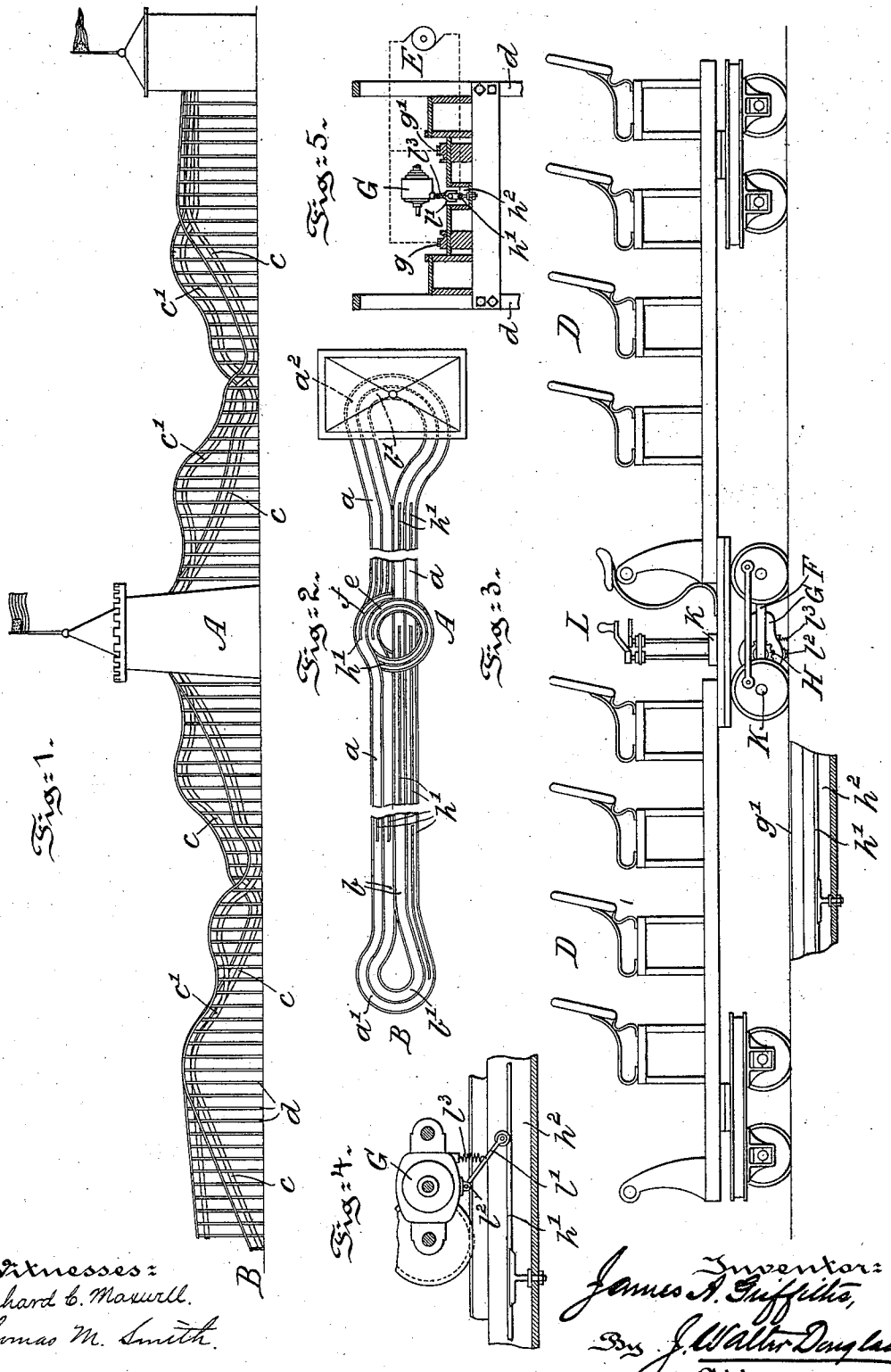
(No Model.)

J. A. GRIFFITHS.

ELECTRIC AND GRAVITY PLEASURE RAILWAY.

No. 577,550. Patented Feb. 23, 1897.



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UNITED STATES PATENT OFFICE.

JAMES A. GRIFFITHS, OF PHILADELPHIA, PENNSYLVANIA.

