No. 838,797. PATENTED DEC. 18, 1906.

E. S. MITCHELL.

AMUSEMENT APPARATUS.

APPLICATION FILED FEB. 7, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

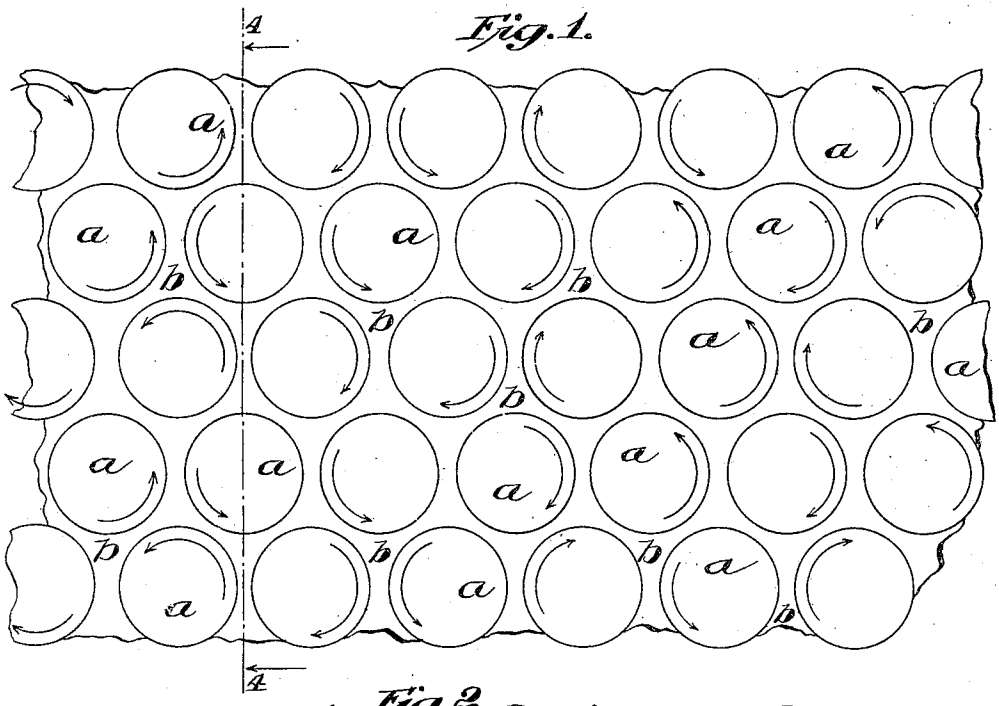
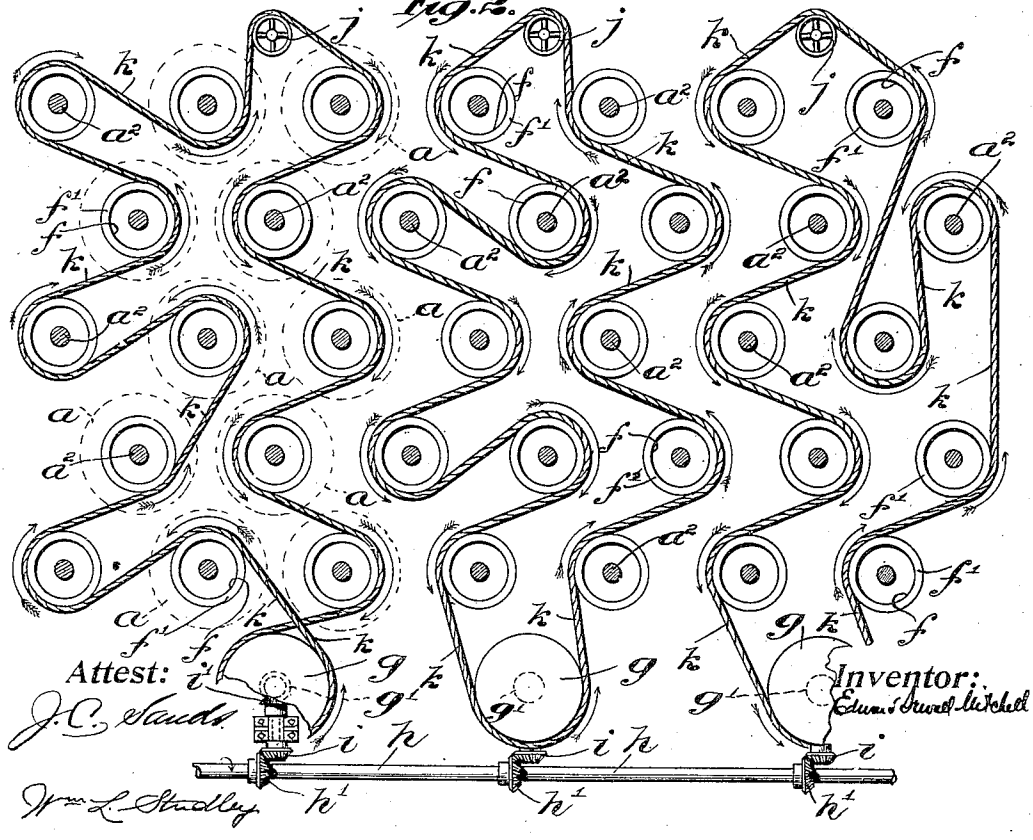


