

J. J. STOCK AND J. H. SMOOT,
TROLLEY SYSTEM,
APPLICATION FILED APR. 18, 1921.

1,404,168.

Patented Jan. 17, 1922.

Fig. 1.

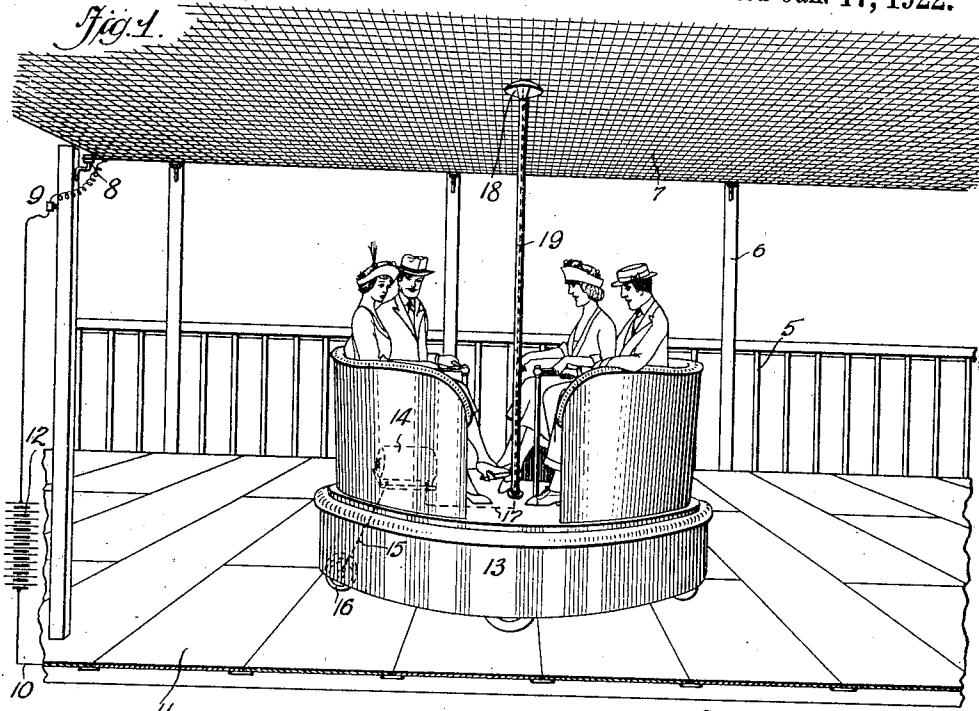


Fig. 2.

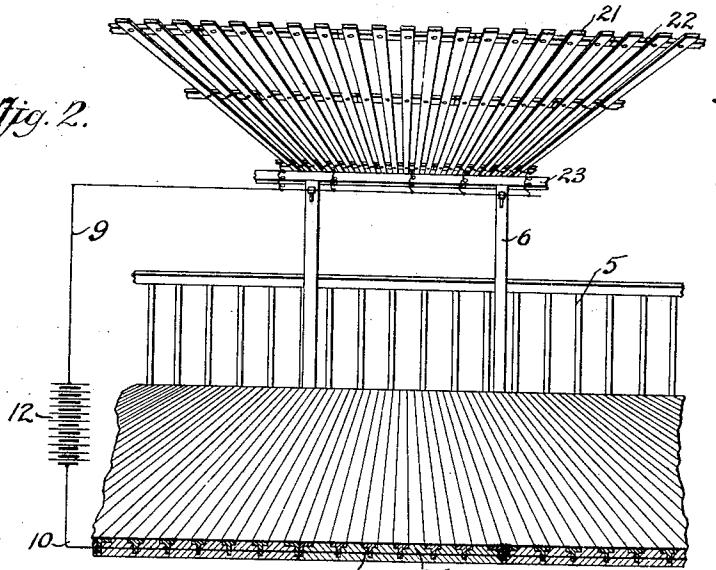


Fig. 4.

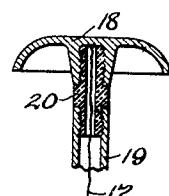
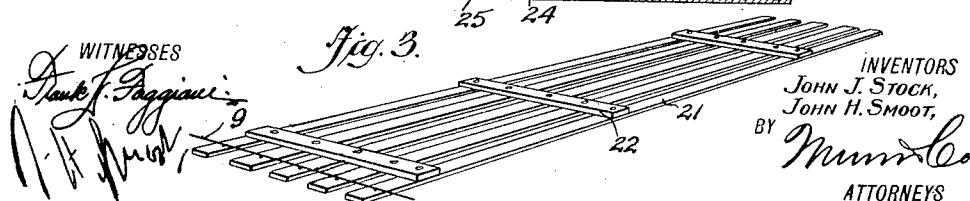


Fig. 3.



