No. 770,727. PATENTED SEPT. 20, 1904.

A. F. MADDEN.

RUNNING GEAR.

APPLICATION FILED JAN. 12, 1904.

NO MODEL.

Fig. 2

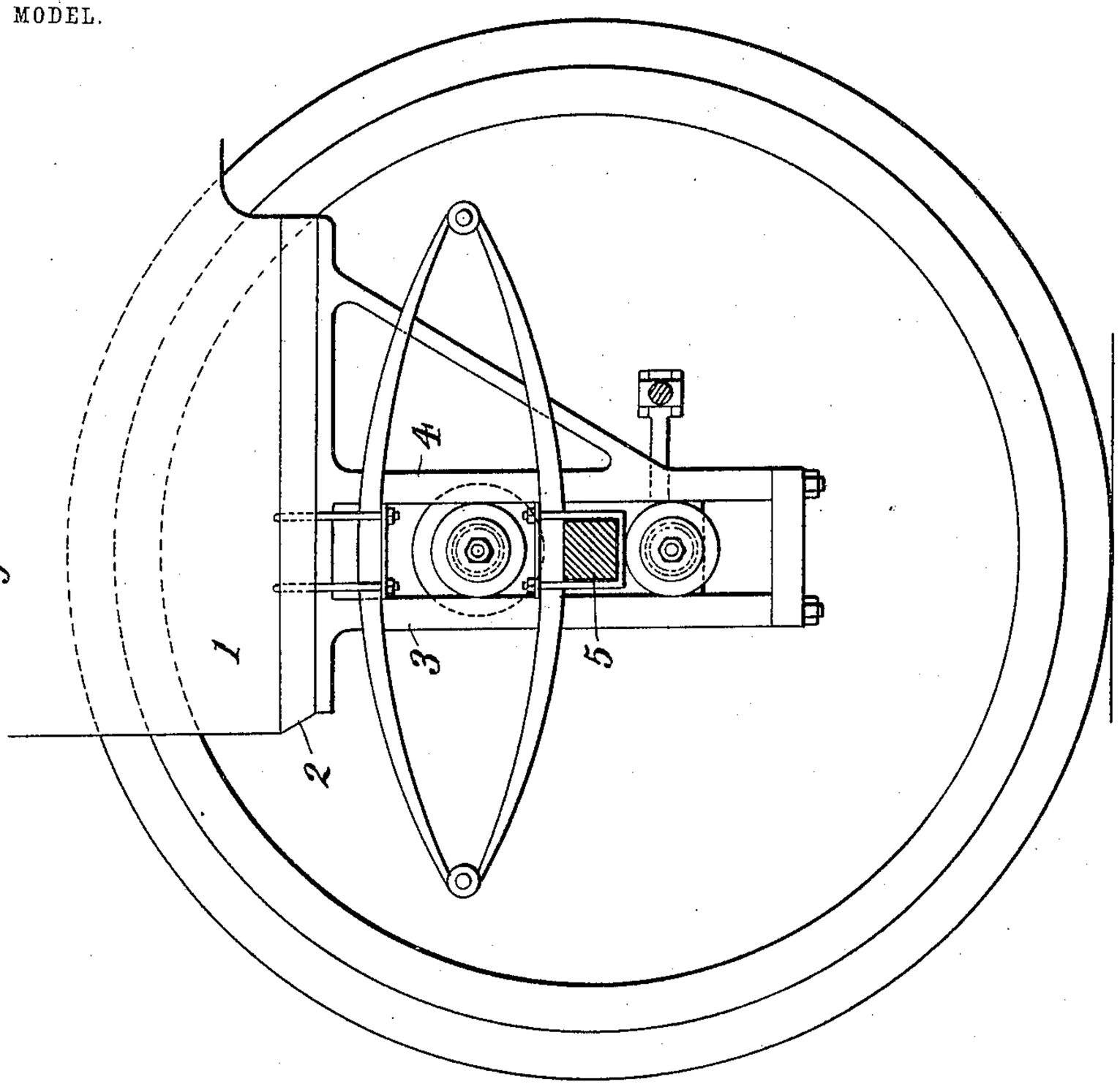
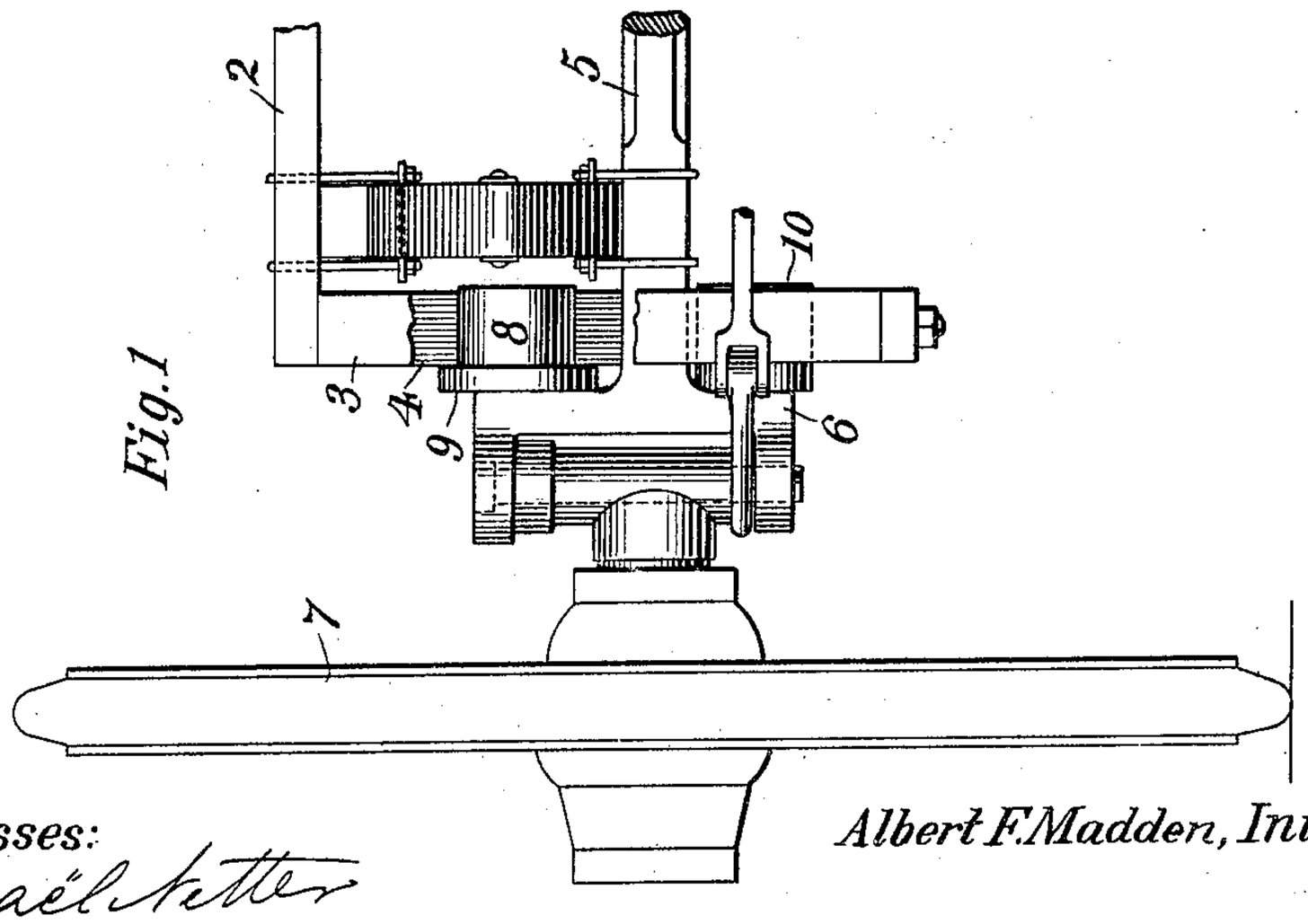