ELECTRIC AND GRAVITY PLEASURE-RAILWAY.

SPECIFICATION forming part of Letters Patent No. 577,550, dated February 23, 1897.

Application filed April 3, 1896. Serial No. 586,041. (No model.)

To all whom it may concern:

Be it known that I, JAMES A. GRIFFITHS, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Electric and Gravity Pleasure-Railways, of which the following is a specification.

My invention has relation to a pleasure-railway for seaside, summer, and other resorts wherein the cars are propelled over certain portions of the course by gravity and over other portions by means of electricity, and in such connection it relates particularly to the construction and arrangement of such a railway and of the cars adapted to travel thereon.

The nature and scope of my invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, and in which—

Figure 1 is a side-elevational view of a combined electrical and gravity pleasure-railway provided with undulating and spiral courses and embodying features of my invention. Fig. 2 is a top or plan view of Fig. 1. Fig. 3 is a side-elevational view, enlarged, of a motor-car for the pleasure-railway. Fig. 4 is a side-elevational view, enlarged, of the feeder-arm for the motor and of the feeder-wire placed in a trough in the road-bed; and Fig. 5 is an end elevation illustrating in detail the feeder arm, wire, and trough of Fig. 4.

Referring to the drawings, the pleasure-railway consists, by preference, of two concentric outer and inner courses *a* and *b*, each of which is undulating, that is to say, each is arranged in a series of upwardly and downwardly projecting inclines *c* and *c'*, respectively. The two courses forming the road-bed of the railway are supported upon suitable trestle-work *d*, substantially as illustrated in Fig. 1. The two courses terminate at one end in concentric connecting-loops *a'* and *b'* and at the other end in similar loops a^2 and b^2. The two courses connect in a tower A by means of two upwardly-extending spiral courses *e* and *f*, as indicated in plan view upon Fig. 2 of the drawings. The arrangement of the courses, their intermediate spiral connections, and end loops are such that a car starting from a point upon the outside course may return to that point after traveling continuously in one direction and traversing each course once.

In the form of course illustrated in Figs. 1 and 2 the starting-point B is preferably located at or near the ground, and the car or cars D are first elevated up a rather steep incline *c* until they reach approximately the highest point of the structure. To elevate the cars up the initial and other ascending inclines *c*, I use the following mechanism: Between the rails *g* and *g'*, upon which the cars run, is placed a feeder-wire *h'*, suitably connected to one pole of a dynamo E or other source of electrical energy, as illustrated in Fig. 5. The rails *g* and *g'* are likewise connected with the other pole of said dynamo.

The feeder from the dynamo consists of a wire *h'*, located in a trough or depression h^2, formed in the road-bed. Upon this wire *h'* is adapted to rest the arm *l'*, pivotally connected with the motor, as at l^2, and normally held down against the wire under tension of the coiled spring l^3, which also serves to support the arm *l'* above the bottom of the trough h^2 when the car is passing down the inclines *c'* or over a downgrade, in which instance the feed-wire *h'* does not appear upon the road-bed, but is placed below the same.

In operation the car or cars D, starting from the point B, is or are first elevated or propelled up the incline *c* by means of electricity, a feed-wire *h'* being laid from the base to the summit of the incline. The car or cars then descend the succeeding inclines *c' c'* by gravity and are again propelled up the incline *c* to and through the spiral course *e* in the tower. The car or cars then cross over to the inside course and traverse the inclines, as above set forth, being propelled up an incline by electricity and descending an incline by gravity, when the cars will again reach the tower, through which they are elevated electrically, passing over the spiral course *f* to the outer course *b* and from thence to the starting-point. At every portion of the road over which the cars travel by gravity the feed-wire *h'* disappears below the road-bed.

Having thus described the nature and objects of my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a pleasure-railway, an undulating course having upwardly and downwardly extending inclines, a car provided with a downwardly-projecting feeder-arm, a trough arranged along the course below the surface thereof, and a feeder-wire arranged in said trough only at the upwardly-inclined portions of the course and below the road-bed beneath the trough at other portions of the course, substantially as described.

In testimony whereof I have hereunto set my signature in the presence of two subscribing witnesses.

JAMES A. GRIFFITHS.

Witnesses:

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