WITNESSES

Dank F. Paganini
W. H. Smith

INVENTORS

JOHN J. STOCK,
JOHN H. SMOOT,

BY *Munn Co.*
ATTORNEYS

UNITED STATES PATENT OFFICE.

JOHN JACOB STOCK, OF ERDENHEIM, PENNSYLVANIA, AND JOHN HENRY SMOOT, OF HEMPSTEAD, LONG ISLAND, NEW YORK; SAID SMOOT ASSIGNOR TO SAID STOCK.

TROLLEY SYSTEM.

1,404,168.

Specification of Letters Patent. Patented Jan. 17, 1922.

Application filed April 18, 1921. Serial No. 462,307.

To all whom it may concern:

Be it known that we, JOHN J. STOCK and JOHN H. SMOOT, both citizens of the United States, and residents of Erdenheim, in the county of Montgomery and State of Pennsylvania, and Hempstead, in the county of Nassau, Long Island, and State of New York, respectively, have invented a new and Improved Trolley System, of which the following is a full, clear, and exact description.

Our invention relates to a trolley system and aims to provide certain new and useful improvements in connection with a device of this character.

15 In connection with amusement devices, such as have been illustrated in the prior patent of applicant Stock, issued May 4, 1920, Serial #1339299, it has been found that storage batteries are, in certain respects 20 impractical. The reasons for this are two fold, primarily the weight of the vehicle is excessive so that difficulty in transporting and handling the same is encountered, and 25 secondly, the storage batteries are liable to become damaged incident to the excessive vibration to which they are subjected, aside from the fact that expenses in operation are increased, due to the fact that the batteries must be re-charged.

30 Having this in mind, our present invention aims to provide a trolley system, which is applicable to all types of pleasure rides, and by means of which the necessity of utilizing storage batteries is avoided.

35 A further object of our invention is the provision of a device of the nature stated which shall be extremely simple in construction, as well as light and compact, so that the same may readily be erected with a 40 minimum of expense, in permanent locations, and also lend itself to ready usage in connection with traveling amusement parks where the entire apparatus must be capable of being arranged within a minimum of 45 space while being transported.

Further objects of our invention will appear in the annexed specification, taken in connection with the drawings which latter present practical embodiments of the invention, and in which;

50 Figure 1 is a side view illustrating the trolley system employed, and showing the same in use.

Figure 2 is a view similar to Figure 1 but showing a slightly different form of system.

Figure 3 is a perspective view of one of the units forming a part of the complete ride as illustrated in Figure 2, and

Figure 4 is an enlarged sectional side view of the collector of the trolley.

Referring now more particularly to Figures 1 and 2 it will be seen that the reference numeral 5 designates the boundaries, such as a railing, which forms a part of the platform upon which the ride is positioned and the reference numeral 6, supporting posts for the charged ceiling.

In Figure 1 it will be seen that the charged ceiling 7 comprises a netting which may be 70 of any desirable character, and it will be seen that this netting is preferably supported from the posts 6 by means of insulators 8. Also one lead 9 is connected to the ceiling thus provided, and the secondary lead 10 75 is connected to the floor 11 comprising a series of metallic members, both leads being connected to a suitable source of energy 12. Thus a ceiling and floor is provided, the former constituting a charged member, and it will be obvious that any element extending between these members will bridge the gap 80 and close the circuit.

Also in Figure 1 there is illustrated upon 85 the floor 11, a vehicle 13 which vehicle may be of any desirable character such as that illustrated in the prior patent of applicant Stock, and is driven by a motor 14 carried by the same. One of the terminals of 90 the motor is grounded by a lead 15 connecting the same to a suitable portion of the vehicle such as a supporting or driving wheel 16 and the second terminal of the motor 14 is connected by a lead 17 to a collector 18, 95 suitably carried by a pole 19 by the vehicle 13.

Referring now more particularly to Figure 4 it will be noted that the collector 18 100 preferably presents a dome or mushroom shaped exterior face, and that a suitable type of insulator 20 may be arranged between the collector and the pole 19 for preventing the current from short circuiting directly through the vehicle.

Thus when the switch (not shown) is

closed it will be obvious that current will flow from the charged ceiling 7 through the collector 18, motor 14, wheels 16 and thence through the conducting floor, thus completing the circuit and permitting an operation of the vehicle without the necessity of utilizing storage batteries within the body of the vehicle.