Fig. 2.



Attest:
J. C. Sands
Wm. L. Hadley

Inventor:
Edward Stuart Mitchell

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2 SHEETS—SHEET 2.

Fig. 3.

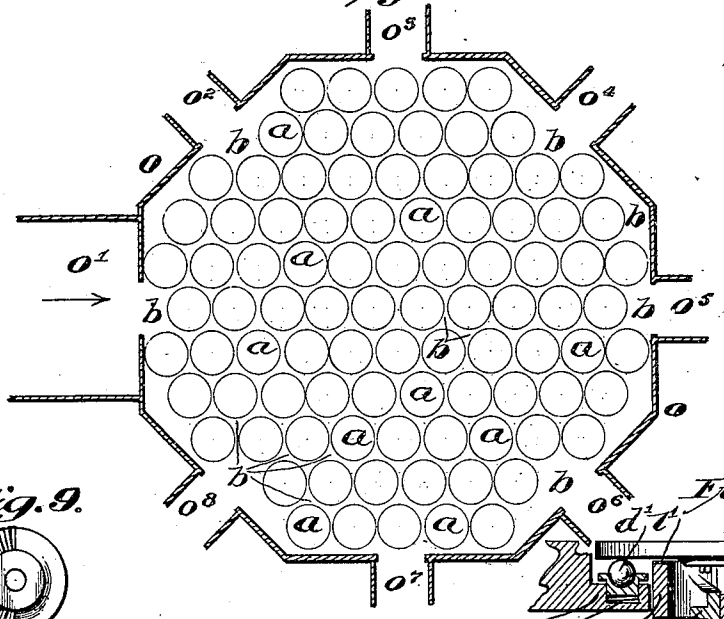


Fig. 9.

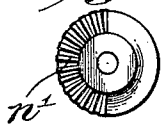


Fig. 8.

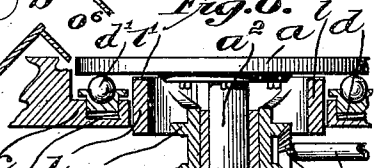


Fig. 4.

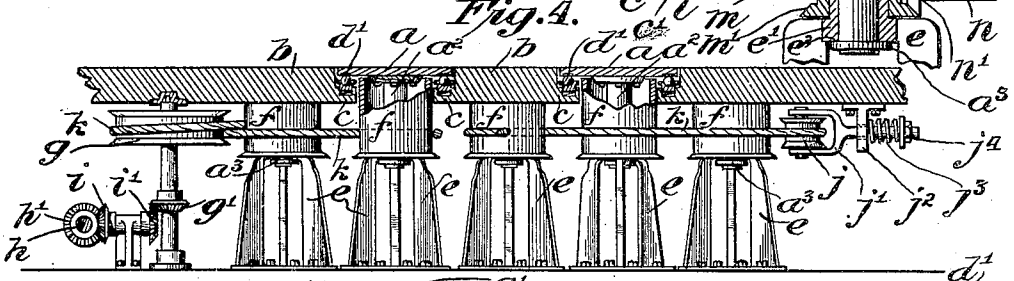
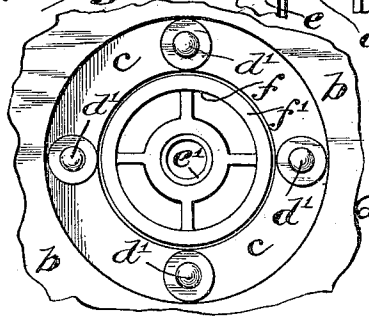