Fig. 1



Witnesses:
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by Kerr, Page & Cooper, Attys.

No. 770,727. Patented September 20, 1904.

UNITED STATES PATENT OFFICE.

ALBERT F. MADDEN, OF NEWARK, NEW JERSEY, ASSIGNOR TO VEHICLE EQUIPMENT COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

RUNNING-GEAR.

SPECIFICATION forming part of Letters Patent No. 770,727, dated September 20, 1904.

Application filed January 12, 1904. Serial No. 188,684. (No model.)

To all whom it may concern:

Be it known that I, ALBERT F. MADDEN, a citizen of the United States, residing at Newark, county of Essex, and State of New Jersey, have invented certain new and useful Improvements in Running-Gears, of which the following is a specification, reference being had to the drawings accompanying and forming part of the same.

My invention relates to running-gears, particularly for "self-propelled" vehicles, though it will also be found of value for vehicles of other types.

The object of the invention is to provide a strong simple construction which will permit free vertical movement of the wheels and body relative to each other, but at the same time prevent, with as little friction and strain on the parts as possible, relative movement or displacement in any other direction. For this purpose I employ, in connection with the body of the vehicle, the axle, and the intermediate resilient devices, a pedestal or guide at each end of the axle to prevent longitudinal movement of the latter relative to the body and provide devices coöperating with the pedestal or guides to prevent lateral or transverse movement. I have devised a number of constructions for this purpose, one of which is illustrated in the accompanying drawings, in which—

Figures 1 and 2 are end and side elevations of the same, respectively.

