

No. 859,751.

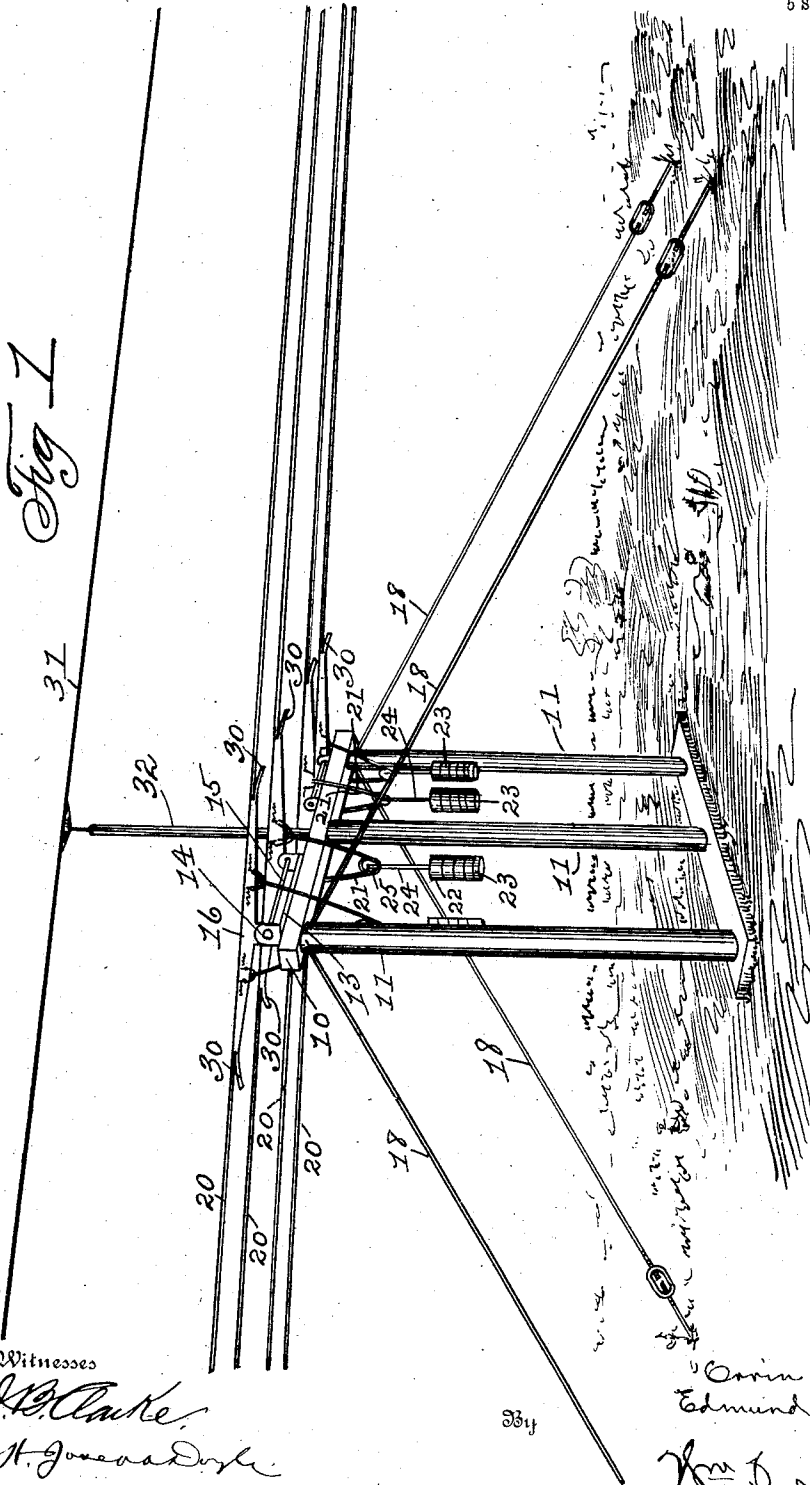
PATENTED JULY 9, 1907.