Fig. 5.

Fig. 7.

Fig. 6.



Attest:

J. C. Sands.

Wm. L. Studley

Inventor:

Edward Stewart Mitchell

UNITED STATES PATENT OFFICE.

EDWARD SEWALL MITCHELL, OF GLENRIDGE, NEW JERSEY.

AMUSEMENT APPARATUS.

No. 838,797. Specification of Letters Patent. Patented Dec. 18, 1906.

Application filed February 7, 1906. Serial No. 299,900.

To all whom it may concern:

Be it known that I, EDWARD SEWALL MITCHELL, a citizen of the United States, residing at Glenridge, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Amusement Apparatus, of which the following is a specification, reference being had therein to the accompanying drawings, which form a part thereof.

My invention relates to amusement apparatus, and more particularly to a class thereof adapted to be applied to a platform or flooring of a building.

The main object of the invention is to provide an amusement apparatus embodying a platform or floor-space consisting of a plurailty of independent sections, some of which sections are capable of carrying a person or object a short distance relative to the adjoining sections, so that progress across said platform or flooring may be made only by stepping from section to section.

A further object is to cause movement of the movable sections in such a manner as to occasion at any time great uncertainty as to the direction of movement thereof, thus tending to confuse the user and create considerable amusement both to the user and the onlooker.

A still further object is to so construct and arrange the various sections that all of them will normally be stationary, while some of them will be set in motion only when the weight of a person or object is placed thereon.

A still further object is to provide a device of this character wherein the movable sections may be brought into such close relation to each other as to prevent a person stepping from one immovable section to another and to permit the adjacent movable sections to receive movement in opposite or diverse directions.

A still further object is to provide a device of this character wherein the movable sections and the means actuating same will be normally disconnected and will be capable of being automatically connected through a clutch, which will impart movement to said movable sections in a manner to avoid such a sudden acceleration thereof as will prove dangerous to the user.

A still further object is to provide in a device of this character means normally maintaining said sections, both movable and immovable, substantially flush with each other, thus avoiding likelihood of accident in passing upon said movable sections and at the same time permitting the connecting or coupling of the clutch mechanism thereto without so depressing said movable section as to present an obstruction which users might stumble over in leaving said sections.

A still further object is to provide a device of this character wherein the movable sections unless a person steps therefrom quickly will convey said person around a circular course back to the starting-point.

A still further object is to so construct and arrange the various movable sections and their actuating means that they may be conveniently driven either in their entirety or in groups from a single source of power.

A still further object is to provide a device of this character wherein the several independent sections will be so closely fitted together and be subject to such a limited vertical movement as to avoid the presence or formation of such cracks or openings as would permit the feet or wearing-apparel of an occupant to be caught therein, with resultant injury thereto through the movement of the wearer or occupant upon an adjoining movable section.

A still further object is to provide a device employing a depressible movable section wherein immediately upon the removal of the weight therefrom it will be restored to its normal position and all movement thereof instantly checked.

A still further object is to provide a device of this character wherein the movable sections will be severally actuated by means of a friction-clutch and be so supported by supplemental yielding bearings as to insure the transmission of all weight placed thereon directly to said clutch mechanism and the elimination of all material friction at greater radius than said clutch from the engagement of said movable section and said bearings.

A still further object is to provide a device of this character wherein the actuating mechanism for the several disks or movable sections may be continuously driven by a simple driving mechanism and in such directions as may be required; and a still further object is to provide a device of this character which will be simple in its construction and inexpensive to manufacture, install, and operate, while having large capacity.

