

N<sup>o</sup> 24,067



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PROVISIONAL SPECIFICATION.

**"Improvements relating to Revolving Rooms for Amusement."**

We, WILLIAM KENNEDY-LAURIE DICKSON, Electrical Engineer, and EUGÈNE LAUSTE, Mechanic, both of 64, Strand in the City of Westminster, London, do hereby declare the nature of this invention to be as follows:—

Our invention relates to improvements in revolving devices for affording  
5 amusement by the illusive effect produced upon persons in a frame or room by the relative movement of the frame or room and seats or the like occupied by the persons.

The object of our invention is to effect improvements in such devices whereby the illusive effect is more complete and greater safety is afforded to the persons  
10 within the frame or room.

Our invention consists in providing a revoluble frame, room or casing with internal rails or a platform or the like upon which is mounted a vehicle or the like for containing passengers whereby on imparting a rotary movement to the room or frame, relative motion occurs between the vehicle and the frame,  
15 room or casing.

Our invention also consists in arranging rails within the revoluble room in such a manner that the vehicle is caused to move in a direction parallel or substantially parallel to the axis of revolution of the room or to move so that its distance from the axis of rotation of the room varies or so that the vehicle  
20 has a tilting motion, or so that the vehicle has a combination of two or more of these motions, whereby the illusive effect upon the occupants of the vehicle is increased.

By our invention an illusion of continuously "looping the loop" may be obtained without the danger which attends that well known operation as  
25 hitherto practised, and it affords an easy and safe means of amusement.

In carrying our invention into effect according to one construction, we provide a room or chamber with outside bearings preferably of large diameter resting upon suitable friction reducing rollers or the like so that the room may be revolved with a minimum of friction.

The room is provided with suitable gearing by means of which it may be rotated at a uniform or variable angular velocity and is furnished with controlling means so that it may be stopped or started as desired.

The driving gear may consist of elliptical toothed wheels outside one end of the room or any other convenient arrangement of gearing may be adopted to  
35 suit the requirements of the particular case, and the whole may be driven by a motor adapted to rotate continuously in one direction or to reverse when desired. A variable speed may be imparted to the room by interposing variable speed gearing with easy controlling means between the motor and the driving wheel or the like of the revoluble room.

Inside the room is or are laid one or more pairs of rails regularly or irregularly around the axis about which the room revolves. The rails are fixed at suitable points such as at the floor, walls and ceiling of the room and are of such strength as to prevent dangerous sagging at unsupported parts when the load is upon them.

45 Upon the rails is mounted a vehicle the wheels of which are provided with

[Price 8d.]



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flanges, guide wheels or other convenient means for preventing them from running off the rails.

After the passengers have taken their places in the vehicle the room is revolved about its axis and the vehicle runs upon the rails. The illusion produced is that the vehicle actually travels around the axis of the room and the illusive effect is enhanced by the rumbling or vibration of the wheels of the vehicle during the relative movement of the vehicle and room, and by the actual movement of the vehicle in cases where the rails are laid irregularly.

The rails may be laid so that the vehicle shall actually approach or recede from one end of the room during the course of a revolution of the latter, or shall have a tilting movement or a movement nearer to or further away from the axis of revolution or in some cases a combination of some or all of such movements.

Instead of rails we may employ a circular or looped guide platform which may be provided with flanges or other suitable means to prevent the possibility of the vehicle jumping the guide.

If desired, the room may be rotated by the vehicle itself instead of by external means. This may be done by providing the vehicle with a motor whereby it is traversed positively along the rails for a certain distance until the weight or friction of the vehicle as it commences to rise up the slope of the rails or platform overcomes the inertia of the room and the friction at the bearings and causes rotation of the room or frame. When the room is thus rotated the rails or platform may or may not be provided with a curved rack with which a toothed wheel driven by the motor of the vehicle engages.

A series of rooms may be driven by the same operating plant, suitable bearings being provided between the rooms to support the weight if necessary.

In some cases the axis of the room may be eccentrically disposed so that the room itself has some lifting and falling movement which will be imparted to the vehicle in the course of a revolution.

Dated this 7th day of November, 1904.

MARKS & CLERK,  
18, Southampton Buildings, London, W.C.  
13, Temple Street, Birmingham, and  
30, Cross Street, Manchester,  
Agents.

