

No. 618,337.

Patented Jan. 24, 1899.

W. DUFFNER.
CHAIR.

(Application filed Dec. 8, 1897.)

(No Model.)

FIG. 1.

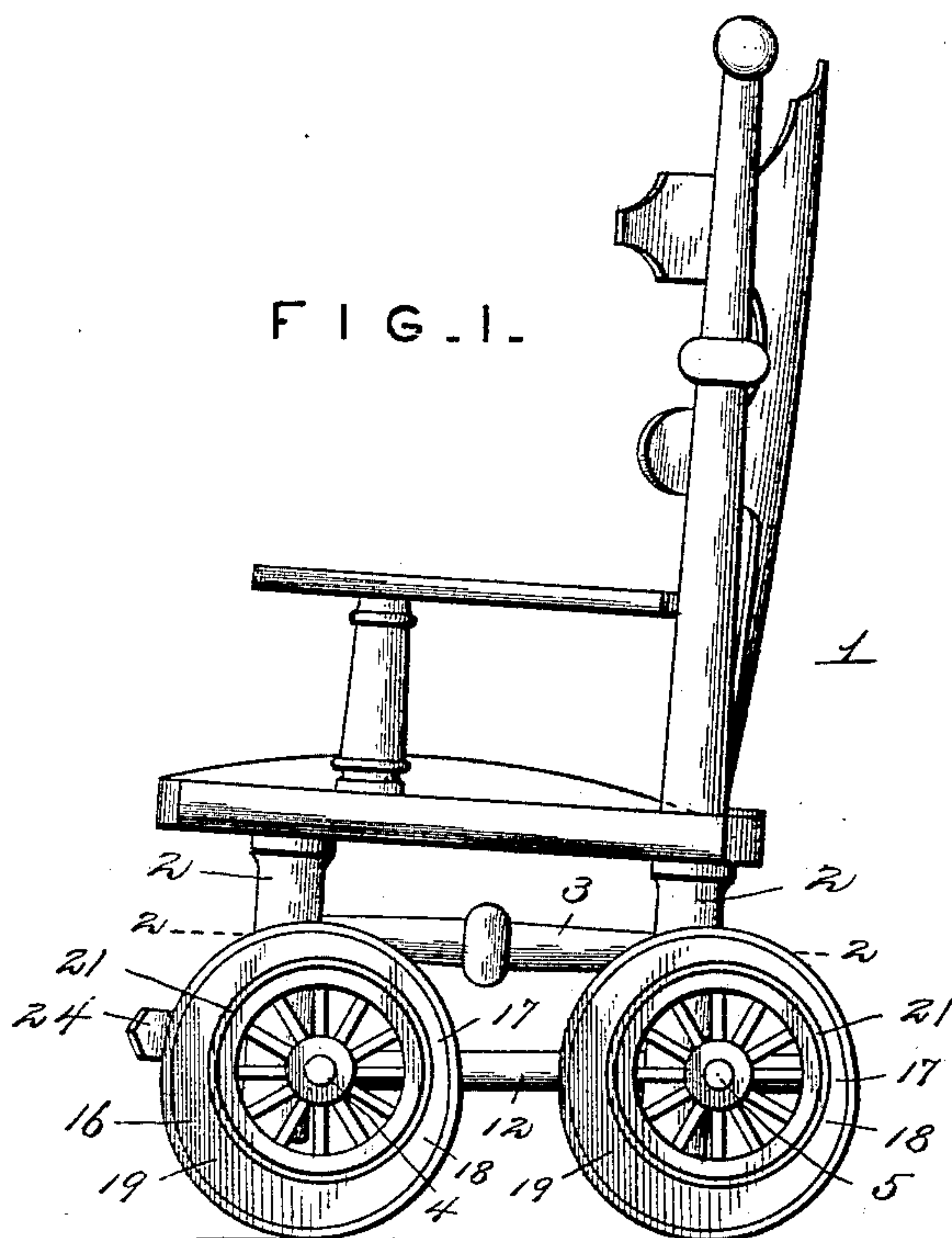


FIG. 2.