It will be obvious in use that the ceiling 7 due to being rolled up in shipment, or incident to other causes may become bulged in places, and it will be seen that the peculiar shape of the collector is devised with this in mind, in that any sagging portions of the ceiling would be capable of being slidably contacted with by the collector without any fear being felt that the collector might catch in the ceiling.

Assuming that the type of ceiling illustrated in Figure 1 is not desirable, it will be seen that an optional form of ceiling may be utilized, such as has been illustrated in Figures 2 and 3. In these views it will be seen that the ceiling includes a number of units each of which comprises a plurality of spaced bars 21, which are retained in assembled position by any suitable means such as cross bars 22 extending across and secured to their upper faces.

These units may be mounted by the posts 6 in any suitable manner, such as securing the same to beams 23 properly insulated from the posts 6. Also with regard to the floor, it will be seen that the same may also be made in a number of sections, as has been shown in Figure 2, and each of the sections may include a bearing surface 24 having contact strips 25 sunk into its face whereby a conducting floor is provided when a number of these units are assembled.

Obviously the ceiling illustrated in Figure 2 may be utilized with the floor shown in Figure 1, and also the floor shown in Figure 2 may be utilized with the ceiling shown in Figure 1, but it is to be noted in connection with both the floor and ceiling shown in Figure 2 that the bars 21 and strips 25 are so spaced that certain of the wheels of the vehicle 13 will at all times be in contact with one or more strips 25, while the spacing of the bars 21 would be such that the collector 18 would be readily capable of bridging the space existent between two of these members.

From the foregoing it will be appreciated that we have provided a trolley system which may be utilized to advantage in connection with pleasure rides, but is not necessarily limited to this particular adaptation. Further it will be understood that by means of the structure suggested the vehicle is not limited to the utilization of storage batteries, so that the objections incident to weight, etc., are avoided.

Obviously numerous modifications of

structure might readily be resorted to without in the least departing from the spirit of our invention, which we claim as;

1. A trolley system including in combination with a ceiling and floor both possessing electrical conductivity, a vehicle adapted to be supported by said floor, and being in electrical contact therewith, means connecting said vehicle with said ceiling, said ceiling presenting interstices. 75

2. A trolley system including in combination with a ceiling and floor both possessing electrical conductivity, a vehicle adapted to be supported by said floor, and being in electrical contact therewith, means connecting 80 said vehicle with said ceiling, said ceiling comprising a wire mesh.

3. A trolley system including in combination with a ceiling and floor both possessing electrical conductivity, said floor comprising 85 a plurality of metallic members, said ceiling comprising a wire mesh, a source of electric current supply provided with leads, said leads being connected to said ceiling and said floor respectively, a vehicle supported by said floor and being in electrical contact therewith, a pole secured to said vehicle, a collector insulated from said pole, said collector presenting a dome-shaped upper face adapted to slidably bear against the 90 under face of said wire mesh, a motor for driving said vehicle, and a lead extending from said collector to one of the terminals 95 of said motor.

4. A trolley system including in combination with a ceiling and floor both possessing electrical conductivity, and current conducting leads connected to said ceiling and floor respectively, a vehicle adapted to be supported and being in electrical contact with 100 said floor, a motor for driving said vehicle, said ceiling presenting a plurality of interstices, a pole secured to said vehicle, a collector supported by said pole, said collector being of sufficient width to bridge said interstices. 110

5. A trolley system including in combination with a ceiling and floor both possessing electrical conductivity, a vehicle having wheels adapted to movably support the same 115 upon said floor, means connecting said vehicle with said ceiling, said floor including a plurality of spaces, electrical conducting members, a series of electrical energy leads extending from said source of electrical energy to said floor and ceiling, the electrical conducting portions of said floor being so spaced and arranged as to constantly insure the disposition of at least one of the supporting wheels of said vehicle upon one of 125 the electrical conducting members at all times.

6. A trolley system including in combination with a ceiling and floor both possessing electrical conductivity, a vehicle having 130

wheels adapted to movably support the same upon said floor, means connecting said vehicle with said ceiling, said floor comprising a bearing surface and a plurality of 5 electrical conducting strips flush with the upper surface of said bearing surface, current conducting leads connected to said floor and ceiling respectively, the strips being so disposed upon said floor as to constantly insure one of the supporting wheels of said vehicle being in contact with one of said strips whereby to complete the circuit.

JOHN JACOB STOCK.
JOHN HENRY SMOOT.