## COMPLETE SPECIFICATION.

## "Improvements relating to Revolving Rooms for Amusement."

We, WILLIAM KENNEDY-LAURIE DICKSON, Electrical Engineer, and EUGENE LAUSTE, Mechanician, both of 64, Strand, London, do hereby declare the nature of this invention and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement:—

Our invention relates to improvements in revolving devices for affording amusement by the illusive effect produced upon persons in a frame or room by the relative movement of the frame or room and seats or the like occupied by the persons.

The object of our invention is to effect improvements in such devices whereby the illusive effect is more complete and greater safety is afforded to the persons within the frame or room.

Our invention consists in providing a revoluble frame, room or casing with

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internal rails or a platform or the like upon which is mounted a vehicle or the like for containing passengers whereby on imparting a rotary movement to the room or frame, relative motion occurs between the vehicle and the frame, room or casing.

5 Our invention also consists in arranging rails within the revoluble room in such a manner that the vehicle is caused to move in a direction parallel or substantially parallel to the axis of revolution of the room, or to move so that its distance from the axis of rotation of the room varies, or so that the vehicle has a tilting motion, or so that the vehicle has a combination of two or more  
10 of these motions, whereby the illusive effect upon the occupants of the vehicle is increased.

By our invention an illusion of continuously "looping the loop" may be obtained without the danger which attends that well known operation as hitherto practised, and it affords an easy and safe means of amusement.

15 Referring now to the accompanying drawings which illustrate our invention and form part of our specification.

Figure 1 is a longitudinal section of a revolving room constructed according to our invention the motive power being applied to the axle of the revolving  
room.

20 Figure 2 is a longitudinal section through a series of revolving rooms in which rotation of the rooms is produced by the movement of a self-propelled passenger carrying vehicle internally disposed in the room.

Figure 3 is a detail view of a device for preventing accidental movement of the structure when the motor is at rest.

25 Figure 4 shows a form of rail track which gives a "translatory" motion to the passenger carrying vehicle.

Figure 5 shows a form of rail track which gives an "undulatory" motion to the passenger carrying vehicle.

30 Figure 6 shows a form of rail track for giving an "oscillatory" or "tilting" motion to the passenger carrying vehicle.

In carrying our invention into effect according to one modification as shown in Figure 1, we provide a room or structure, *a*, of square or other section rotatably mounted on ball bearings, *b*, or other friction reducing device in order to reduce to a minimum the power required to rotate the room. The  
35 bearings, *d*, are preferably mounted on slides, *e*, their position with respect to one another in a vertical plane being readily adjustable by means of screws, *c*, while similar provision may be made for adjustment in a horizontal plane. On the outer end of one of the axles, *d*, a gear wheel, *f*, is rigidly fixed which intermeshes with a corresponding one attached to the counter-shaft, *g*, which  
40 is either directly connected to the motor or through reduction or reversing gearing. The form of gear wheels, *f*, may be varied to obtain either uniform or non-uniform velocity in the rotation of the room, *a*, for example when uniform velocity is required the gear wheels may be of any ordinary type while when non-uniform velocity is required wheels of elliptical form may preferably be  
45 employed. In some cases a variable speed gear in addition to a train of wheels for producing non-uniform angular velocity may be provided so that the room may be revolved at a variety of different speeds in either direction with uniform angular velocity. The room or structure *a*, and its supports are constructed preferably in sections of as light material as possible consistent with the  
50 strength required in order to facilitate transportation. The form of room which we generally prefer is a light wooden structure rigidly stiffened by means of bracing, *h*. The rails, *j*, are supported from the sides of the chamber at a sufficient number of points so as to prevent any sagging when the load is between the points of support. On the rails *j* a passenger carrying vehicle, *k*, is dis-  
55 posed, the wheels of which are provided with flanges, guide wheels, or other suitable devices for preventing any possibility of the vehicle leaving the rails.

In order to diminish as far as possible the chances of accident, as for instance

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from the breaking of an axle we provide a flanged ring *l*, mounted concentrically with the axis of rotation on each side of the structure, and to the framework, *m*, on which the room is mounted, two or more pins, *n*, are rigidly attached. These pins are so disposed that when the room is rotating the ring, *l*, just clears them but in the event of an axle breaking the structure would be safely carried by the pins until the motor could be stopped. 5

