

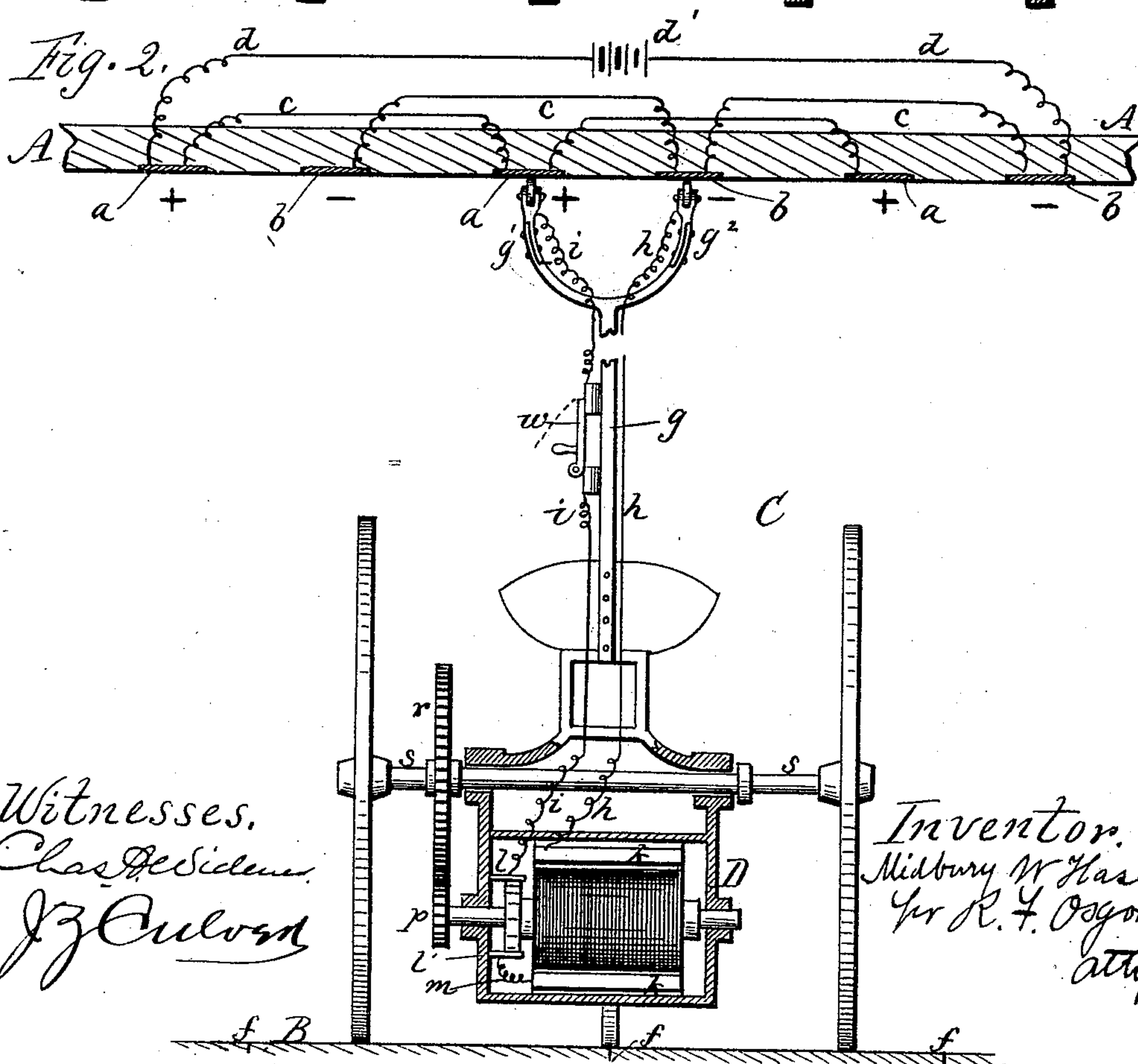