The invention consists, primarily, of an amusement apparatus comprising a platform

or flooring consisting of a plurality of independent sections and means whereby a conveying movement may be imparted to some of said sections relative to other adjoining sections, said sections being so disposed that progress across said platform or floor may be made only by passing from section to section, and in such other novel features of construction and combinations of parts as are hereinafter set forth and described, and more particularly pointed out in the claims hereto appended.

Referring to the drawings, Figure 1 is a diagrammatic view of a part of a platform or flooring embodying my invention, the arrows on each of the several movable sections indicating the direction of movement imparted thereto when it is actuated. Fig. 2 is a diagrammatic view of the actuating mechanism for said movable sections. Fig. 3 is a diagrammatic view of an inclosure or room containing a platform or flooring embodying my invention. Fig. 4 is a cross-section on the line 4 4 of Fig. 1, showing the actuating mechanism for the several movable sections partly in section. Fig. 5 is a detail view of a single movable section, partly broken away, the immovable section adjoining it, and the supports carried thereby for said movable section, and the actuating mechanism, said parts being in their normal positions relative to each other. Fig. 6 is a view similar to Fig. 5 with the movable section shown as being so depressed as to couple same to the actuating mechanism. Fig. 7 is a plan view of an immovable section and the supports for the movable section and the actuating mechanism, the movable section being removed. Fig. 8 is a view similar to Fig. 5, showing a modified form of actuating mechanism; and Fig. 9 is a detail view of the driving-gear used in the modification shown in Fig. 8.

Like letters refer to like parts throughout the several views.

In the embodiment of my invention shown in the drawings I have used a platform or flooring having a plurality of openings therein, said openings being so disposed as to leave small sections of stationary flooring thereabout and each being adapted to receive a circular disk *a*, capable of being rotated to impart a conveying movement thereto. These sections of flooring between the peripheries of the adjacent disks *a* constitute the immovable sections *b* of the flooring, and the movement of a disk *a* serves to convey the user in a circular course relative thereto, but one so limited that to progress across the entire platform or flooring so composed a user must pass from section to section. I preferably employ this construction and arrangement as insuring simplicity of construction and mode of operation, while affording greater amusement by reason of the circular course of the conveying-sections and the resultant constantly-changing direction of the conveying action thereof.

The movable or conveyer sections *a* are supported by the immovable sections *b* in a manner to be normally substantially flush therewith and to permit their depression to throw them into engagement with the means adapted to rotate same. This support preferably comprises a circular supporting-flange *c*, having a plurality of sockets *c'* therein in which, respectively, is mounted a spring *d*, carrying a ball-bearing *d'*, upon which said disk rests, said bearings providing supports adjacent to the periphery of said disk, and said springs tending to normally raise said disk out of engagement with its actuating means. If the material of said disk *a* is such as to be subject to material wear, a circular wear-plate *a'* may be used.

Carried by suitable standards or other supports *e* is a bearing *e'*, having a central opening therethrough and presenting downwardly a bearing-surface at e^2, said opening adapted to receive a stem a^2, carried by the disk *a*. This stem carries a brake-shoe a^3, mounted on the bottom thereof by means of an adjustable connection, as a screw-thread, which brake-shoe is adapted to engage the bearing-surface e^2 and check any tendency of the disk *a* to rotate through momentum. The stem *a'* defines the center of rotation of said disk and prevents such side deflection thereof as would tend to interfere with the operation of the device.

Mounted on the bearing *e'* is a sheave or pulley *f*, the upper face of which is extended into close juxtaposition to the disk *a* and provided with a facing of leather *f'* or other material suitable for a friction-pad. It is necessary to leave only sufficient space between the said friction-pad and said disk to afford clearance of the latter when it is in its normal position. It will be observed that a very slight depression of said disk will force it into frictional engagement with said pad and cause it to be rotated with said sheave or pulley *f*, which is continously rotated by any desired means. Mounted adjacent to the said sheaves or pulleys *f* and properly lined up relative thereto are a plurality of driving-pulleys *g*, actuated from a shaft *h*, driven from any desired source of power and having keyed thereon a plurality of bevel-gears *h'*, adapted to mesh, respectively, with one of a pair of gears *i i'*, mounted on a shaft common thereto, the other of which gears is in mesh with a gear *g'*, mounted on the shaft to which the pulley *g* is keyed.