A device is also provided for preventing accidental rotation of the structure when the motor is at rest. According to one form it is constructed by disposing in proximity to the bottom of the structure *a*, two or more struts, *p*, pivotally mounted at their lower ends on a base, *o*, and pivotally connected at their upper ends to a bar, *q*, Figure 3. A lever, *x*, is connected to the struts, *p*, the operation of which lever causes the struts *p*, to assume a vertical position as shown in dotted lines and the bar, *q*, lying along the bottom of the structure effectually prevents any rotation when the motor is at rest as for instance when the passengers are entering or leaving the room. 10 15

After the passengers have taken their places in the vehicle the room is revolved about its axis and rotates the wheels of the vehicle. The illusion produced is that the vehicle actually travels around the axis of the room and the illusive effect is enhanced by the rumbling or vibration of the wheels of the vehicle during the relative movement of the vehicle and room, and by the actual movement of the vehicle in cases where the rails are laid irregularly. 20

The rails may be so laid that a variety of motion may be imparted to the vehicle relatively to the structure besides that due to the rotation of the structure for example a "translatory" motion, *i.e.* one which causes the vehicle to approach and recede from one end of the room once or more than once during each revolution. This is effected in the former case by causing the rails to gradually diverge from the vertical plane at the point, *r*, (Figure 4) until after half a revolution the maximum divergance at the point, *s*, has taken place from which point they gradually converge again to the vertical at the point *r*. Again an undulatory motion (see Figure 5) may be imparted to the vehicle by causing the rails to gradually approach and recede from the axis of rotation the rails always being contained in the same vertical plane. Further an "oscillatory" or "tilting" motion (see Figure 6) may be given to the vehicle by forming the rails in the same manner as for "undulatory" motion but instead of the crests of the undulation on each rail being opposite to one another a crest on one rail is placed opposite to the hollow on the other. It will be evident that combinations of the above motions may be superimposed on the vehicle, as for instance a "translatory" motion may be combined with an "undulatory" or "oscillatory" motion or the three motions may succeed one another in any order during each revolution of the chamber. 25 30 35 40

Instead of rails we may employ a circular sparrred guide platform which may be formed to give any of the motions hereinbefore described to the vehicle the platform being provided with flanges or other suitable devices for preventing any possibility of the vehicle jumping the guide. By this means the impression of looping the loop is given to the occupants of the vehicle. 45

Another modification of our invention is shown in Figure 2 in which a series of rooms or structures are arranged in line. The scenic effects in the various structures may be dissimilar or continuous, as for example the interior of the first structure may represent a dining room, the next a drawing room and the third a conservatory; the fittings of the rooms for the sake of lightness being preferably made of papier-maché. In this case instead of positively rotating the structure by means of a motor, the passenger carrying vehicle is self-propelled, the structure as before being mounted on ball bearings which are adjustable with respect to one another in either a vertical or horizontal direction. The motive power is preferably electrical and the current is led in through the axle by means of slip rings or the like and from thence by way of the rails to the motor on the vehicle. The motor may either be geared to the wheels of the 50 55

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vehicle or it may drive a pinion which intermeshes with a rack suitably disposed between the rails. When the vehicle is stationary and in a position directly beneath the axis of rotation the system being in equilibrium the structure will be at rest.

5 On the rotation of the motor however, the carriage is propelled forward on the rails, and the equilibrium of the system being thereby disturbed the structure is caused to rotate.

When the passenger carrying vehicle is self-propelled a much smaller amount of power is required to rotate the structure than when the axle of the structure is positively driven.

10 In some cases the axis of the room may be eccentrically disposed so that the room itself has some lifting and falling movement which will be imparted to the vehicle in the course of a revolution.

Having now particularly described and ascertained the nature of our said invention, and in what manner the same is to be performed, we declare that what we claim is:—

1. A rotatably mounted structure for amusement purposes, having a constrained path for a passenger carrying vehicle supported from its inner sides whereby on the rotation of the rotatably mounted structure relative motion takes place between the structure and the vehicle, substantially as described.

2. A rotatably mounted structure for amusement purposes having a rail track supported from its inner sides on which track a wheeled vehicle is mounted, and means for imparting uniform or non-uniform angular velocity to the rotatably mounted structure whereby relative motion takes place between the structure and the vehicle, substantially as described.

3. A rotatably mounted structure for amusement purposes having a rail track, supported from its inner sides on which track a self-propelled vehicle is mounted, the movement of the vehicle along the track being adapted to cause rotation of the structure and relative motion between the structure and the vehicle, substantially as described.

4. A structure of the type indicated in Claims 1, 2 and 3 having rails or tracks so formed as to impart a variety of motions to the vehicle relatively to the structure, substantially as described.