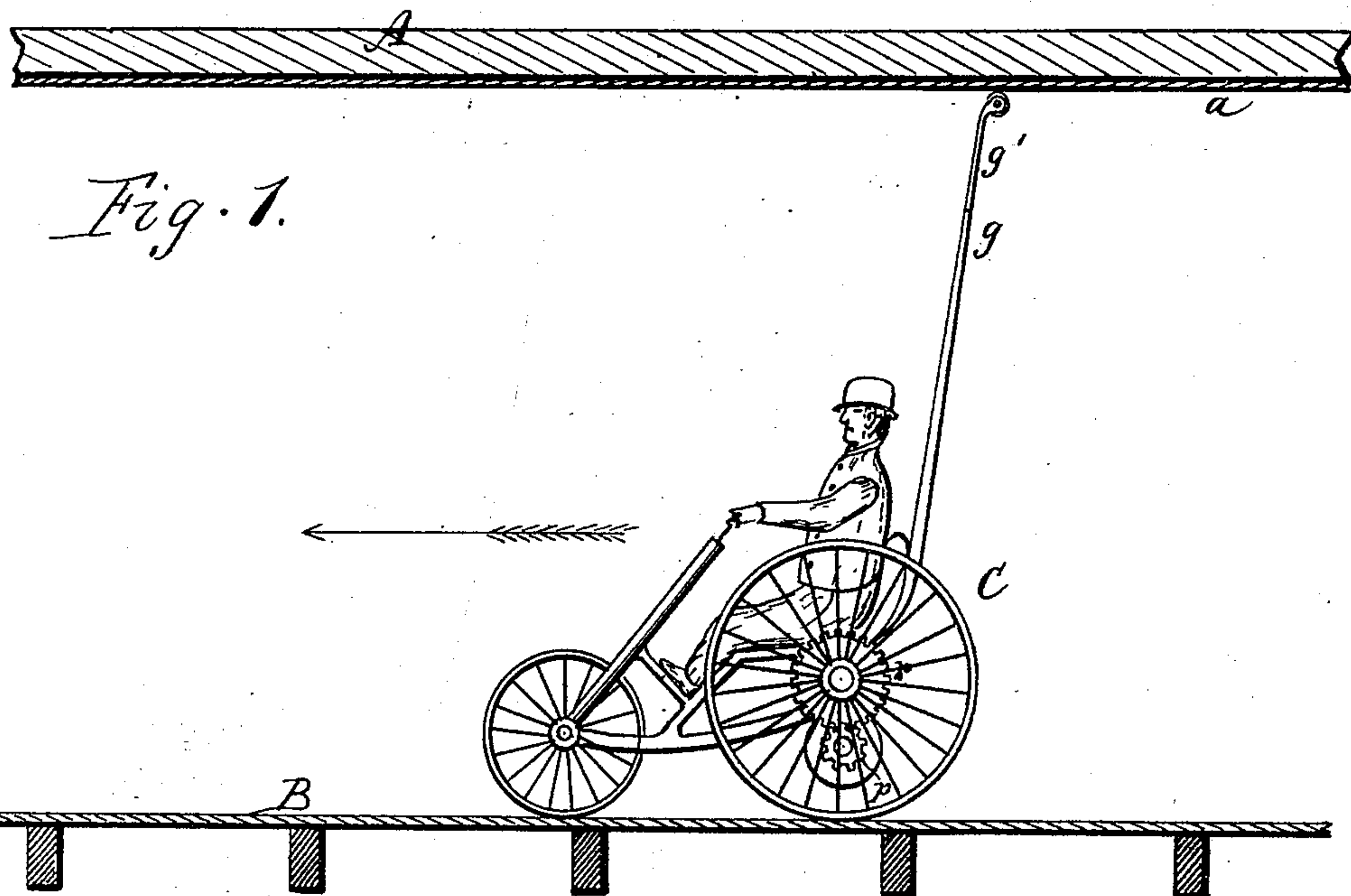
(No Model.)