The body of the vehicle is indicated by 1, preferably carrying a bolster, as 2. Connected therewith in any suitable manner is a pedestal, which preferably consists of a pair of parallel guides or rails 3 4, arranged perpendicularly to the body. Only one pedestal is shown in the drawings; but it should be understood that the same is duplicated at the other side of the vehicle. Extending through the guides or rails of the pedestals is an axle 5, having at each end an enlargement or roller-support 6. In the present instance this enlargement or support forms a part of the bracket carrying the steering-wheel 7. Revolubly mounted on the bracket or enlargement and extending between the guides or rails of the pedestal is a roller 8 above the axle having a flange 9. Below the axle is a roller 10, similarly mounted, also extending between the guides 3 4. This latter roller, however, need not have an outer flange. Both rollers should be slightly smaller in diameter than the distance between the guides or rails, and the flange 9 on the upper roller should be wide enough to give a firm bearing against the guides. The body is of course yieldingly supported on the axle, as by means of leaf-springs, one of which is shown at 11.

From the foregoing it will be seen that the axle and body are free to move vertically relative to each other and that during such movement the rollers 8 10 will bear on one or the other of the guides or rails 3 4. The considerable distance between the rollers affords effective resistance against any tendency of the bracket to rotate, and at the same time the flanges of the upper rollers prevent transverse displacement of the axle relative to the body.

The construction herein exemplified accomplishes the objects of the invention in a satisfactory manner; but this construction is typical merely and by no means the only form in which the invention may be embodied, and I therefore do not consider myself limited to that shown.

What I claim is—

1. The combination with an axle, and a vehicle-body yieldingly supported thereby, of pedestals carried by the body, each having guides arranged on opposite sides of the axle, supports on the axle adjacent the guides, and rollers carried by the supports, extending between and bearing against the guides to prevent displacement of the axle longitudinally of the vehicle, as set forth.

2. The combination with an axle and a vehicle-body yieldingly supported thereby, pedestals carried by the body, constituting guides, supports on the axle adjacent the guides, and rollers carried on opposite sides of the axle by the supports and bearing against the guides to prevent displacement of the axle longitudinally of the vehicle, and means to prevent

transverse displacement of the axle relative to the body, as set forth.

3. The combination with an axle having enlargements or supports at its ends, and a vehicle-body yieldingly supported by the axle, of pedestals carried by the body between and adjacent to the enlargements or supports at the ends of the axle, said pedestals constituting guides for the axle, and rollers carried on opposite sides of the axle by the supports and bearing against the guides to prevent displacement of the axle longitudinally of the vehicle, as set forth.

4. The combination with an axle having enlargements or supports at its ends, and a vehicle-body yieldingly supported by the axle, of pedestals carried by the body having guides or rails on opposite sides of the axle, and rollers carried on opposite sides of the axle by the supports and bearing against the guides to prevent displacement of the axle longitudinally of the vehicle, as set forth.

5. The combination with an axle having enlargements or supports at its ends, and a vehicle-body yieldingly supported by the axle, of pedestals carried by the body having guides or rails on opposite sides of the axle, rollers carried on opposite sides of the axle by the supports, and bearing against the guides to prevent displacement of the axle longitudinally of the vehicle, and means to prevent transverse displacement of the axle relative to the body, as set forth.

6. The combination with an axle having enlargements or supports at its ends, and a vehicle-body yieldingly supported by the axle, of pedestals carried by the body having guides or rails on opposite sides of the axle, rollers carried by the supports and bearing against the guides, and flanges on the rollers coöperating with the guides to prevent transverse displacement of the axle relative to the body, as set forth.

7. The combination with an axle having steering-brackets at its ends, and a vehicle-body supported by the axle, of pedestals carried by the body, constituting guides for the axle adjacent the brackets, and rollers on the brackets above and below the axle, bearing on the guides to prevent displacement of the axle longitudinally of the vehicle, as set forth.

8. The combination with an axle having steering-brackets at its ends, and a vehicle-body supported by the axle, of pedestals carried by the body, having guides or rails for the axle on opposite sides thereof adjacent the brackets, rollers carried by the brackets above and below the axle, bearing against the guides to prevent displacement of the axle longitudinally of the vehicle, and means to prevent transverse displacement of the axle relative to the body, as set forth.

ALBERT F. MADDEN.

Witnesses:
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