5. The improved rotatably mounted structure substantially as described and illustrated in Figures 1 and 2 of the accompanying drawings.

6. The improved tracks substantially as and for the purposes hereinbefore described and illustrated with reference to Figures 4, 5 and 6 of the accompanying drawings.

Dated this 4th day of August, 1905.

MARKS & CLERK,

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13, Temple Street Birmingham, and

30, Cross Street Manchester.

Agents.

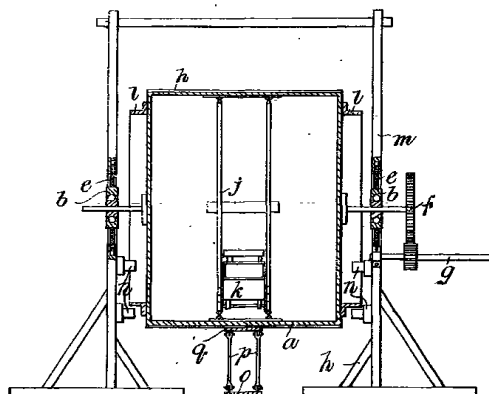


Fig. 1.

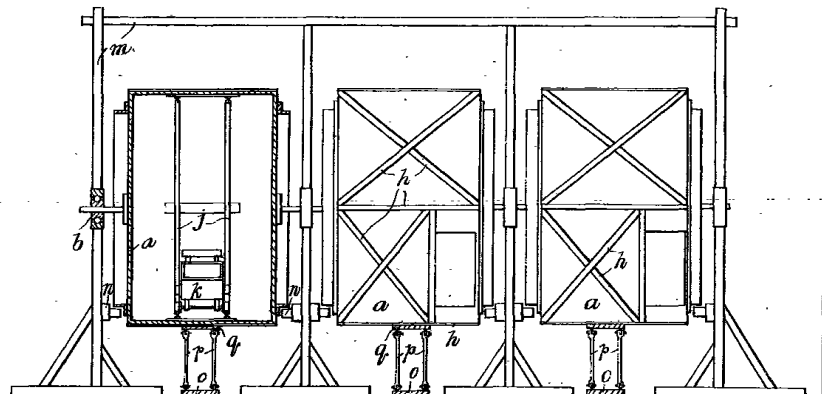


Fig. 2.

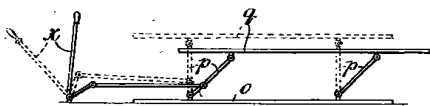


Fig. 3.

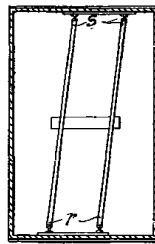


Fig. 4.

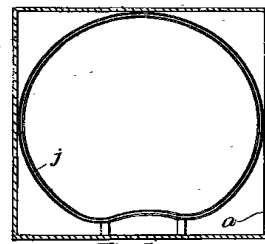


Fig. 5.

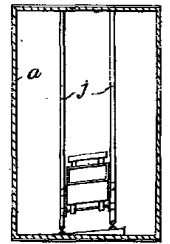


Fig. 6.

[This Drawing is a reproduction of the Original on a reduced scale.]