2 Sheets—Sheet 1.

M. W. HASSAN.  
ELECTRIC RINK.

No. 497,495.

Patented May 16, 1893.



Witnesses,  
Chas. H. Siden  
J. Z. Culver

Inventor,  
Mildred W. Hassan,  
Per R. F. Osgood,  
att'y.

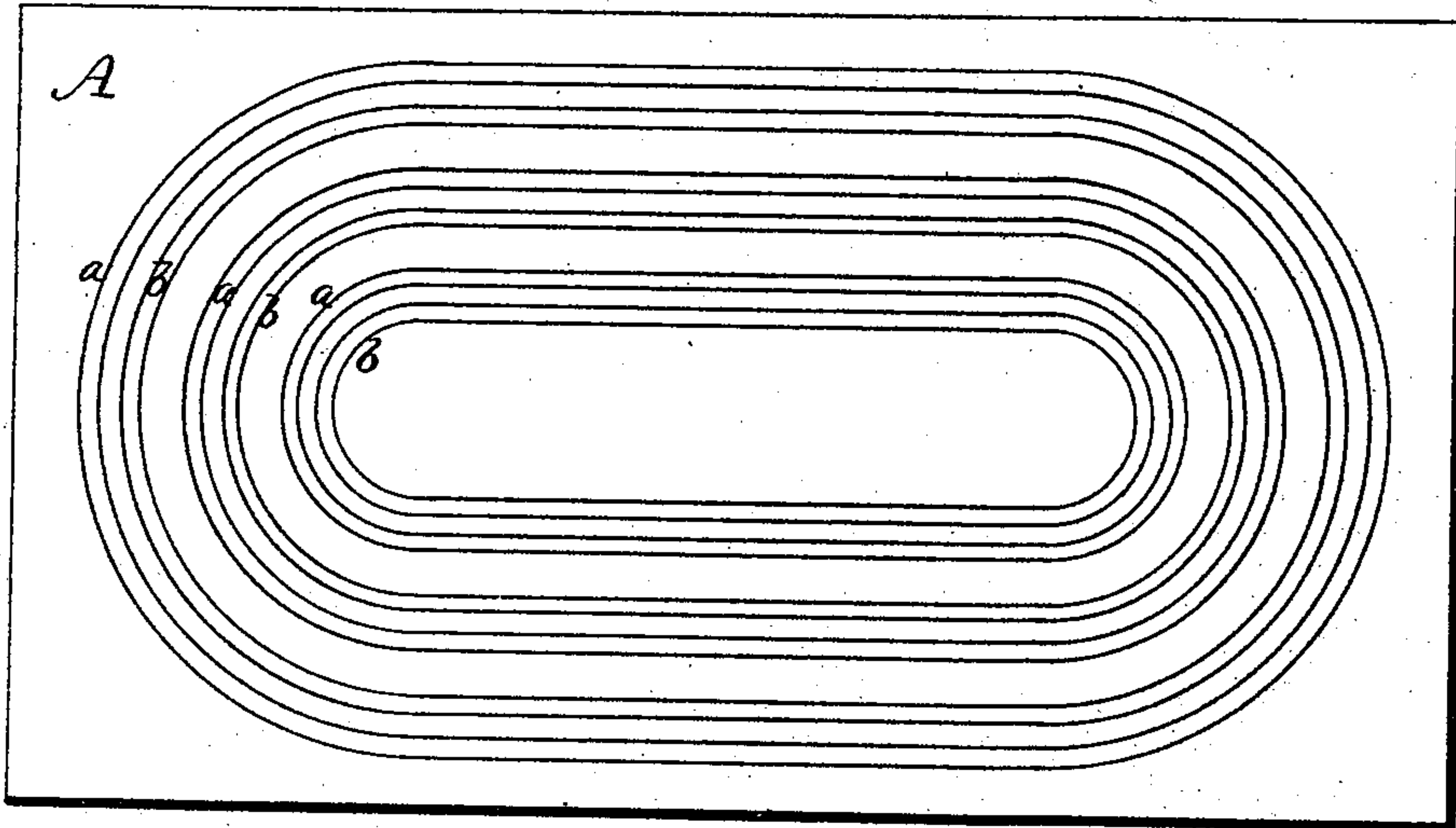
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M. W. HASSAN.  
ELECTRIC RINK.