On the opposite side of each group of disks *a* is an idler-pulley *j*, mounted in a forked bearing *j'*, the stem of which bearing passes rough a pendent support j^2 and is acted on by a take-up spring j^3 in a manner to cause aid pulley to automatically take up any slack in the belt or rope *k* and prevent slip-

page thereof on the various pulleys or sheaves f. The tension of the spring j^3 may be adjusted by means of the nut j^4, mounted on the threads of the stem of the forked bearing j', to compensate for any limitation on the action of said spring due to the stretching of the belt or rope k.

An endless rope or belt k passes about each of the driving-pulleys, about each of the sheaves or pulleys f of the group driven from said driving-pulley in a manner to cause adjoining sheaves or pulleys f to be rotated in opposite directions, and about the idler j, as indicated in Fig. 2, thus giving continuous movement to the several sheaves or pulleys f, so that any disk a upon being depressed will be at once rotated through its engagement with the friction-pad f' on its sheave f.

In the modification shown in Figs. 8 and 9 each disk a is actuated from and by a wheel l, mounted on the bearing e'. This wheel carries a friction-pad l' and has integrally cast thereon or keyed thereto oppositely-disposed bevel-gears m m'. Mounted adjacent to each wheel l is a shaft n, carrying a segmental bevel-gear n', adapted to engage said gears m m' during a part of each rotation only, thus first turning said wheel in one direction and then in the other. All of the disks may be driven by means of such a transmission-gearing, if desired; but preferably I merely disperse a few of such among the other gears.

In Fig. 3 I have shown the preferred application of the invention, which contemplates the use of an inclosure o, having one entrance-gate o' and a plurality of exits o^2, o^3, a^4, o^5, o^6, o^7, and o^8. The construction and finishing of this inclosure are immaterial and may be varied as desired.

The operation of the herein-described apparatus is substantially as follows: The user enters the inclosure by the entrance-gate o' and passes upon the platform or flooring with the intention of passing to a particular entrance, as o^5. So long as he remains on any immovable section b he is not carried toward his goal; but these sections are not large, the dimensions of the disks a being such as to limit their area to a space insufficient to comfortably hold a person, and this induces the user to move therefrom quickly. The adjoining sections a all being normally stationary, he has no means of determining in what direction any disk will carry him and in moving must step at random upon some disk a. Immediately upon the transfer of his weight to that disk, however, it is depressed slightly into engagement with the friction-pad f' on the sheave or pulley f actuating that disk and is caused to rotate, such slippage occurring between said disk and said pad before the former is accelerated to the speed of rotation of the latter, as will avoid such a sudden start as will tend to cause discomfort to the occupant or result in his being thrown. This rotary movement serves to convey the occupant away from the immovable section b, from which he passed upon the disk; but it may be in a general direction toward the entrance o'. If the occupant remains on this disk, he will travel in a direct circle and may step therefrom at any point of its periphery to another disk. The unexpected direction of movement will, however, generally tend to so surprise an occupant that he will at once endeavor to step upon another section which he thinks will carry him in the right direction and in so doing may pass upon a disk which when actuated will continue to carry him in the same direction or in any direction, according to the point at which he enters upon said disk, thus tending to create considerable amusement and confusion. The rapid changes from disk to disk will convey the occupant in almost any direction entirely independent of his will and may bring him back to the starting-point or to any other exit than that desired. The diameters of the disk should be greater than the length of the ordinary pace to avoid a person stepping from the center of one disk to that of another, and, if desired, some of these disks dispersed among the others may be stationary, constituting sort of isles of safety. Immediately upon a person leaving a disk the springs d will raise that disk a to its former and normal position substantially flush with the adjoining sections b, releasing the friction-clutch and depriving said disk of all movement. The tension of the springs d in restoring the disk a to normal is restricted by the brake a^2, which engages the dowwardly-presented bearing-face e^2 and limits the upward movement of the stem a' and by its braking action on said bearing-face prevents further movement of said disk immediately that a person has left it and it is disengaged from the pad h'. The ball-bearings d' are merely to avoid friction between the disk and the restoring-springs when the former is depressed and rotating.