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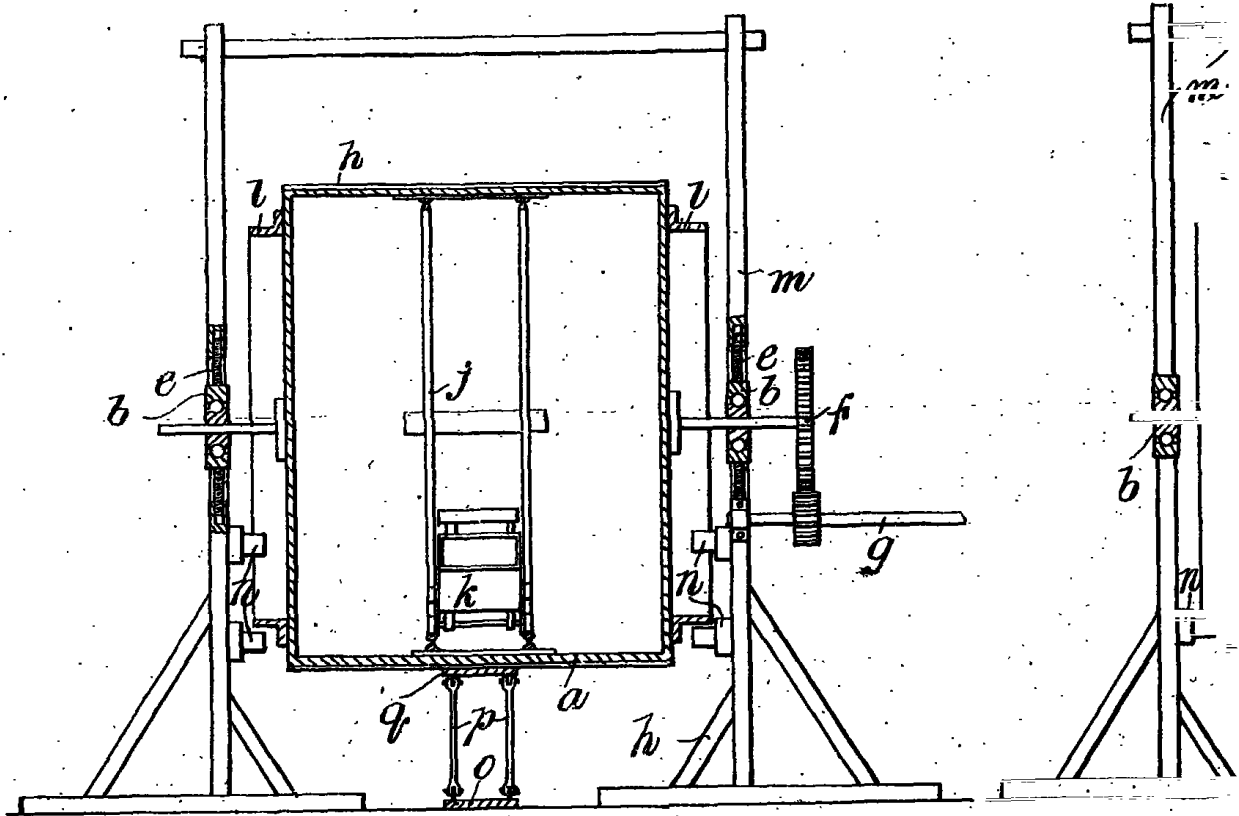