O. J. DAVY & E. H. BECKER.

AERIAL TRAMWAY.

APPLICATION FILED MAY 8, 1907.

5 SHEETS—SHEET 1.



Witnesses

J. B. Clarke
H. Jones and Dyer

Inventors

O. J. Davy
Edmund H. Becker

For J. D. Hodges
Attorney

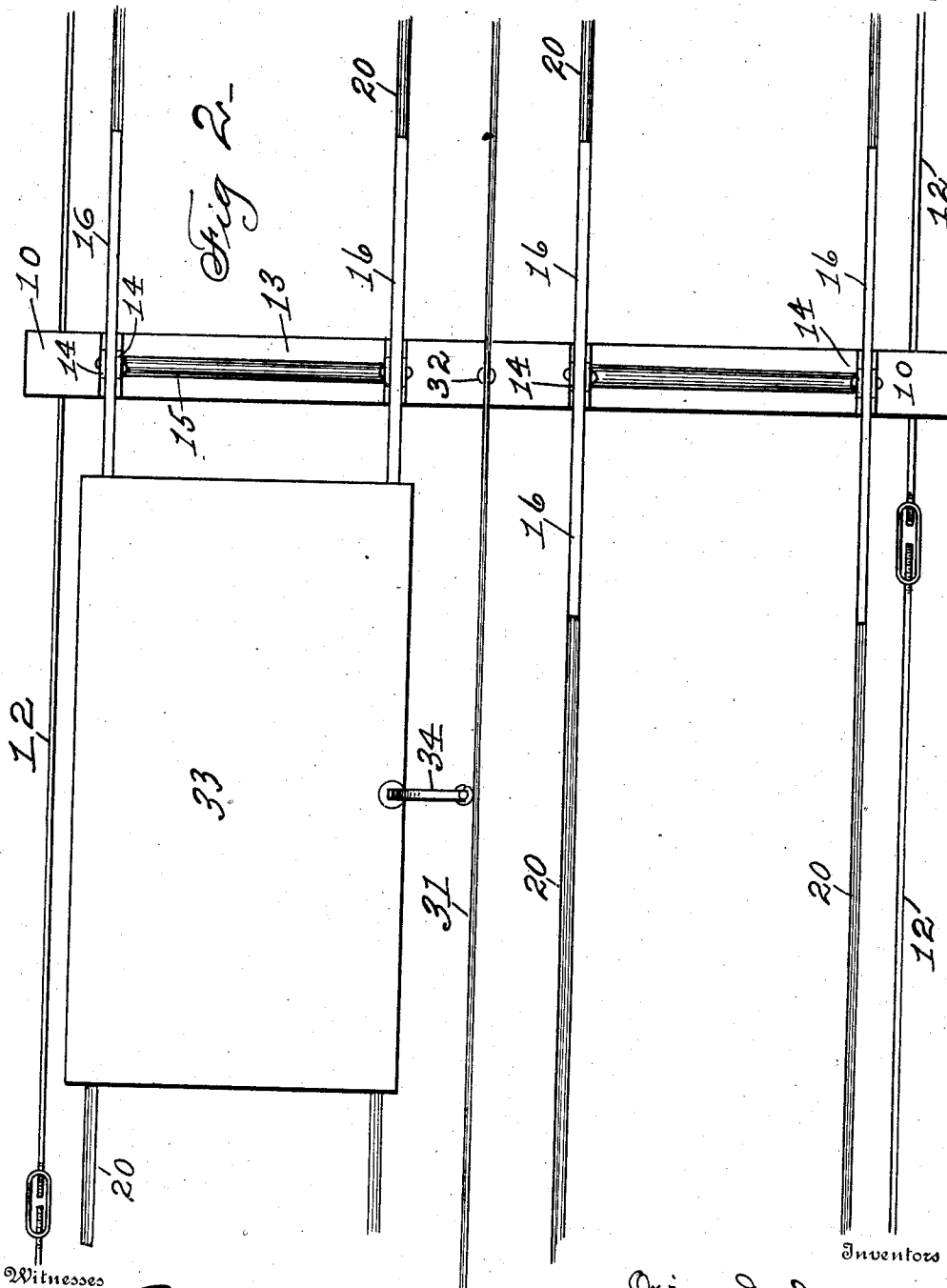
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Witnesses

J. B. Clarke
H. Annandale

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Ovin J. Davy
Edmund H. Becker

John P. Hodges
Attorney

No. 859,751.