The amusement to be derived from a device of this character is increased by reason of the likelihood of a number of persons occupying adjoining disks and the tendency of different users to hesitate to leave any one disk, thus traveling in a circular course without progress in any direction, and, further, by the natural desire of a person to step quickly from disk to disk to avoid his weight being distributed on two disks moving in opposite directions or on a disk and an immovable section, or from a disk which he discovers carries him in a direction opposite from that in which he desires to go.

The modification shown in Figs. 8 and 9 is substantially the same in its mode of operation as the preferred form, except that each

disk when the friction-clutch is set makes a part of a revolution in one direction, comes to rest for an instant, and then is reversed. While this form of the invention is preferable in so far as the confusion and amusement created is concerned, the structural difficulties, the added cost of production, and the liability of discomfort to the user through the sudden starting and reversal of the rotation of the disk makes the other form preferable from a practical standpoint.

The detailed operation of the actuating mechanism in so far as has not been described in relation to the operation of the disk *a* is apparent from the description of its construction and arrangement and will not be entered into. The use of a driving rope or belt is preferred, as it has a certain amount of elasticity which tends to an easy movement of the disks *a* and avoids that positive movement in starting in case there should fail to be that slippage between the members of the friction-clutch heretofore referred to. This mechanism being disposed in its entirety beneath the platform or flooring, there is no danger of injury to garments from the lubricant necessarily used thereon, or to persons from being entangled therein.

It is not my intention to limit the invention to the embodiment thereof illustrated in the drawings and heretofore described in detail, it being apparent that the details thereof may be varied without departing from the spirit and scope of the invention.

Having described the invention, what I claim as new, and desire to have protected by Letters Patent, is—

1. An amusement apparatus comprising a fixed platform or flooring composed of a plurality of independent sections, and means whereby a conveying movement may be imparted to some of said sections relative to other adjoining sections, said sections being so disposed that progress across said platform or flooring may be made only by passing from section to section thereof.

2. An amusement apparatus comprising a platform or flooring composed of a plurality of independent sections, some of which are movable and capable of being depressed, and others of which are immovable, and means whereby said movable sections when depressed will receive a conveying movement relative to said immovable sections, said sections being so disposed that progress across said platform or flooring may be made only by passing from section to section thereof.

3. An amusement apparatus comprising a platform or flooring composed of a plurality of independent sections, some of which are movable and capable of being depressed, and others of which are immovable, a friction-pad mounted beneath and spaced slightly away from said movable and depressible sections respectively, and means imparting continuous movement to said pad whereby said movable sections when depressed will receive a conveying movement relative to said immovable sections, said sections being so disposed that progress may be made only by passing from section to section.

4. An amusement apparatus comprising a fixed platform or flooring having a plurality of circular openings therein, a plurality of rotatable disks mounted in said openings and means whereby said disks may be rotated to impart a conveying action thereto.

5. An amusement apparatus comprising a platform or flooring having a plurality of circular openings therein, a plurality of depressible, rotatable disks mounted in said openings, and means driving said disks mounted beneath said disks respectively and spaced slightly away therefrom, whereby said disks when depressed will be rotated to impart a conveying action thereto.

6. An amusement apparatus comprising a platform or flooring having a plurality of circular openings therein, flexible supports mounted within said openings respectively, a plurality of rotatable disks mounted on said supports and normally maintained thereby substantially flush with the immovable sections of said platform or flooring thereabout, and driving means mounted beneath said disks respectively, and spaced slightly away therefrom, whereby said disks when depressed will be rotated to impart a conveying action thereto.

