Aug. 13, 1968 J. M. RISSER 3,396,487

TOY TRAVERSING HOIST AND GAME

Filed May 27, 1966 3 Sheets-Sheet 1

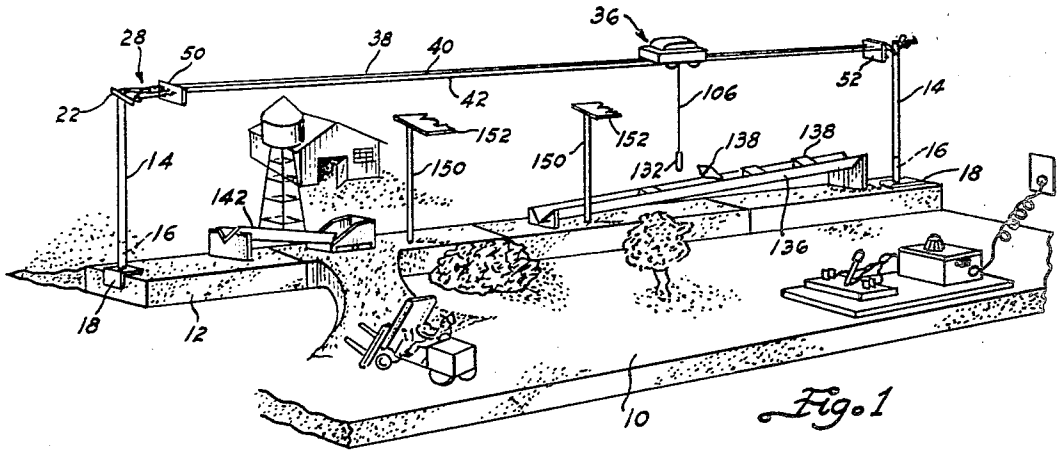


Fig. 1

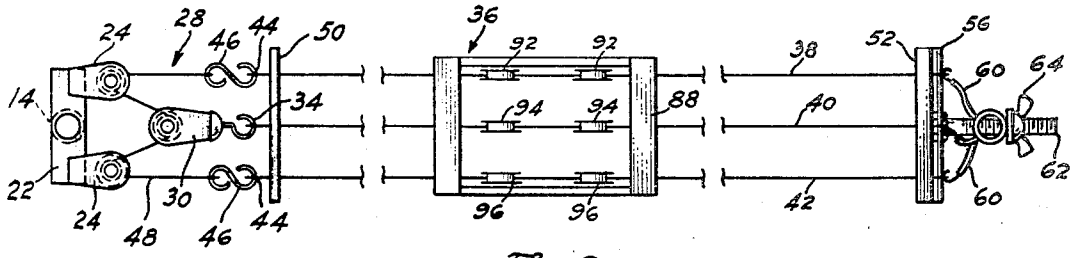


Fig. 2

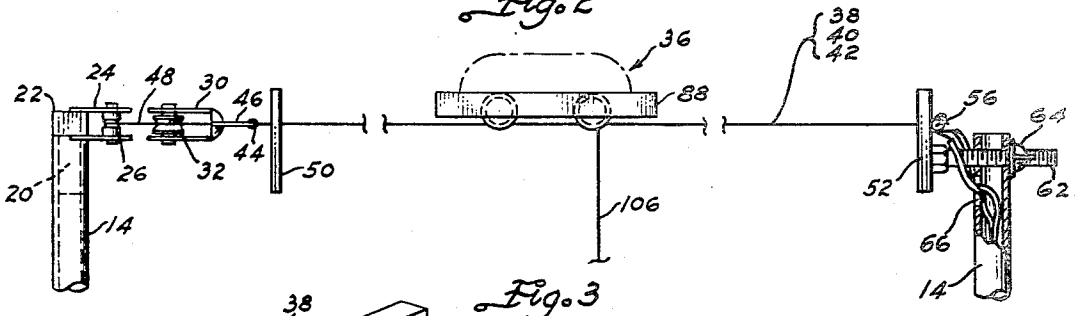


Fig. 3

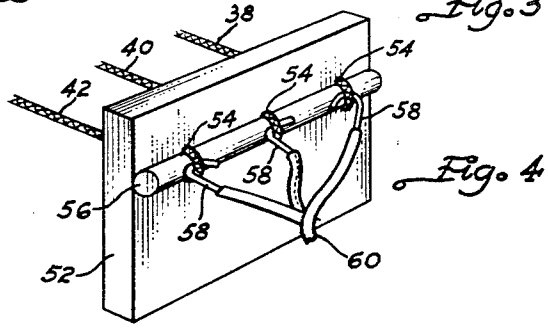


Fig. 4

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TOY TRAVERSING HOIST AND GAME