Fig. 1

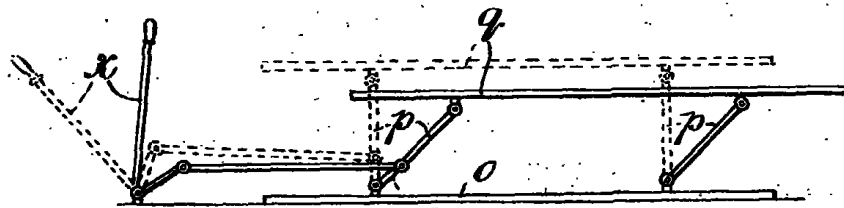


Fig. 3

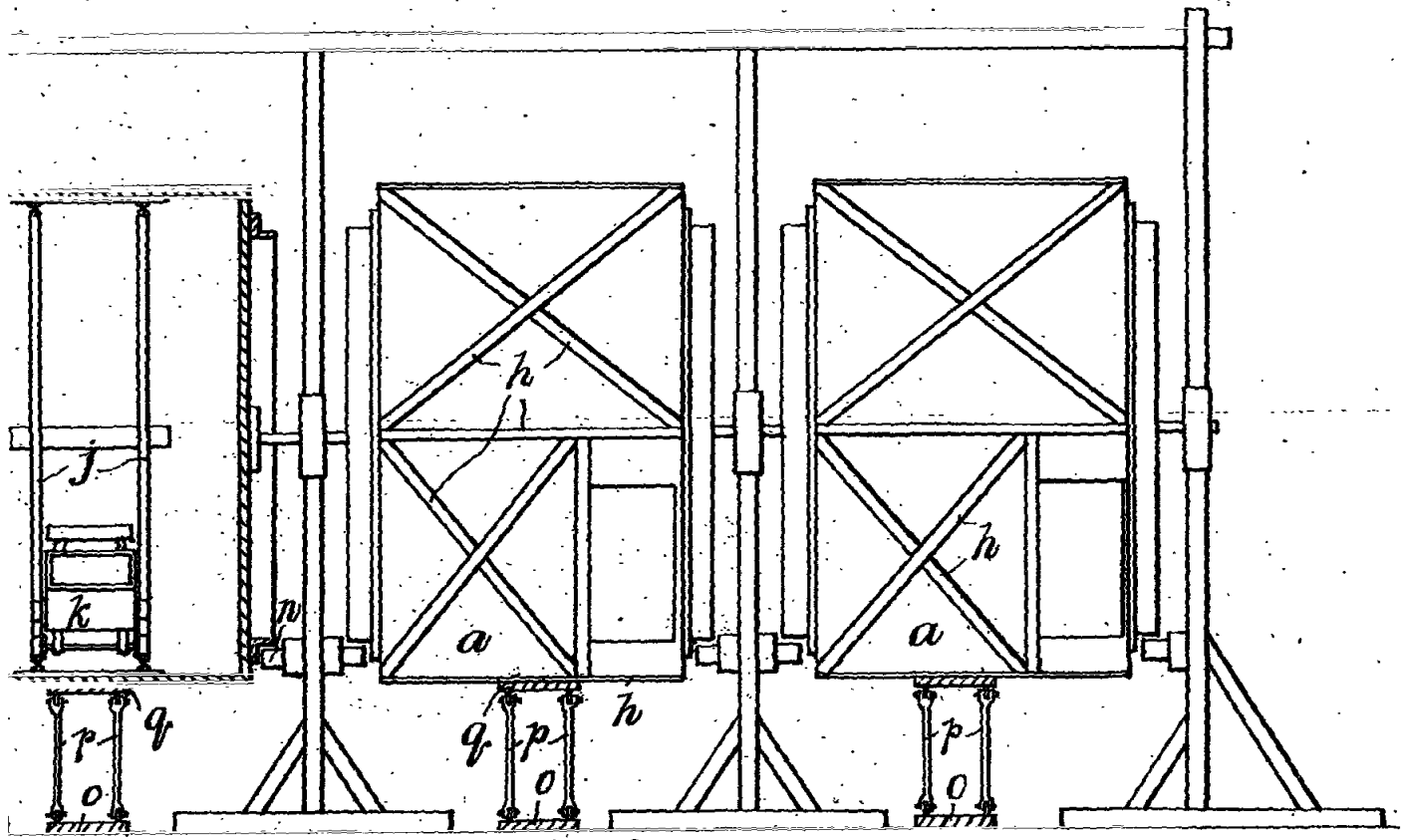


Fig. 2.

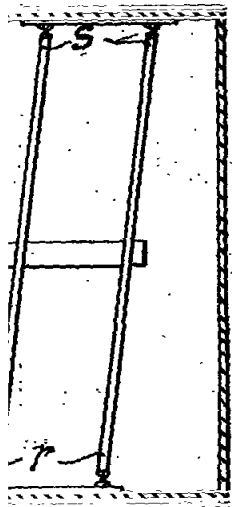


Fig. 4.

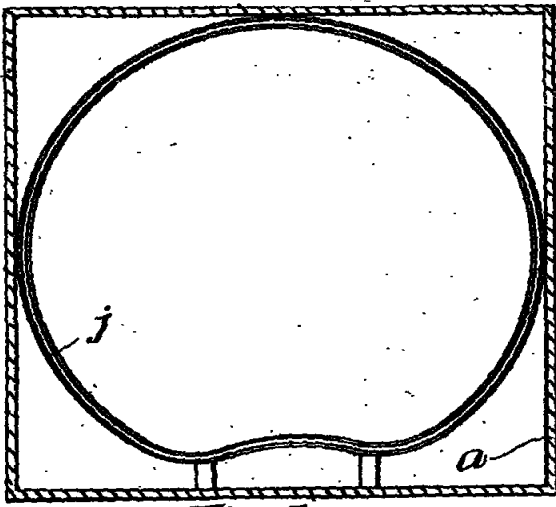


Fig. 5.

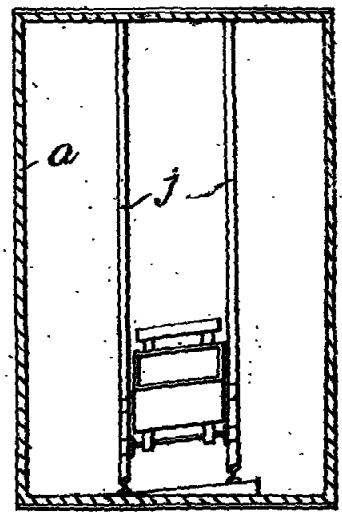


Fig. 6. BIRMINGHAM FREE LIBRARIE