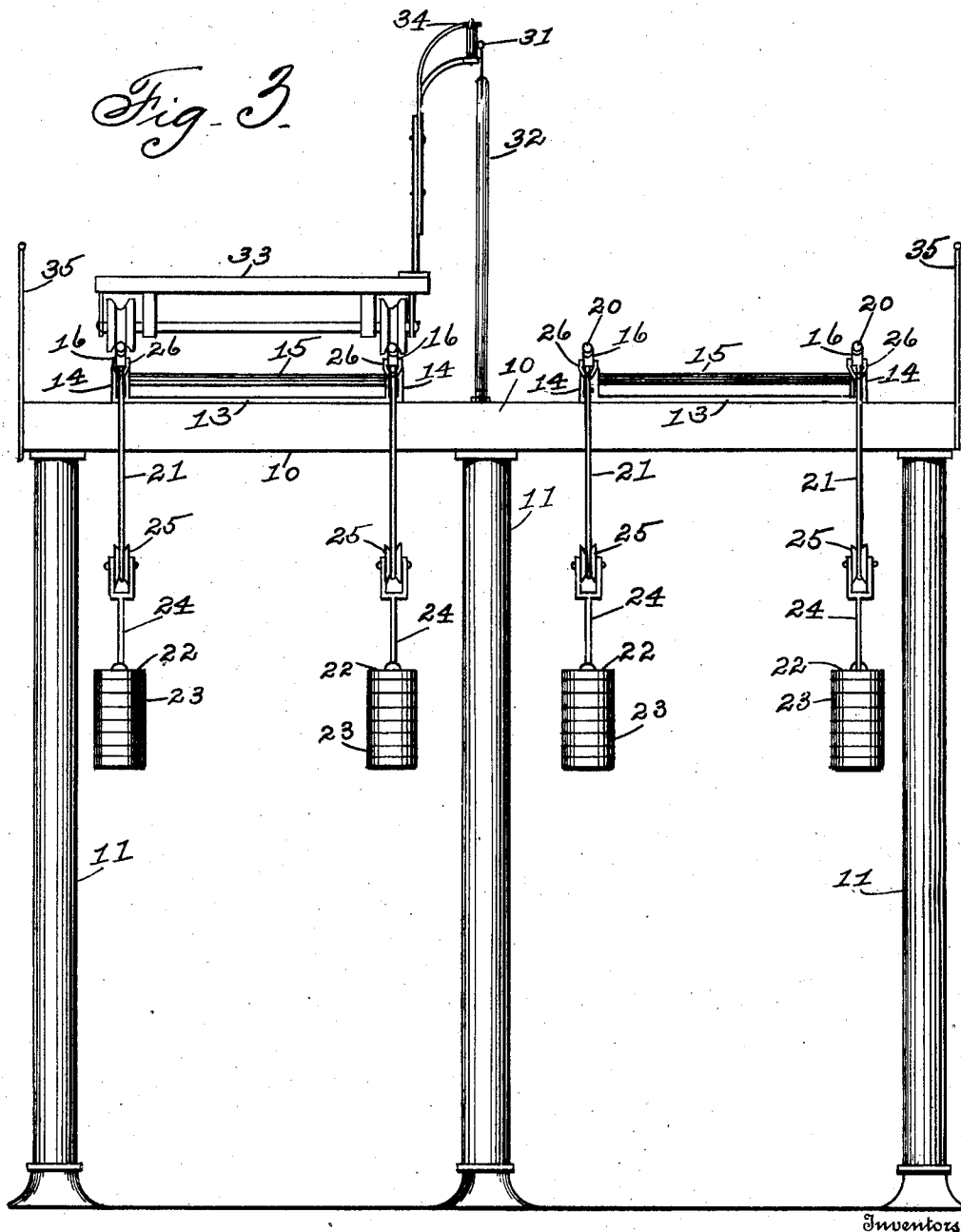
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5 SHEETS—SHEET 3.



