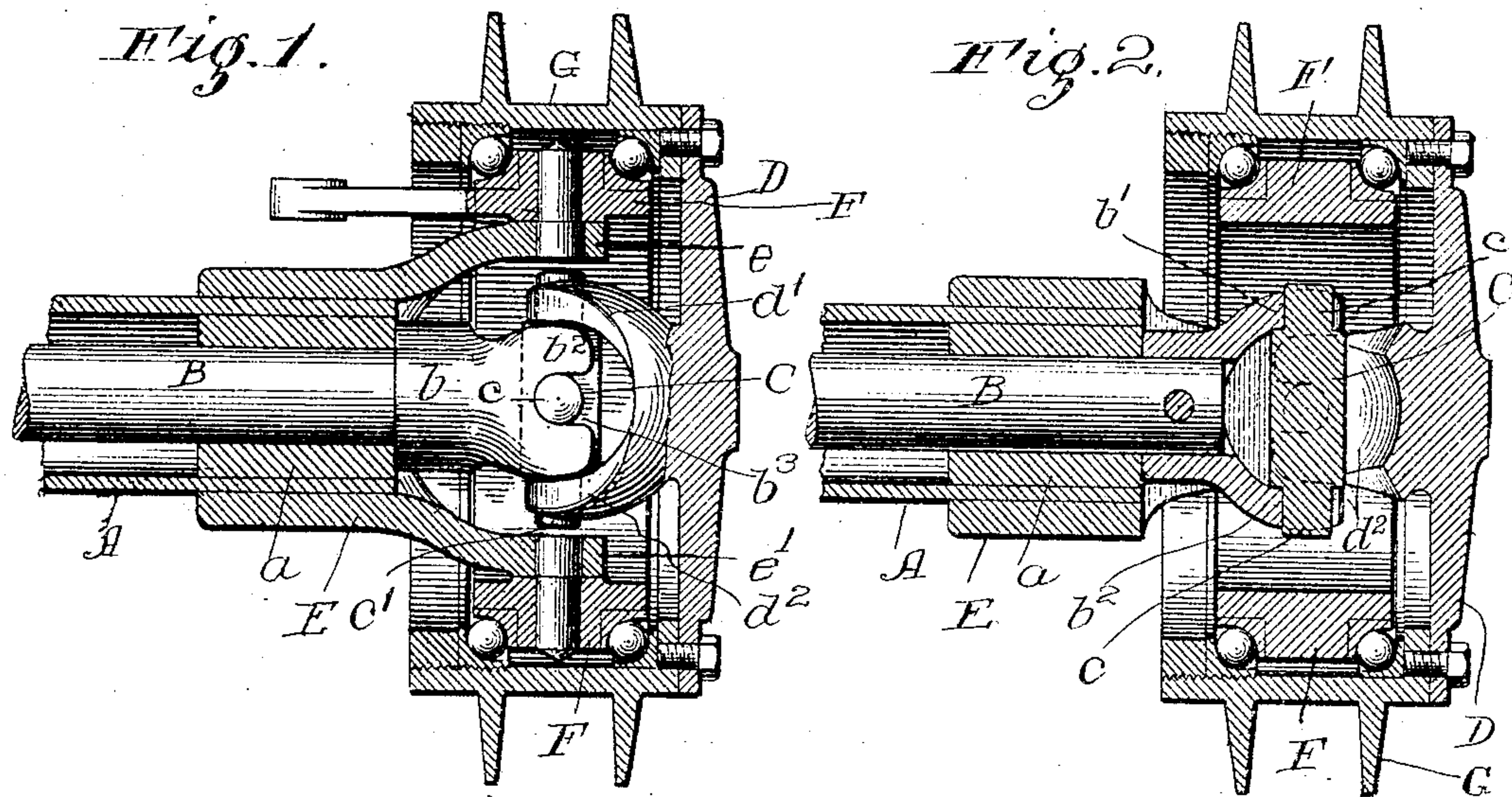
PATENTED DEC. 20, 1904.

H. T. HANSEN.

DRIVING GEAR FOR MOTOR VEHICLES.

APPLICATION FILED JUNE 3, 1904.

