

No. 627,503.

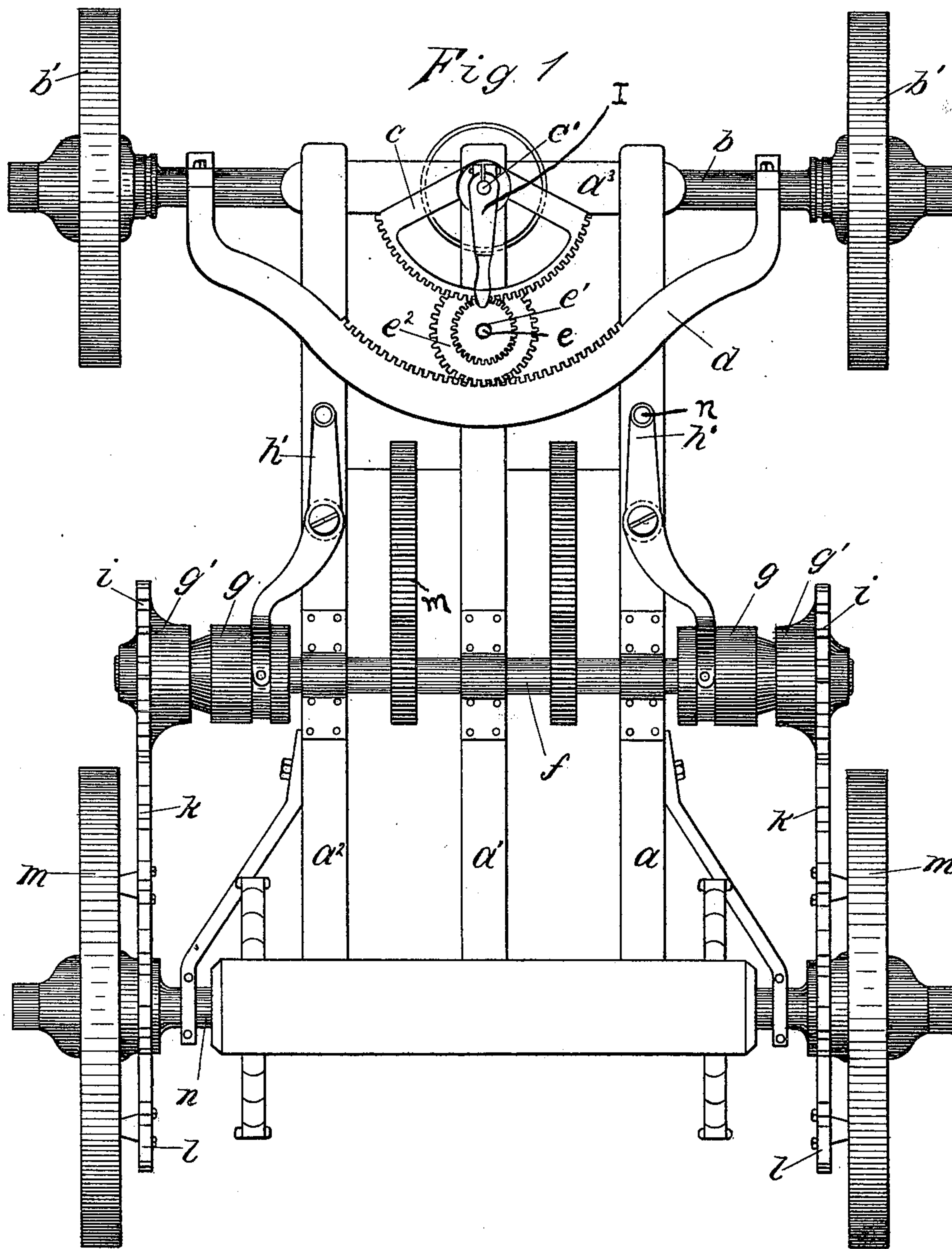
Patented June 27, 1899.

J. D. HUMPHREY.
MOTOR VEHICLE.

(Application filed Feb. 9, 1899.)

(No Model.)