Inventors

Witnesses

J. B. Clarke
H. Green and Doris

By

Orvin J. Sawyer
Edmund H. Becker
You J. Hodges
Attorney

No. 859,751.

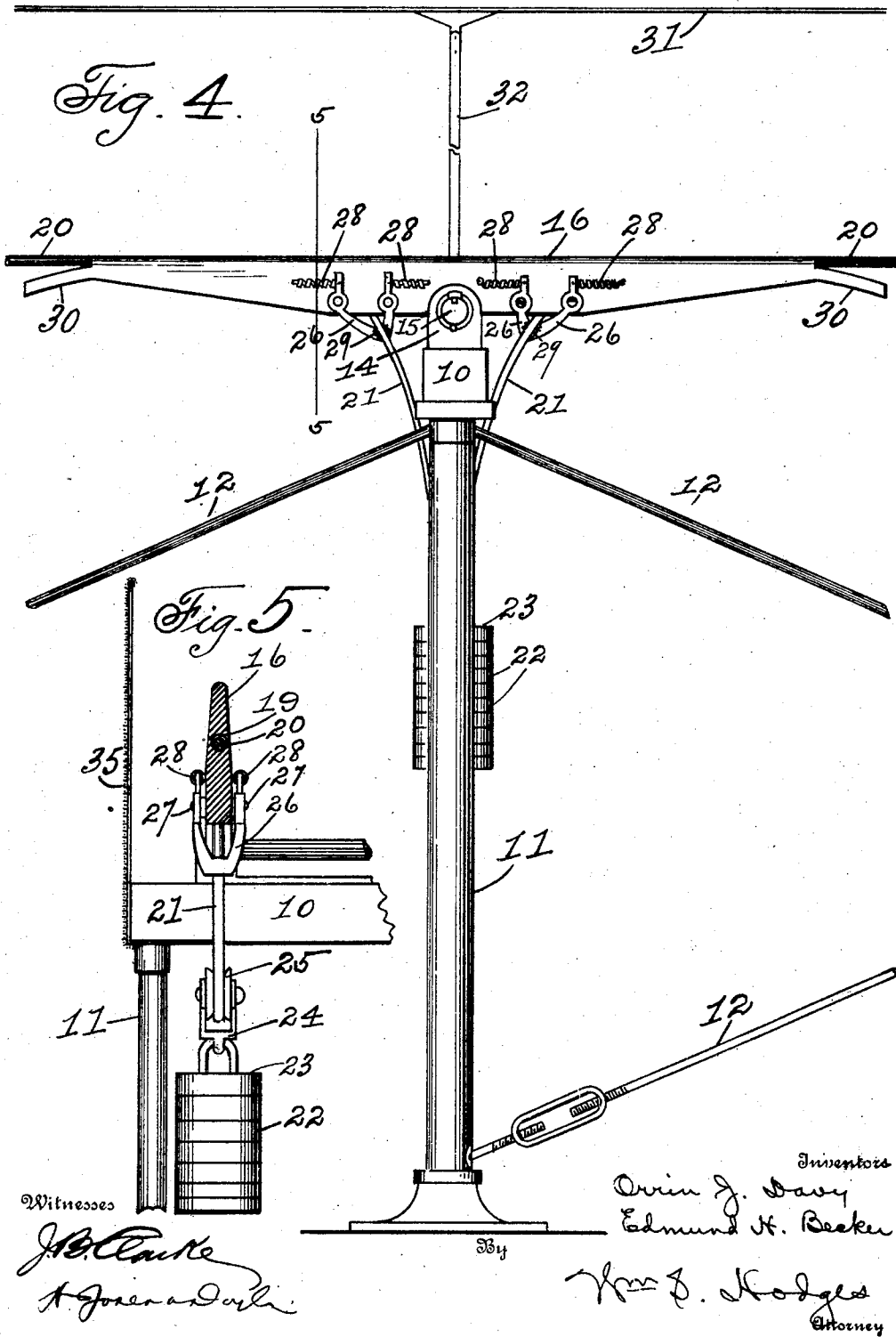
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5 SHEETS—SHEET 4.