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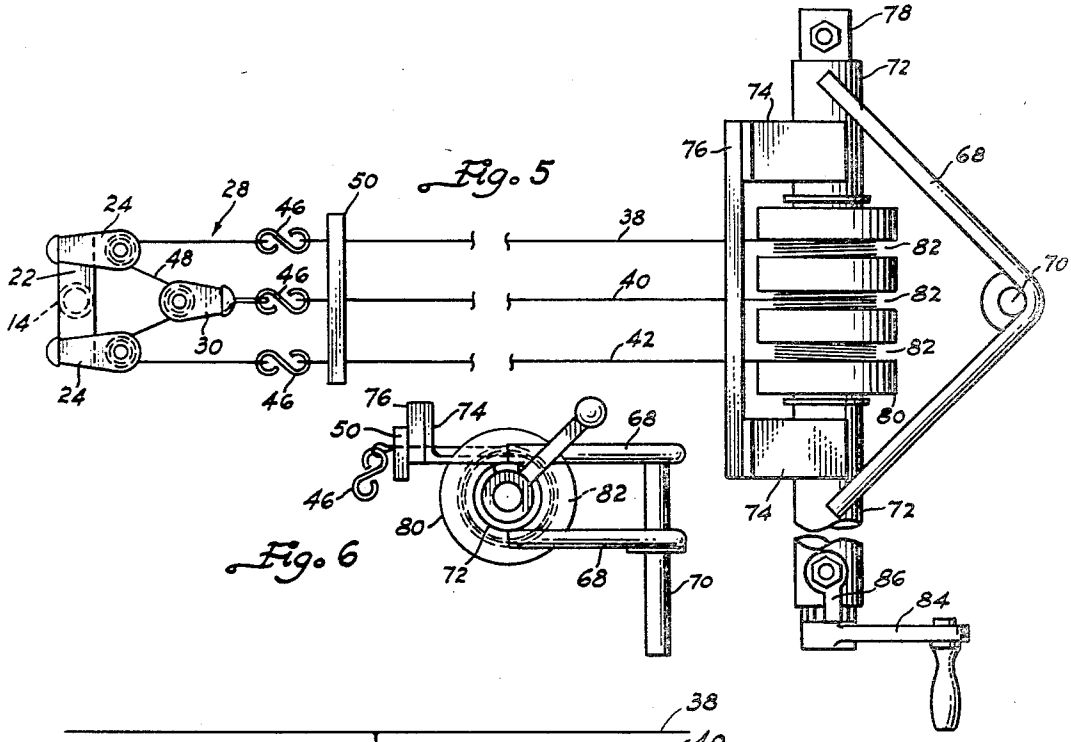


Fig. 5

Fig. 6

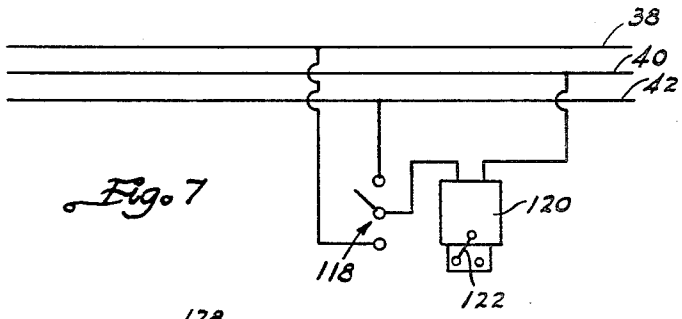


Fig. 7

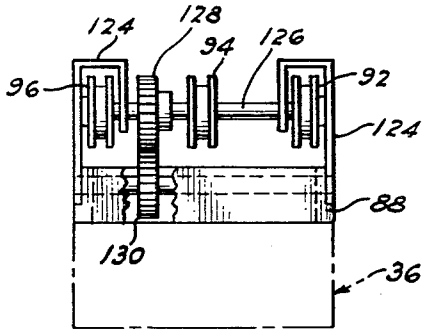


Fig. 18

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TOY TRAVERSING HOIST AND GAME

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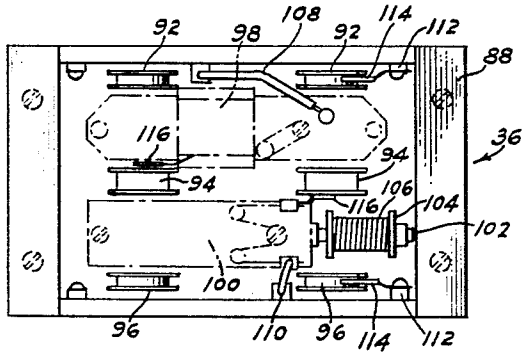