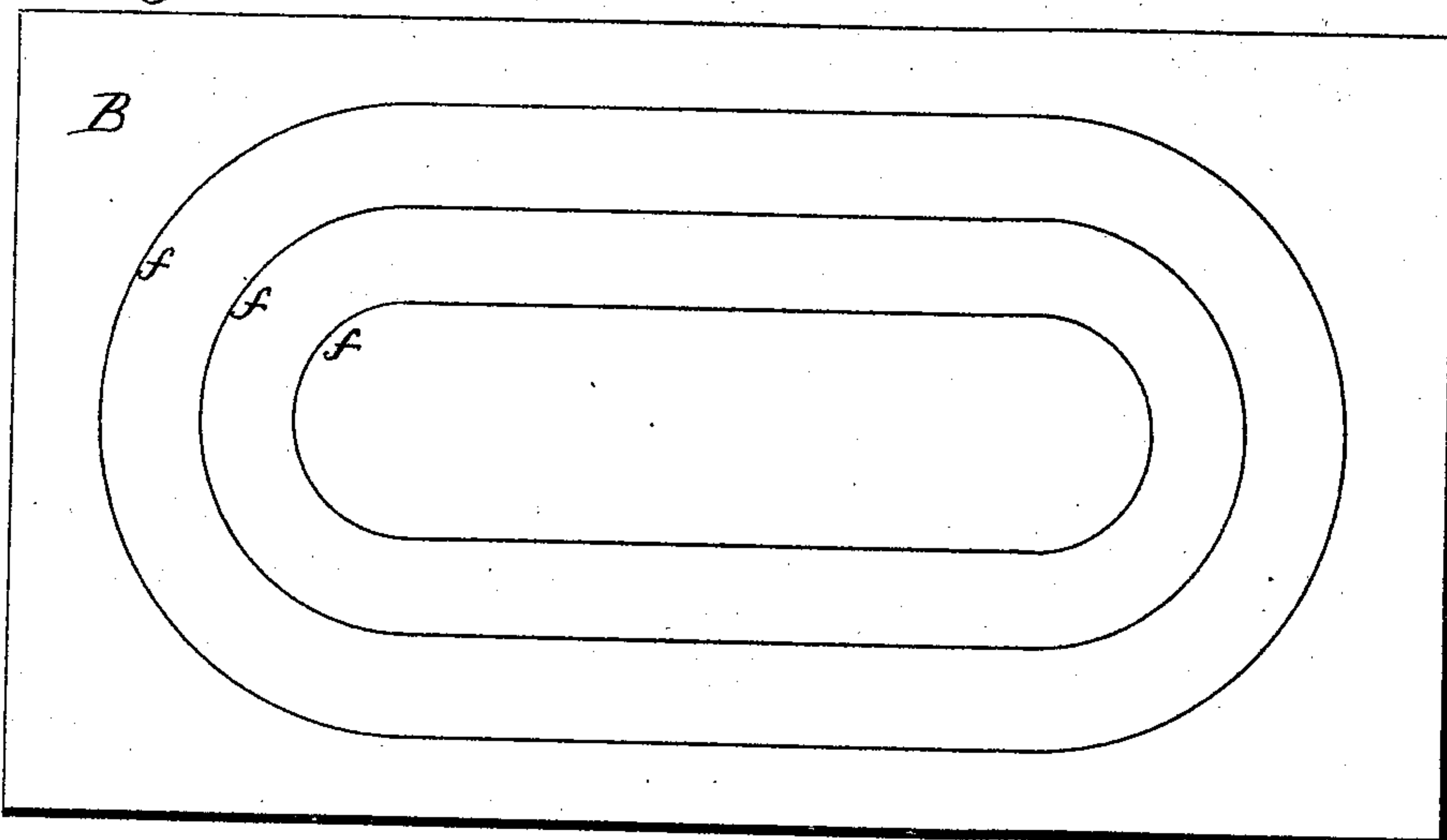
2 Sheets—Sheet 2.

No. 497,495.  
*Fig. 3.*

Patented May 16, 1893.



*Fig. 4.*



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# UNITED STATES PATENT OFFICE.

MIDBURY W. HASSAN, OF ROCHESTER, NEW YORK.

## ELECTRIC RINK.

SPECIFICATION forming part of Letters Patent No. 497,495, dated May 16, 1893.

