

(No Model.)

C. H. NEWMAN & W. BERRIGAN.

ELECTRICAL DEVICE TO ENABLE SHOWMEN TO WALK ON THE CEILING.

No. 320,275.

Patented June 16, 1885.

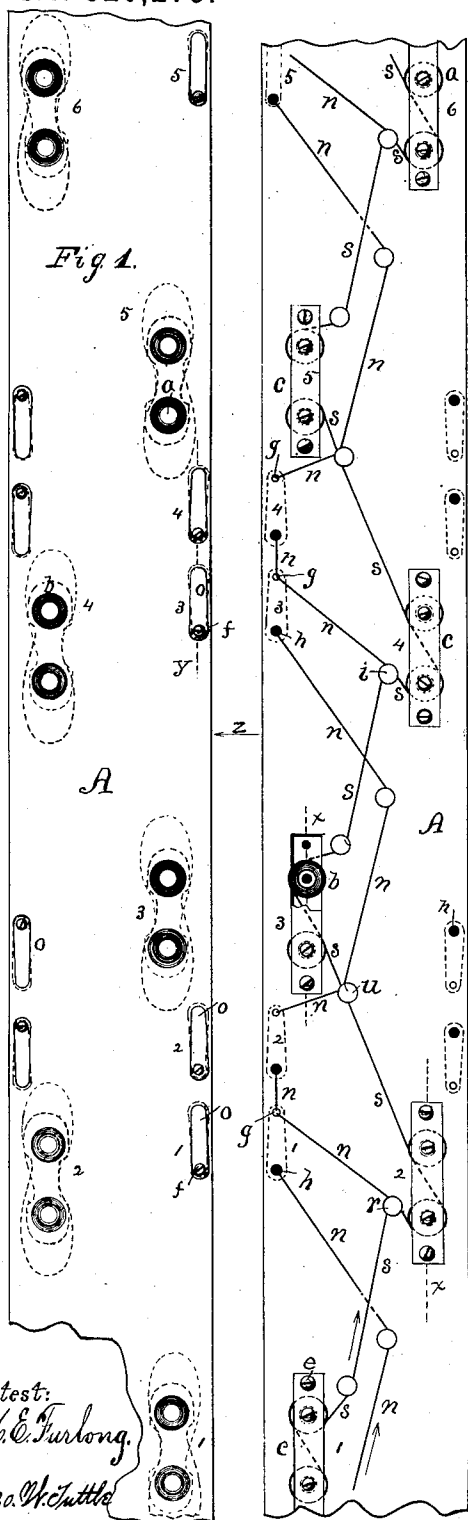


Fig. 2.

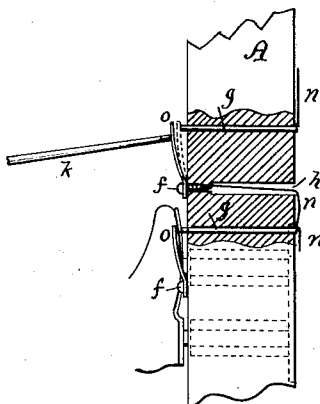


Fig. 3.

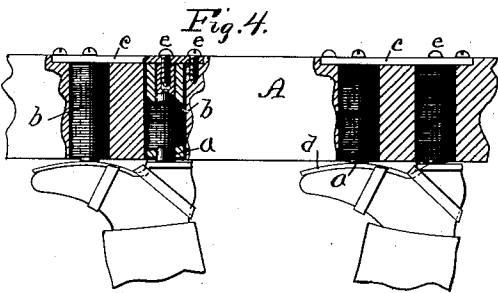


Fig. 4.

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UNITED STATES PATENT OFFICE.

CLYDE H. NEWMAN AND WILLIAM BERRIGAN, OF ROCHESTER, NEW YORK.

ELECTRICAL DEVICE TO ENABLE SHOWMEN TO WALK ON THE CEILING.