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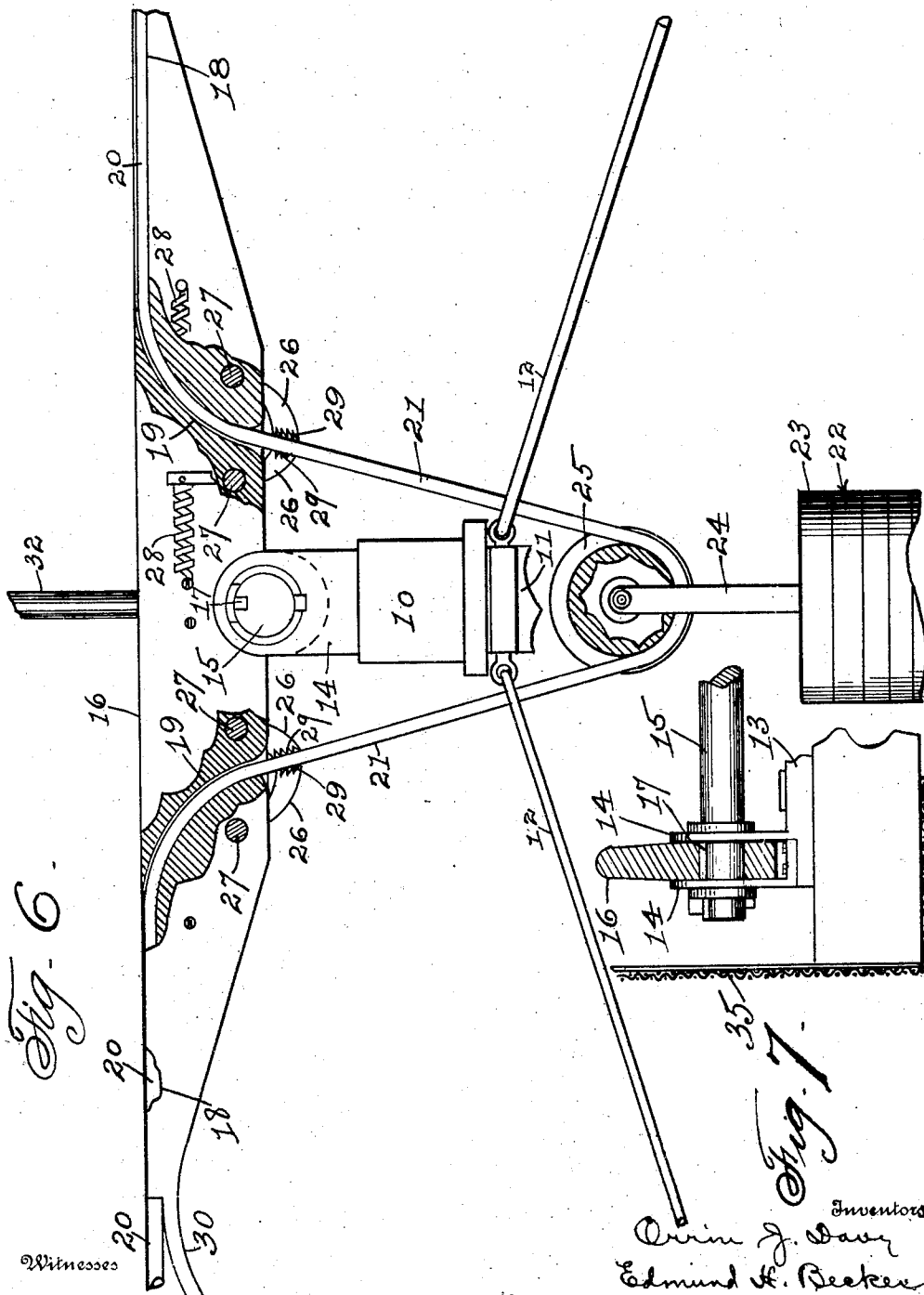
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5 SHEETS—SHEET 5.