7. An amusement apparatus comprising a platform or flooring having a plurality of circular openings therein, flexible supports mounted within said openings respectively, a pulley or sheave and bearings therefor disposed beneath each said opening, a driving-pulley, means whereby said driving-pulley is continuously rotated, a belt or rope passing around said driving-pulley and a group of said pulleys or sheaves whereby adjoining pulleys or sheaves are driven in opposite directions, and a disk mounted on said support and adapted to be depressed into engagement with said pulley or sheave.

8. An amusement apparatus comprising a platform or flooring having a plurality of circular openings therein, flexible supports mounted within said openings respectively, a pulley or sheave and bearings therefor disposed beneath each said opening, a driving-pulley, means whereby said driving-pulley is continuously rotated, an automatic take-up pulley, a belt or rope passing about said driving-pulley, a group of said pulleys or sheaves and said take-up pulley whereby adjoining pulleys or sheaves are driven in opposite directions, and a disk mounted on said supports and adapted to be depressed into engagement with said pulley or sheave.

9. An amusement apparatus comprising a platform or flooring having a plurality of cir-

cular openings therein flexible supports mounted within said openings respectively, a pulley or sheave and bearings therefor disposed beneath each said opening, a driving-pulley, means whereby said driving-pulley is continuously rotated, an automatic take-up pulley, bearings therefor, a stem carried by said bearings mounted in a suitable support, a spring acting on said support and said stem, and means regulating the tension of said spring, a belt or rope passing about said driving-pulley, a group of said pulleys or sheaves and said take-up pulley whereby adjoining pulleys or sheaves are driven in opposite directions, and a disk mounted on said supports and adapted to be depressed into engagement with said pulley or sheave.

10. An amusement apparatus comprising a platform or flooring having a plurality of independent sections, some of which are movable and capable of being depressed and others of which are immovable, means whereby said movable sections when depressed will receive a conveying movement relative to said immovable sections, said sections being so disposed that progress across said platform or flooring may be made only by passing from section to section thereof, and means whereby a braking action is exerted on said movable sections when in their normal position to prevent movement thereof under momentum.

11. An amusement apparatus comprising a platform or flooring having a plurality of circular openings therein, flexible supports mounted within said openings respectively, a pulley or sheave and bearings therefor disposed beneath each said opening and spaced slightly away therefrom, means driving said pulleys or sheaves, a plurality of rotatable disks mounted on said supports and normally maintained thereby substantially flush with the immovable sections of said platform or flooring, a stem carried thereby passing through said bearing and a brake member carried by said stem and adapted to engage said bearing when said disk is disengaged from said pulley or sheave by said flexible supports.

12. An amusement apparatus comprising a platform or flooring having a plurality of circular openings therein, flexible supports mounted within said openings respectively, a pulley or sheave and bearings therefor disposed beneath each said opening and spaced slightly away therefrom, means driving said pulleys or sheaves, a plurality of rotatable disks mounted on said supports and normally maintained thereby substantially flush with the immovable sections of said platform or flooring, a stem carried thereby passing through said bearing, a brake member carried by said stem and adapted to engage said bearing when said disk is disengaged from said pulley or sheave by said flexible supports, and means whereby said brake member may be adjusted to or from said bearing to control the braking action thereof.

13. An amusement apparatus comprising a platform or flooring having a plurality of circular openings therein, a flange within said openings respectively, a plurality of springs seated in said flange, roller-bearings carried by said springs respectively, a plurality of rotatable disks mounted on said roller-bearings, and means mounted beneath said disks and slightly away therefrom respectively, whereby said disks when depressed will be rotated.

14. An amusement apparatus comprising an inclosure having an entrance and one or more exits thereto and therefrom disposed at different points relative to the platform and flooring of said inclosure, and a fixed platform or flooring within said inclosure composed of a plurality of independent sections, and means whereby a conveying movement may be imparted to some of said sections relative to other adjoining sections, said sections being so disposed that progress from said entrance to any of said exits across said platform or flooring may be had only by passing from section to section.

In witness whereof I have hereunto affixed my signature, this 5th day of February, 1906, in the presence of two witnesses.

EDWARD SEWALL MITCHELL.

Witnesses:

F. T. WENTWORTH,

GEORGE P. BRECKENRIDGE.