NO MODEL.



Witnesses, ¹

Chas. O. Sheroey
Russell Viles

Inventor:

Hans Theodor Hansen
by H. Butler.
May.

UNITED STATES PATENT OFFICE.

HANS THEODORE HANSEN, OF MILWAUKEE, WISCONSIN.

DRIVING-GEAR FOR MOTOR-VEHICLES.

SPECIFICATION forming part of Letters Patent No. 777,727, dated December 20, 1904.

Application filed June 3, 1904. Serial No. 210,920.

To all whom it may concern:

Be it known that I, HANS THEODORE HANSEN, a citizen of the United States of America, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Driving-Gear for Motor-Vehicles, of which the following is a specification.

My invention relates to certain improvements in driving-gear for motor-vehicles, the particular purpose being to provide a universal joint in connection with the driving-wheels which shall not interfere with the ready removal of the latter from the axle.

To such end the invention consists in certain characteristic features to be described herein, and definitely pointed out in the claims.

In the drawings, Figure 1 is a vertical axial section through one end of one of the axles and a hub mounted thereon, showing the driving-shaft and the portion of the hub immediately connected thereto in side elevation. Fig. 2 is a horizontal axial section of the same, the section being cut through the members of the universal joint in addition to those cut by the section of Fig. 1. Fig. 3 is an outside view of the hub and the parts contained therein after the front plate has been removed; and Fig. 4 is a perspective of the end of the driving-shaft, the front plate of the hub, and the joint between the two.

Referring to the drawings, A is one end of a tubular axle in which is contained a bearing *a*. In this bearing is journaled a driving-shaft B, upon the outer end of which is a collar *b*, provided with diverging forks *b'* *b''*, corresponding in general shape to such as are used in the ordinary gimbal-joint, except that these forks have end notches *b'''*, in which are arranged oppositely-extending gudgeons *c* of a block C, and a second pair of gudgeons *c'* upon the same block are arranged in end notches *d* in forks *d'* *d''*, extending inwardly from a front plate D, adapted to be secured to the hub.

Upon the tubular axle B is rigidly secured a collar E, having opposite forks *e* *e'* vertically arranged in the axis of the wheel. Upon these forks is pivoted a bearing-ring F, and upon the latter is mounted the hub G by means of ordinary ball-bearings. To the front of this hub is secured the front plate D.

It should be noticed that the parts described

form a positive universal joint between the driving-shaft and the hub, permitting the wheel to oscillate freely upon its vertical axis without interfering with the driving of the same; also, that the hub or wheel may be removed from its bearing in the ordinary manner without regard to its driving connections, the latter coming apart freely when the wheel is taken off and being held firmly in position by the wheel-bearings when the latter are in place and prevent the longitudinal movement of the wheel with relation to the axle.

The particular form and exact arrangement of the parts are thought to be immaterial and the invention not to be limited thereto except as clearly specified in the following claims.

I claim as new and desire to secure by Letters Patent—

1. The combination with a driving-shaft and a driving-wheel mounted so as to oscillate with respect to the axis of the driving-shaft, of a universal-joint connection between the shaft and the wheel comprising outwardly-extending forks secured to the driving-shaft and having notches in their ends, a part of the hub having inwardly-extending forks provided with end notches and a block having two pairs of gudgeons in transverse planes, said pairs of gudgeons being arranged in the end notches of the shaft and hub respectively.

2. The combination with an axle having vertically-arranged end forks, a bearing-ring pivoted upon said forks, a wheel-hub mounted upon the bearing-ring, and driving-shaft journaled in the plane of the end forks of the axle, of a universal-joint connection between the driving-shaft and the wheel-hub, comprising a part of the hub having inwardly-extending end notched forks, a part of the shaft having outwardly-extending end notched forks, and a block having transversely-extending pairs of gudgeons, said block being arranged between the forks of the axle and hub with its pairs of gudgeons lying respectively in the end notches of the shaft and hub.

In witness whereof I have signed the above application for Letters Patent, this 31st day of May, A. D. 1904.

H. THEODORE HANSEN.

Witnesses:

CHAS. O. SHERVEY,
RUSSELL WILES.