Witnesses

J. P. Clarke
H. Jackson Dush

884

O. J. Davy
Edmund H. Becker

Wm. S. Hodges
 Attorney

UNITED STATES PATENT OFFICE.

ORRIN J. DAVY AND EDMUND H. BECKER, OF WASHINGTON, DISTRICT OF COLUMBIA,
ASSIGNORS, BY MESNE ASSIGNMENTS, TO INDUSTRIAL MOTOR COMPANY, A CORPORATION OF THE DISTRICT OF COLUMBIA.

AERIAL TRAMWAY.

No. 859,751.

Specification of Letters Patent.

Patented July 9, 1907.

Application filed May 8, 1907. Serial No. 372,629.

To all whom it may concern:

Be it known that we, ORRIN J. DAVY and EDMUND H. BECKER, citizens of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Aerial Tramways, of which the following is a specification.

This invention relates to certain new and useful improvements in aerial tramways, and relates more particularly to systems of that character in which the tracks or rails are formed of flexible cables.

The invention has for its object the production of simple, efficient and inexpensive means by which the cables forming the tracks of the system are kept taut, and any slack therein is automatically taken up.

A further object is to provide improved rocker arms for supporting the cables forming the tracks of the system.

A further object is to provide means for moving the rocker arms of each rail in unison with the corresponding adjacent rocker arm of the other rail, whereby the two rails will always be retained in the same relative position.

A further object is to provide the rocker arms with means for holding the track cables against relaxation when the slack is taken up by the tension device.

The invention will be hereinafter fully set forth and particularly pointed out in the claims.

In the accompanying drawings:—Figure 1, is a perspective view illustrating my invention. Fig. 2, is a plan view thereof. Fig. 3, is a transverse section. Fig. 4, is a side view of one of the uprights and rocker arm. Fig. 5, is a sectional view on line 5—5, Fig. 4. Fig. 6, is an enlarged detail sectional view illustrating the rocker arm. Fig. 7, is a detail.

Referring to the drawings, 10 designates a cross beam or support mounted upon suitable pillars or standards 11, and braced by stays 12, a plurality of said supports being employed in the complete system. Upon each support is rigidly secured one or more standards 13, each having upturned ears 14 forming bearings for the rock shaft 15, of a pair of rocker bars 16, said bars being rigidly secured upon said rock shaft 8 by any suitable means, such for instance as the key 17, whereby the rocker bars will move in unison with said rock shaft.

The top face of each rocker bar adjacent the ends of the latter are provided with concaved seats 18, said seats being formed by suitable grooves, the inner terminals of which communicate with downwardly curved converging openings 19, said grooves and openings each forming, in effect, a continuous passage way.

The tracks 20 of my improved system are formed of flexible cables which are looped at each rocker arm 16

as indicated at 21, being passed downward through openings 19, and resting in the seats 18. From each of the looped portions 21 is suspended a weight 22, which is formed of removable sections 23 supported by an arm 24 depending from a roller 25 resting upon the looped portion of the cable and held in position by said looped portion. The weight 22 may be varied to suit different conditions, but the same must be heavy enough to take up any slack in the cables forming the tracks 20.