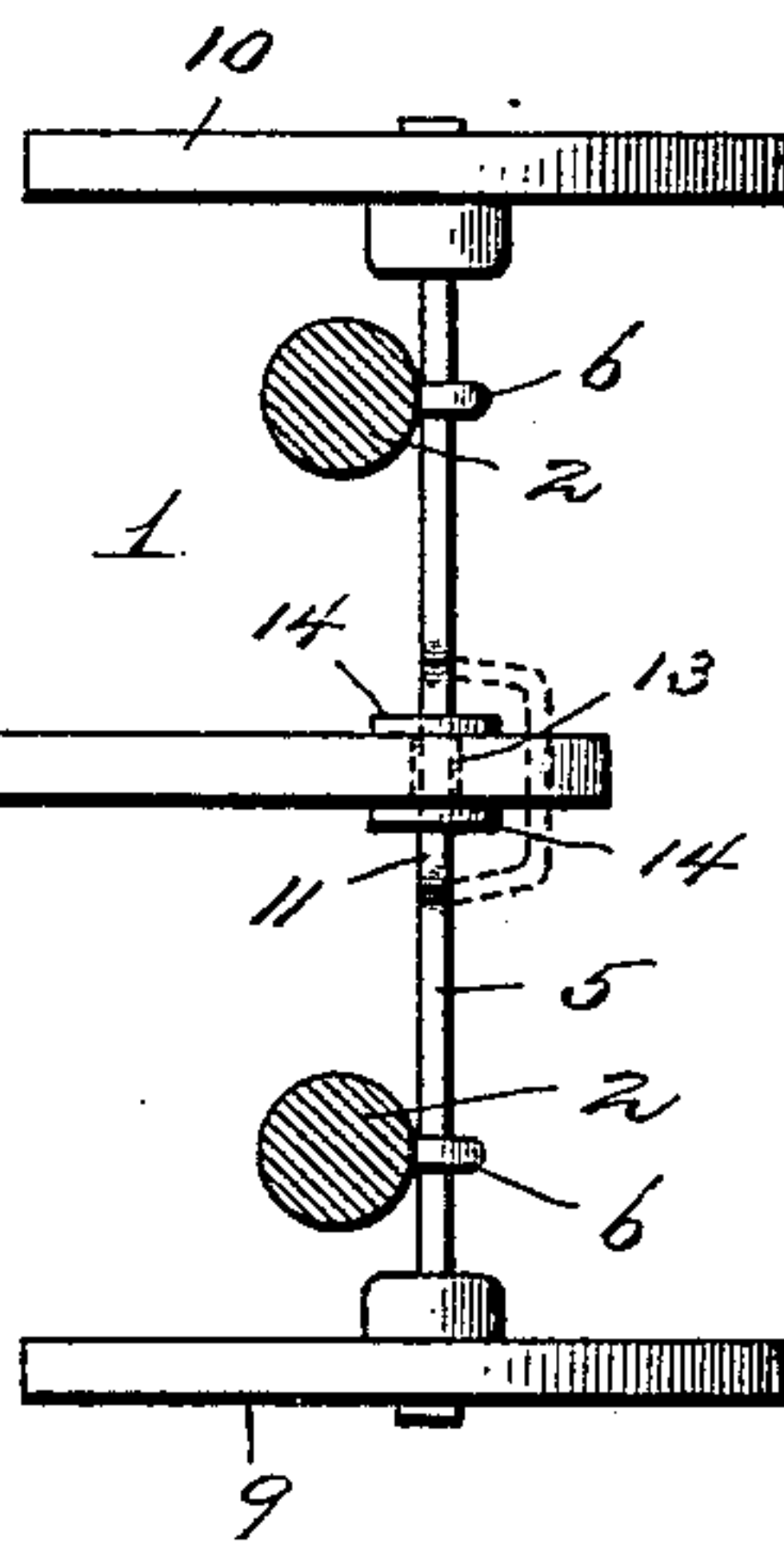