SPECIFICATION forming part of Letters Patent No. 320,275, dated June 16, 1885.

Application filed March 25, 1885. (No model.)

To all whom it may concern:

Be it known that we, CLYDE H. NEWMAN and WILLIAM BERRIGAN, of Rochester, in the county of Monroe and State of New York, have invented a new and useful Improvement in Electrical Devices to Enable Showmen to Walk Pending from the Ceiling, which improvement is fully set forth in the following specification, and shown in the accompanying drawings.

Our invention is designed for showmen's use; and the object of the invention is to arrange a system of electro-magnets with circuit-wires and cut-outs in a frame secured to the upper wall or ceiling of a room, or to beams overhead, the magnets being of such proportions as, with an electrical current of sufficient power, to support the weight of a person, and so spaced and arranged upon the frame as to enable the person performing to walk pending therefrom with his head downward. The magnets are secured to the frame, (which frame may be a timber or plank, with the apparatus secured to one side thereof, or otherwise,) with the current-wires connecting the magnets, and other minor parts of the devices, attached to or within the frame, so as not to be seen by the spectators. The frame thus provided is secured by bolts or otherwise in a horizontal position to the upper wall of the room, the ends of the magnets and cut-outs only appearing on the face of the frame turned toward the interior of the room. The person performing wears foot-coverings securely bound to his feet, having soles of soft plate-iron or other suitable metal.

Referring to the drawings, Figure 1 is a view of a portion of the face of the frame that is turned toward the interior of the room, up against which the performer walks, showing the ends of the magnets and the cut-outs, the positions of the feet of the performer as he steps upon the magnets in walking in either direction being shown in dotted lines; Fig. 2, a view of the reverse of the frame, showing the manner of securing the magnets thereto and the system of current-wires, the cut-outs being shown in dotted lines; Fig. 3, an edge view of a portion of the frame, viewed as indicated by arrow *z* in Fig. 1, a part of said frame being longitudinally and vertically sectioned, as on the dotted line *y* in Fig. 1, showing the

manner of passing the battery-currents through the frame and the cut-outs, the manner of operating the latter by means of a cane in the hand of the performer, a pair of magnets, and a cut-out being shown in dotted lines; and Fig. 4, an edge view of a portion of the frame, longitudinally sectioned, to further show the helices and magnets and the manner of holding them, with the feet of a performer in the act of stepping against the faces of the magnets while walking thereon with his head downward, the frame being sectioned as on the dotted lines *x* and *x* in Fig. 2.

Referring to the parts, A is the frame, preferably made of timber, to which are secured the magnets, current-wires, and all other parts of the device, which frame is bolted to the ceiling of a room or to timbers overhead, with the face (shown in Fig. 1) downward.

a are numerous soft-iron magnets surrounded with helices *b*, joined in pairs by plates *c* and screws *e*, and connected with wires, so that a battery-current may be sent through the whole. A sufficient number of these magnets are provided and inserted in the frame A, in positions substantially parallel to each other and perpendicular to the plane of the face of the frame turned toward the interior of the room, and in convenient positions and distances apart for a person to step from one to the next in walking easily along. The poles of the magnets correspond substantially with the lower face of the frame, projecting slightly below the same, so the metallic soles of the boots of the performer may be placed fairly against them in the act of walking thereon.

The soles *d* of the boots or covering for the feet of the performer are made of soft plate-iron, and when the performer walks in an inverted position he steps from magnet to magnet, as indicated by dotted position of the feet in Fig. 1, the iron soles of his boots being at each step planted upon the slightly-projecting ends of the magnets, as shown in Fig. 4.

The magnets and battery-currents are of sufficient dimensions and strength to hold safely a man suspended from either of the former, so that his weight shall be surely upheld while stepping from one magnet to another.