In order to aid the weight in maintaining a taut condition of the cables, I provide gripper arms 26 which are pivoted at 27 to each rocker arm and held in engagement with one member of loop 21 by means of suitable springs 28. The gripper arms are provided with teeth 29, and the arms are so arranged that they will permit a downward pull by the weight 22, but any movement in the opposite direction will cause said teeth to engage the cable, whereby said gripper arms will resist the force tending to move the cable in the reverse direction. Each rocker bar 16 has its ends curved downwardly at 30 to form seats for the tracks 20, when the said rocker bars are rocked by a car or train passing thereover; the space between the seats 18 forms a traction surface.

Any suitable motive power may be employed upon my improved system, but I have shown a trolley wire supported by suitable poles 32 mounted on standard 10, and a car 33 provided with a trolley 34 engaging said wire. If desired a guard of any preferred character, such as netting 35, may be secured to the standards 10.

In practice the weights 22 will take up all slack in the rails 20, and the gripper arms 26 will prevent any retrograde movement of said rails after the slack is taken up. As a car approaches the rocker arms 16, the latter are rocked by the weight of the car, taking a position with the top face of each rocker arm in line with and forming a substantial continuation of that portion of the track which sags under the weight of said car, and as the latter passes over the traction portion of the rocker arm the latter are again tilted in the opposite direction to bring the traction surfaces in line with the tracks as the car passes off said rocker arms. It will be noted that the seats 30 tend to reduce the wear on the tracks 20 when the rocker arms 16 are moved as just described.

The advantages of our improved aerial tramway will be apparent to those skilled in the art to which the same appertains. It will be particularly noted that I have produced a system of this character in which flexible cables may be used for the rails, and that I have provided simple and inexpensive means for keeping

said rails taut. It will be further noted that I have also provided improved means for preventing relaxation of the cables when the slack is taken up by the tension device. It will also be observed that by means of my improved rocker arm the car passes smoothly over the supports without jolt or jar, and by so mounting each pair of rocker arms that they move in unison, the two tracks are always maintained in juxtaposition irrespective of the fact that one side of the car may, for the time being, be carrying a heavier load than the other side.

We claim as our invention:—

1. An aerial tramway comprising flexible tracks, and rocker arms arranged in pairs and connected to said tracks each pair of rocker arms being mounted to move in unison.
2. An aerial tramway comprising flexible tracks, rocker arms arranged in pairs and connected to said tracks, and a rock shaft to which each pair of rocker arms is connected.
3. An aerial tramway comprising flexible tracks, rocker arms arranged in pairs and connected to said tracks, and standards for supporting said rocker arms, each pair of rocker arms being mounted to move in unison.
4. An aerial tramway comprising flexible tracks, rocker arms arranged in pairs and connected to said tracks, a rock shaft to which each pair of rocker arms is connected, and a standard for supporting each rock shaft.
5. An aerial tramway comprising flexible tracks, rocker arms arranged in pairs and connected to said tracks, a rock shaft to which each pair of rocker arms is connected, and a standard provided with upturned ears forming bearings for each rock shaft.
6. An aerial tramway comprising rocker arms flexible tracks suspended from said rocker arms, and tension devices engaging said tracks intermediate of the ends of the latter.
7. An aerial tramway comprising suspended flexible tracks provided with looped portions, and gravity operated tension devices engaging said looped portions.
8. An aerial tramway comprising rocker arms, flexible tracks engaging said rocker arms, and tension devices engaging said tracks adjacent said rocker arms.
9. An aerial tramway comprising rocker arms, flexible tracks looped through said rocker arms and tension devices engaging the looped portions of said tracks.
10. An aerial tramway comprising rocker arms, flexible tracks looped through said rocker arms, and weights suspended from the looped portions of said tracks.
11. An aerial tramway comprising rocker arms provided with converging openings, flexible tracks looped through said openings, and tension devices engaging the looped portions of said tracks.
12. An aerial tramway comprising rocker arms provided with converging openings, flexible tracks looped through said openings, and weights suspended from the looped portions of said tracks.
13. An aerial tramway comprising rocker arms provided with converging openings and longitudinal seats, flexible tracks located in said seats and looped through said openings, and tension devices engaging the looped portions of said tracks.
14. An aerial tramway comprising rocker arms provided with converging openings and longitudinal seats, flexible tracks located in said seats and looped through said openings, and weights suspended from the looped portions of said tracks.
15. An aerial tramway comprising rocker arms, flexible tracks looped through said rocker arms, tension devices engaging the looped portions of said tracks, and gripper arms also engaging each track.
16. An aerial tramway comprising rocker arms, flexible tracks looped through said rocker arms, tension devices engaging the looped portions of said tracks, and spring pressed gripper arms carried by said rocker arms and engaging the looped portion of each track.
17. An aerial tramway comprising rocker arms, flexible