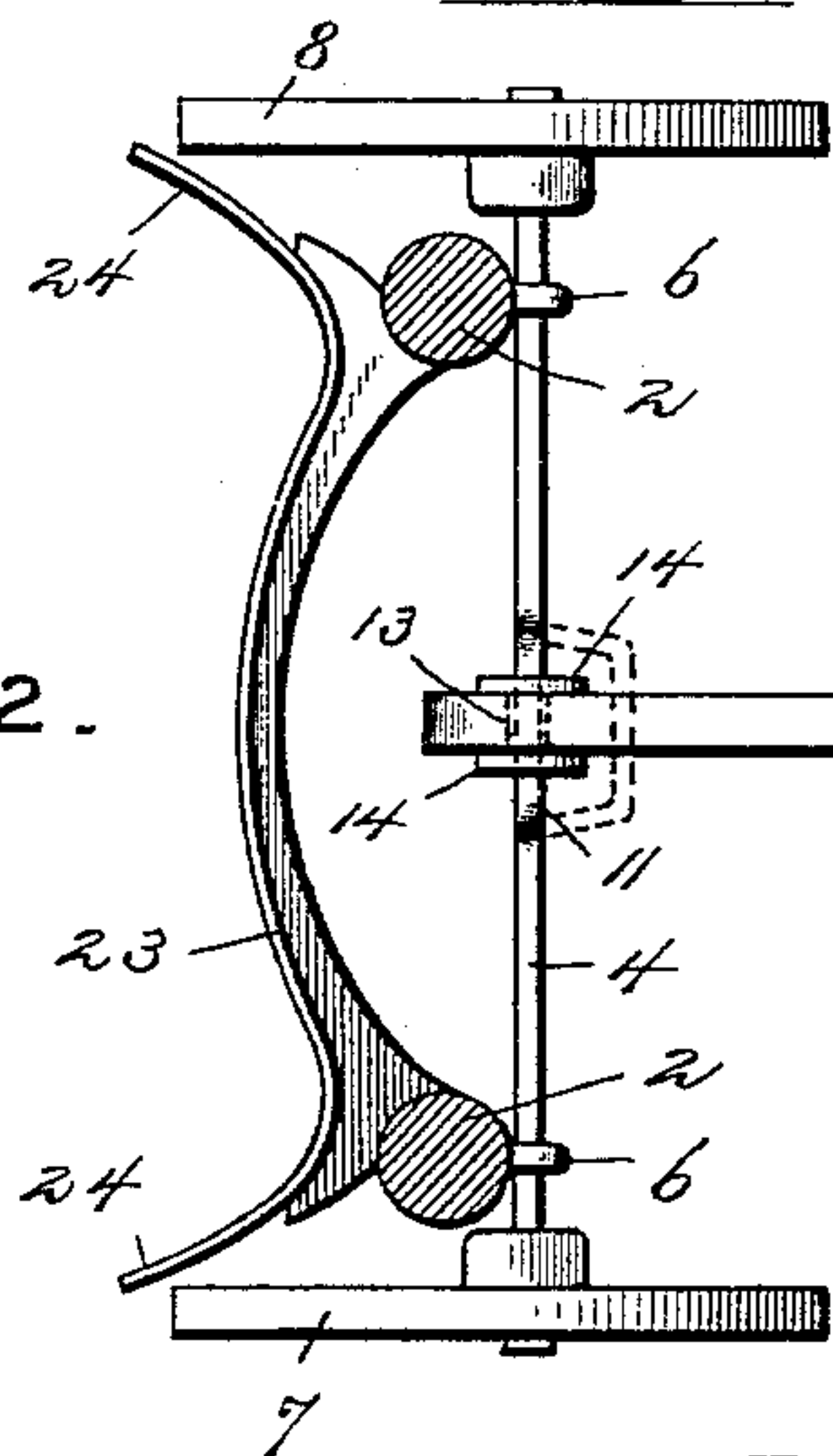