2 Sheets—Sheet 1.



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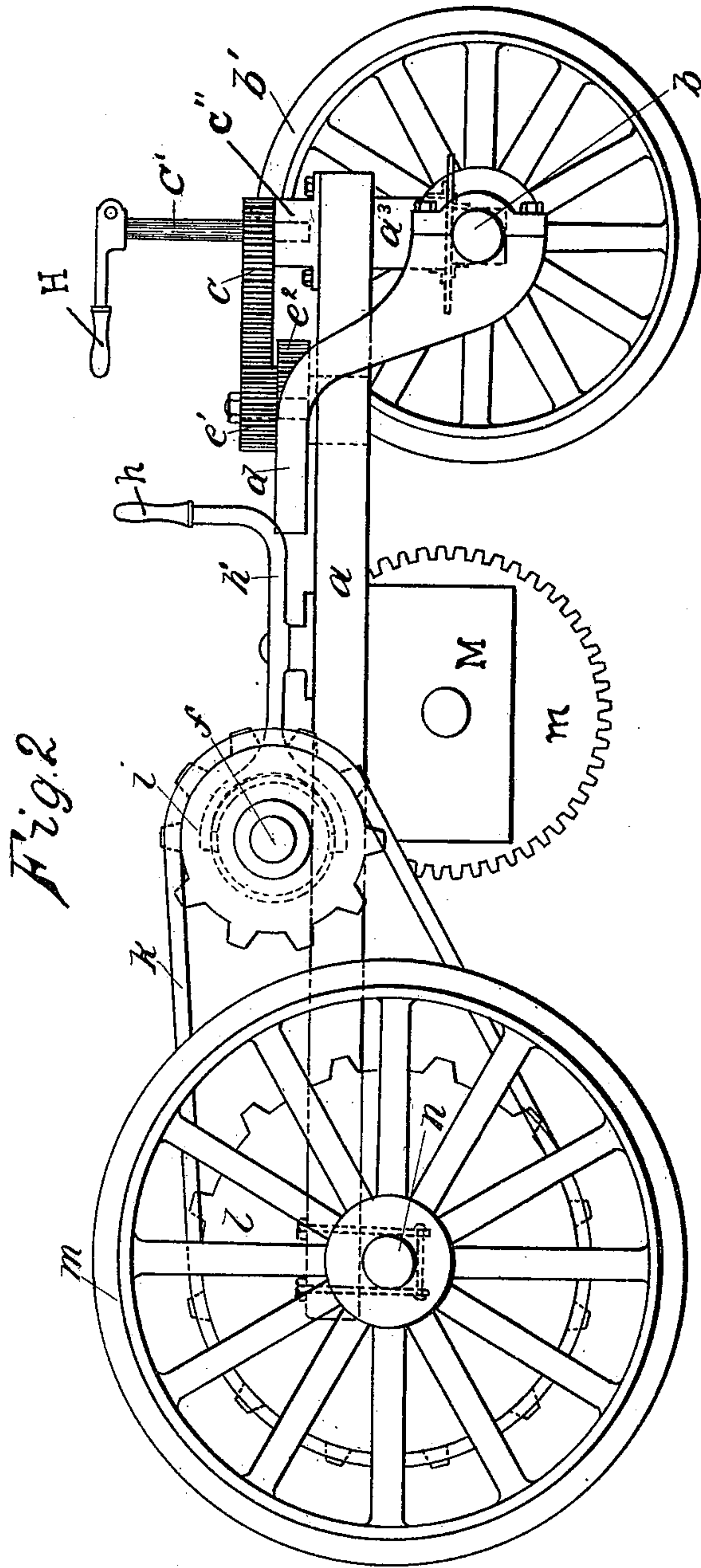
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UNITED STATES PATENT OFFICE.

JOHN D. HUMPHREY, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR OF ONE-HALF TO FRANK H. AFFORD AND JOHN E. CURRAN, OF SAME PLACE, AND JAMES I. CURRAN, OF HOLYOKE, MASSACHUSETTS.

MOTOR-VEHICLE.

SPECIFICATION forming part of Letters Patent No. 627,503, dated June 27, 1899.

Application filed February 9, 1899. Serial No. 705,033. (No model.)