The wires connecting the magnets are ar-

ranged with cut-outs *o*, there being one cut-out for each magnet, so that either may at any time be cut out of the circuit and rendered temporarily inoperative. The magnets are preferably arranged in two parallel rows along the frame alternately, as shown, for convenience of the step, and it is designed that the performer shall walk in either direction, a series of cut-outs being provided for his use in moving either way; but the system of wires for only one set of cut-outs are shown in Fig. 2, to avoid confusion of the figure. Referring to said figure, it will be seen that the wires *s* form a continuous connection between all the magnets and battery, (the latter not shown,) while the wires *n* lead by way of the cut-outs. In the drawings each magnet and its cut-out are similarly numbered. The cut-outs are each formed by means of a short strip of spring metal, *o*, secured at one end to the frame by a screw, *f*, in such position that the free end shall stand normally a little distance away from the face of the frame. Just over the free end of each piece or cut-out *o* a pin, *g*, of copper or other good conductor, is passed through the frame, with one end projecting slightly toward said cut-out, a space being left between them sufficient to form a break in the circuit. By pressing a cut-out *o* up against the pin *g* a shorter connection for the current is formed than through the magnet, which latter is consequently left inoperative. The wires are connected with the cut-out by being passed down through the frame in openings *h* and joined to the screws *f*, holding the cut-outs, or to the cut-outs direct. If the cut-out 2, for example, is closed by being pressed up against the pin *g*, the current will move from *r* to *n* through said cut-out, Fig. 2, away from the magnet 2 instead of through the latter, and so if cut-out 3 be closed the current will flow from *n* to *i* there through, instead of by way of the magnet 3.

The performer operates the cut-outs by means of a cane or wand carried in the hand, by which he is enabled at any time to render a magnet inoperative, and so release his feet alternately from the magnets in the act of walking.

It is designed to have the lower ends of the helical coils *b* covered from view, and also the cut-outs may be sunk within the frame, so that it shall not be readily understood by an audience how the performer is enabled to thus walk against the ceiling.

The cut-outs are arranged in two rows, parallel with the rows of the magnets, slightly outside of the latter, and in convenient positions for the performer to place his cane against them to close the cut-out circuits, as

above stated. These cut-outs are also arranged so that those necessary to be used in walking in either direction are passed at the right of the performer.

Observing Fig. 1, if the performer stands with the right foot on magnet No. 1 and left foot on magnet No. 2, (facing the upper end of the sheet,) by closing cut-out 1 the right foot will be released, to be advanced to magnet No. 3, and by closing cut-out No. 2 the left foot will be released, to be advanced from magnet No. 2 to magnet No. 4, and so on.

What we claim as our invention is—

1. In combination with coverings for the feet, provided with metallic soles, a series of electro-magnets connected to a frame secured to the ceiling of a room, said magnets placed in positions substantially perpendicular to the plane of a face of the frame, with their poles at or near said plane, arranged in rows and spaced or separated to correspond to the strides of a person walking, with wire connections for said magnets and a cut-out for each, substantially as shown and described.

2. In combination with coverings for the feet, provided with metallic soles, a series of electro-magnets connected to a frame, secured to the ceiling of a room, said magnets placed in positions substantially perpendicular to the plane of a face of the frame, with their poles at or near said plane, arranged in rows and spaced or separated to correspond to the strides of a person walking, with wire connections for said magnets and a cut-out for each, said cut-outs being arranged to be passed at the right of the person walking along against the magnets, substantially as shown.

3. In combination with coverings for the feet, provided with metallic soles, a series of electro-magnets connected to a frame secured to the ceiling of a room, said magnets placed in positions substantially perpendicular to the plane of a face of the frame, with their poles at or near said plane, arranged in rows and spaced or separated to correspond to the strides of a person walking, with wire connections for said magnets and a cut-out for each, said cut-outs and magnets being numbered to correspond—that is to say, when the circuit through a cut-out of any number is made by the performer the magnet of corresponding number will be rendered inoperative—substantially as described, and for the purpose set forth.

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WM. BERRIGAN.

Witnesses:

E. B. WHITMORE,
M. E. FURLONG.