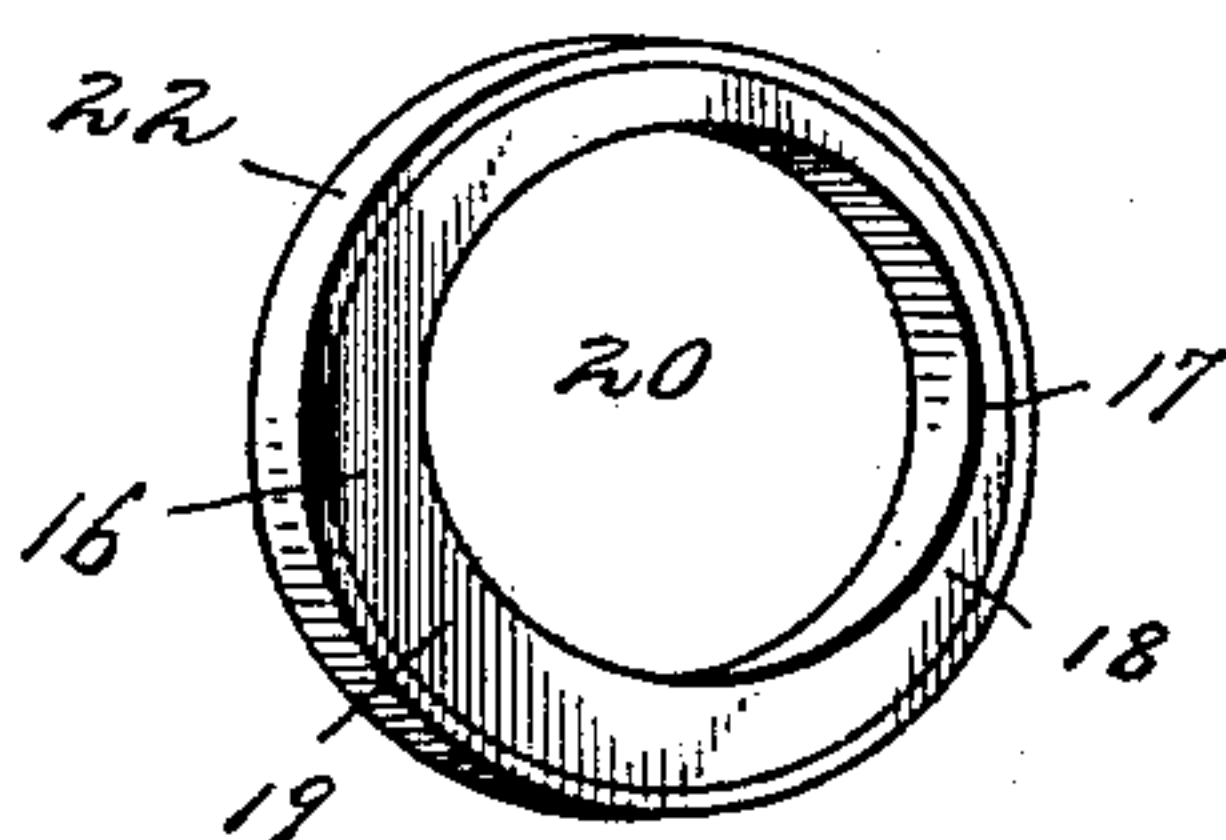