Application filed May 28, 1891. Serial No. 394,436. (No model.)

*To all whom it may concern:*

Be it known that I, MIDBURY W. HASSAN, of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Electric Perambulators; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the drawings accompanying this specification.

My improvement relates to electrically-propelled vehicles running in a hall or rink, the current which operates the motor of the vehicle being supplied from the ceiling, which is charged for the purpose. Such devices have before been known. In such cases the whole surface of the ceiling is charged, and the floor on which the vehicle runs also serves as the conductor, the current, after passing through the motor escaping through the floor. Such devices are objectionable on some accounts, one of which is that there is more or less danger in making the floor the conductor, owing to its proximity to the ceiling, which is charged over its whole extent. In crowded halls much danger would be incurred.

It is the object of my invention to avoid making the floor a conductor, and also avoid charging the whole surface of the ceiling, and to this end I employ in the ceiling alternate strips of positive and negative conducting surfaces, arranged in pairs forming tracks, the rest of the ceiling being insulated, and use in connection therewith a trolley arm provided with forked bearings which rest in contact with the two strips, said bearings being insulated and connected with the motor of the vehicle by an electric circuit. In connection therewith the floor is marked in lines to form a guide to steer the vehicle by, by which means the trolley bearings are kept in contact with the track.

In the drawings—Figure 1 is a vertical section of the ceiling and floor of a hall and a side elevation of the vehicle. Fig. 2 is a cross section on a greatly enlarged scale. Fig. 3 is a diagram showing the under side of the ceiling. Fig. 4 is a plan view of the floor.

A indicates the ceiling, B the floor, and C

one of the vehicles that run on the floor. The ceiling is provided with alternate strips, *a* and *b*, of conducting surface, preferably metal, arranged in pairs and forming tracks which extend around the whole circuit of the ceiling. Each pair of these strips forms positive and negative elements, which are connected by conductors *c c*, and the terminals are also connected by a conductor *d*, in which is located a generator *d'* by which all the strips are charged. The remainder of the ceiling *A* is insulated, by which means the danger that attends a charged surface of great extent is avoided, and less power is required to charge the operating surface.

The floor *B* is not a conductor. The vehicle *C* preferably has three wheels, being in the form of a tricycle. The floor is marked with a series of circuit lines *f f*, (Fig. 4), which coincide with the tracks on the ceiling and serve as a guide to preserve the contact of the trolley with the tracks. By following these guide lines with the steering wheel the contact will be always maintained. The vehicle also has a trolley arm *g*, which is branched at its upper end, forming two bearings *g' g''* that rest in contact with the tracks on the ceiling. These branches are insulated. From these branches two insulated wires *h* and *i* extend downward to the motor *D*. One wire, *h*, connects with the field magnet *k*, and the other one, *i*, with one of the brushes *l*. A wire *m* also connects the field magnet with the other brush *l'*. A circuit is made through the motor by this means. On the shaft of the motor is a pinion *p* which engages with a gear *r*, on the axle *s*. By this means motion is imparted to the vehicle.

*w* is a switch by which the current can be turned on and off, said switch being connected with the arm *g* by insulated bearings, or connected at any other suitable point.

By the means above described the circuit is produced through the ceiling alone, and without passing through the floor, and the main portion of the ceiling is insulated, by which the danger in crowded halls is greatly reduced.

Having described my invention I do not

claim broadly an electrically charged ceiling;  
nor do I claim broadly a vehicle driven by  
contact with such ceiling.

What I claim as new, and desire to secure by  
5 Letters Patent, is—

The combination, in a rink or hall, of a ceiling  
provided with electrically charged strips  
arranged in pairs and forming a track, a non-  
conducting floor provided with guide lines  
10 coincident with the strips, a vehicle provided  
with a motor, a trolley provided with double

bearings connected with the strips of each  
pair forming the track, and electrical con-  
ductors connecting the trolley bearings with  
the motor, as and for the purpose specified. 15

In witness whereof I have hereunto signed  
my name in the presence of two subscribing  
witnesses.

MIDBURY W. HASSAN.

Witnesses:

R. F. OSGOOD,  
CHAS. A. WIDENER.