tracks looped through said rocker arms, weights suspended from the looped portions of said tracks, and gripper arms carried by said rocker arms and engaging the looped portion of each track.

18. An aerial tramway comprising rocker arms provided with converging openings, flexible tracks looped through said openings, tension devices engaging the looped portions of said tracks, and gripper arms carried by said rocker arms and engaging the looped portion of each track.

19. An aerial tramway comprising rocker arms provided with converging openings, flexible tracks looped through said openings, weights suspended from the looped portions of said tracks, and gripper arms carried by said rocker arms and also engaging the looped portions of said tracks.

20. An aerial tramway comprising rocker arms provided with converging openings and longitudinal seats, flexible tracks located in said seats and looped through said openings; tension devices engaging the looped portions of each track, and gripper arms carried by said rocker arms and also engaging the looped portions of said tracks.

21. An aerial tramway comprising rocker arms provided with converging openings and longitudinal seats, flexible tracks located in said seats and looped through said openings, weights suspended from the looped portions of said tracks, and gripper arms carried by the rocker arms and also engaging the looped portions of said tracks.

22. An aerial tramway comprising rocker arms having their ends provided with downwardly curved lips, flexible tracks looped through said rocker arms, and tension devices engaging the looped portions of said tracks.

23. An aerial tramway comprising rocker arms arranged in pairs, each pair being mounted to move in unison, flexible tracks looped through said rocker arms, and tension devices engaging the looped portions of said tracks.

24. An aerial tramway comprising rocker arms arranged in pairs, each pair being mounted to move in unison, each rocker arm being provided with converging openings, flexible tracks looped through said openings, and tension devices engaging the looped portions of said tracks.

25. An aerial tramway comprising rocker arms arranged in pairs, each pair being mounted to move in unison, each rocker arm being provided with converging openings and longitudinal seats, flexible tracks located in said seats and looped through said openings, and tension devices engaging the looped portions of said openings.

26. An aerial tramway comprising rocker arms arranged in pairs, each pair being mounted to move in unison, flexible tracks looped through said rocker arms, weights suspended from the looped portions of said tracks, and gripper arms mounted on said rocker arms and also engaging the looped portions of said track.

27. An aerial tramway comprising rocker arms arranged in pairs, a rock shaft for each pair of rocker arms, bearings for said shaft, flexible tracks looped through said rocker arms, and tension devices engaging the looped portions of said tracks.

28. An aerial tramway comprising rocker arms arranged in pairs, a rock shaft for each pair of rocker arms, bearings for said shaft, flexible tracks looped through said rocker arms, tension devices engaging the looped portions of said tracks, and gripper arms carried by said rocker arms and also engaging the looped portions of said tracks.

29. An aerial tramway comprising rocker arms arranged in pairs, a rock shaft for each pair of rocker arms, bearings for said shaft, flexible tracks looped through said rocker arms, and weights suspended from the looped portions of said tracks.

30. An aerial tramway comprising rocker arms arranged in pairs, a rock shaft for each pair of rocker arms, bearings for said shaft, flexible tracks looped through said rocker arms, weights suspended from the looped portions of said tracks, and gripper arms carried by said rocker arms and engaging the looped portions of said tracks.

In testimony whereof we affix our signatures in presence of two witnesses.

ORRIN J. DAVY.
EDMUND H. BECKER.

Witnesses:
JAMES B. NICHOLSON,
LEE BROWN.