FIG. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM DUFFNER, OF MITCHELL, INDIANA.

CHAIR.

SPECIFICATION forming part of Letters Patent No. 618,337, dated January 24, 1899.

Application filed December 8, 1897. Serial No. 661,159. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM DUFFNER, a citizen of the United States, residing at Mitchell, in the county of Lawrence and State of Indiana, have invented certain new and useful Improvements in Chairs; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My present invention relates to a novel roller-chair or perambulator. One object is to provide a rolling chair which may be propelled by the occupant and one in which the seat will be given an easy undulating motion without changing it from a horizontal plane.

A further object of the invention is to provide means whereby the chair may be converted into an ordinary rolling chair, if desired.

The invention consists in certain novel details of construction and in the arrangement of parts hereinafter described.

Referring to the drawings, Figure 1 is a side elevation of my chair, showing the cam-rims resting on their higher points or that portion farthest from the axis. Fig. 2 is a horizontal section of the same, taken on line 2 2 of Fig. 1. Fig. 3 is a detail view of one of the cam-rims detached.

Referring to the numerals on the drawings, 1 indicates a chair of any ordinary or suitable construction provided, as usual, with legs 2, braced by rungs 3.

4 and 5 indicate a pair of shafts journaled in suitable bearings 6, carried at the lower extremities of the legs, and 7, 8, 9, and 10 indicate wheels of any desired form keyed upon the extremities of the shafts 4 and 5. Each of said shafts is provided, preferably medially, with a crank 11. The cranks 11 are connected by a connecting-bar 12, preferably provided adjacent to its opposite ends with transverse recesses 13, designed to receive the cross-bars of the crank to insure their synchronous rotation. Suitable washers 14 are provided against the opposite sides of the bars 12, in order to cushion the connection between the rod and cranks to prevent rattling incident to such lost motion as may develop.

My device may be used as an ordinary roll-

ing chair; but in order to impart an undulatory motion I provide cam-rims 16. These rims are formed of any suitable material, and their outer contour describe for slightly more than three-fourths of their circumference a true circle, the remaining portion of the periphery constituting a comparatively flat surface or face 17, which extends from the point 18 to the point 19, where the abrupt juncture of the flat face and the circular portion of the periphery are given a comparatively abrupt curve 19. In order to secure a cam-rim of this form upon each of the wheels, it is provided with a circular opening 20, corresponding to the circumference of the concentric wheel and located eccentrically with respect to the circular portion of the rim-periphery. Any suitable means for detachably connecting the rims to the wheels may be provided, and I have found in practice that a heavy rubber lining 21, fastened upon the interior of the rim, will afford sufficient resiliency to permit the attachment of the rim and will retain it securely in place upon the wheel.

22 indicates a rubber tire upon the rims designed to prevent wear upon carpets or the like, as well as to prevent jarring or sliding of the chair as it is propelled.

23 indicates a dress-guard secured to the front legs of the chair and provided with spring ends 24, projecting in front of the wheels and designed to protect the skirts of the occupant of the chair, as well as to enable the chair to be instantly stopped by pressing the ends of the guard against the periphery of said wheels.

The operation of my device is as follows: Supposing the rims to have been placed upon the wheel and in correlative position, the occupant by swinging the body to and fro causes the cam-rims to rise to position shown in the drawings. When the flat faces of the cams are again presented to the supporting surface, the vehicle may be allowed to rest; but a slight forward movement of the body augmenting the momentum gained will again carry the axes over the point of the cam, and the chair may in this manner be propelled definitely. If, however, it is simply desired to cause an undulatory movement of the chair without propelling the same, a slight swinging of the body, as in the act of rocking, will

accomplish the desired result. In the event of the chair attaining a considerable momentum—as, for instance, when descending an inclined plane—the feet may be pressed against the resilient ends of the skirt-guard, which will constitute effective brake mechanism, and it will be obvious that the rims may be readily detached if it is desired to employ the device simply as a rolling chair.

10 Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

A perambulator involving the combination of a chair or seat, concentric wheels and ec-

centric or cam rims provided with rubber lining whereby said cam-rims are detachably secured to the concentric rims, and whereby an ordinary roller-chair or perambulator may be converted into a perambulator having an undulatory motion, substantially as described. 15 20

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM DUFFNER.

Witnesses:

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