To all whom it may concern:

Be it known that I, JOHN D. HUMPHREY, a citizen of the United States of America, residing at New Britain, in the county of Hartford and State of Connecticut, have invented a certain new and useful Improvement in Motor-Vehicles, of which the following is a description, reference being had to the accompanying drawings, wherein—

10 Figure 1 is a plan view of the main parts of a vehicle embodying said improvement. Fig. 2 is a side elevation of the parts shown in Fig. 1.

The object of the improvement is denoted by its title—to wit, the production of a vehicle driven by a motor carried thereby.

In the accompanying drawings the letters a , a' , a^2 , and a^3 denote parts of what may be called the "vehicle-frame."

20 The letter b denotes the forward axle, a swinging axle bearing wheels b' for guiding the vehicle in its travel.

The letter c denotes a gear-segment fast to a shaft c' , stepped in a pillow-block c'' , mounted on the frame directly above the king-bolt of the axle b .

30 The letter d denotes another gear-segment carried by a long yoke passing laterally over the frame and turned downward and forward at its ends, which are made fast to the axle b .

35 The letter e denotes a vertical idle shaft properly supported from the vehicle-frame, carrying a gear e' , which meshes into the gear-segment c , and another gear e^2 , which meshes into the gear-segment d . There is an operating-handle H on the upper end of the shaft e , by the manipulation of which the operator can swing the axle b as he chooses and guide the travel of the vehicle accordingly.

40 The letter f denotes a rotary counter-shaft driven by gears m from and by the motor M , not particularly described herein. On each end of it is a clutch mechanism each composed of the clutch parts g and g' , the former of which has a short longitudinally-sliding motion on the shaft f and is provided with a cone adapted to coöperate with a conical socket in the clutch part g' . It will be understood that when this cone and cone-socket are

brought into firm contact the rotary motion 50 of part g' is communicated to the part g , but that when they are separated this rotary motion fails to be thus communicated. It is a matter of course that while the clutch parts g have the before-mentioned sliding motion on 55 the shaft f , they at the same time must rotate therewith.

The letter h denotes the handle to each of two levers h' , pivoted on the frame and which control the said meshing and intermeshing 60 motions of the clutch parts g .

Each clutch part g is practically integral with a sprocket-wheel i , from which the sprocket-chains k communicate rotary motion to the sprocket-wheels l . The latter are clipped 65 and fixed to the sides of the traction-wheels m , which are loose on the fixed axle n , duly attached to the vehicle-frame.

The use and operation of the motor-vehicle is apparent from the description already 70 given. It is apparent that the traction-wheels may be given rotation under power either separately or simultaneously, a fact that is of importance in traveling on curves. The use of the conical intermeshing surfaces of the 75 clutch mechanisms, while effective for the purpose in hand, prevents that sudden starting of the parts in rotation which is liable to break them. Moreover, when the operator desires to leave the vehicle in safety, as for 80 the night, he has but to unship the shaft c' and segment c and carry them with him, and in their absence no unauthorized person can steer the vehicle. Again the use of this segment with the large and small gears e^2 e' necessitates only a small movement of the handle H to swing the front shaft to a considerable degree.

I claim as my improvement—

1. In a motor-vehicle, the combination with 90 the vehicle-frame, the motor, the fixed axle carrying the traction-wheels, connections between the motor and wheels, and means for controlling such connections; of a swinging axle having the steering-wheels, a yoke hav- 95 ing its downturned ends attached to this axle and its center passing over the frame and carrying a gear-segment, a shaft journaled in

the frame and having a handle, a second gear-segment fast on this shaft, and gearing between the two segments, as and for the purpose set forth.

- 5 2. In a motor-vehicle, the combination with the vehicle-frame, the motor, the fixed axle carrying the traction-wheels, connections between the motor and wheels, and means for controlling such connections; of a swinging
10 axle having the steering-wheels, a yoke attached to this axle and its center carrying a

gear-segment, a shaft journaled in the frame and having a handle, a second gear-segment fast on this shaft, an idle shaft, and large and small gears fast thereon and respectively
15 engaging the yoke-segment and the second segment, as and for the purpose set forth.

JOHN D. HUMPHREY.

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