Fig. 8

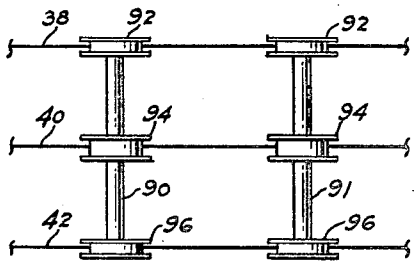


Fig. 10

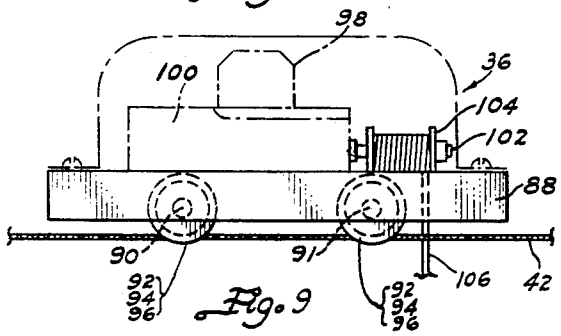


Fig. 9

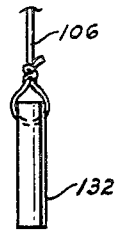


Fig. 11

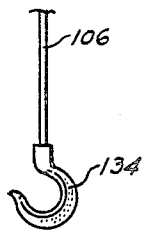


Fig. 12

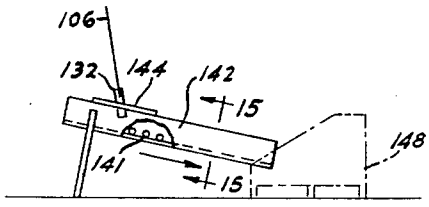


Fig. 14

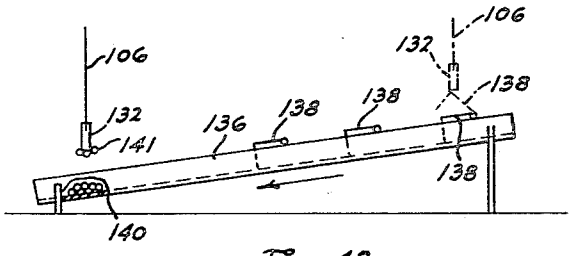


Fig. 13

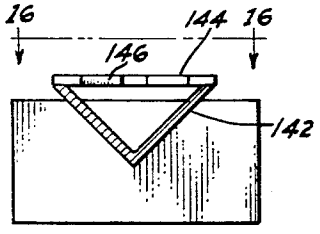


Fig. 15



Fig. 16

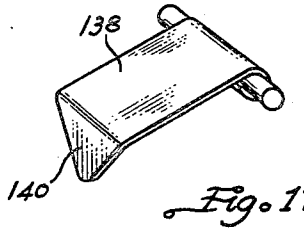


Fig. 17

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United States Patent Office 3,396,487 Patented Aug. 13, 1968

3,396,487

TOY TRAVERSING HOIST AND GAME

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Filed May 27, 1966, Ser. No. 553,350
10 Claims. (Cl. 46—244)

This invention pertains to a toy type traversing hoist suspended for operation upon a plurality of combination supporting cables mounted under tension which also serve as current-conducting means. The present invention also contemplates and provides additional apparatus for use with the hoist so as to comprise a variety of games which can be played with the apparatus.

A number of toy-type traversing hoists have been provided heretofore, including cars or carriages movable upon supporting lines or cables. Certain of these have required manual means to operate the car or carriage however, through the employment of additional cables or cords, while others have required specific cables serving as supporting means, while additional cables comprise power-supplying means where the carriages have included electric motors, for example, to propel the same along the supporting cable.

It is the principal object of the present invention to provide a toy traversing hoist which utilizes a plurality of elongated, transversely spaced metallic cables supported under tension and insulated from each other, whereby the same also are connectable to switch means and sources of current so as simultaneously also to serve as power-supplying means to the motors carried by the carriage which is capable of being moved, selectively, in opposite directions along the cables.

Another object of the invention is to provide on the carriage additional electric motor means connected to a drum around which a hoisting cable is coiled, the motor preferably being of the reversible type and the switch means by which power is supplied to said motor are so arranged that the hoist can be operated, selectively, in reverse direction.

A further object of the invention is to provide relatively simple means to engage all of the cables simultaneously at one end and coil the same at least a limited amount to place the cables under appropriate tension, while the opposite ends of the cables are connected to insulating type self-equalizing means by which equal tension is placed upon all of the cables simultaneously by the first-mentioned tension means which engage the cables at the opposite ends thereof from those ends engaged by the self-equalizing means.

Still another object of the invention is to provide additional apparatus positionable below the cables and the carriage movable therealong, whereby appropriate means such as a magnet or hook may be connected to the depending end of the hoisting cable for purposes of manipulating certain elements of the first-mentioned apparatus below the cables, all of the mechanism being operable in a manner to constitute an amusing and skill-developing game structure.

A still further object of the invention is to provide dismountable but easily arranged supporting mechanism for the cables in the form of cross-arms quickly engageable with vertical supporting means such as posts which, likewise, are readily capable of being mounted in operative position with respect to an appropriate base incident to setting up the apparatus for operative use.

Details of the invention and of the foregoing objects thereof, as well as other objects of the invention, are set forth in the following specification and illustrated in the accompanying drawings comprising a part thereof.

In the drawings:

FIG. 1 is a partially fragmentary perspective elevation

of an exemplary setup of the apparatus embodying the principles of the present invention and capable of being operated either as a toy or as a game.

FIG. 2 is a bottom plane view, partly broken away to foreshorten the same, illustrating on a larger scale than in FIG. 1, one embodiment of supporting means for the cables by which the carriage is supported and which also serve to supply the motors of the carriage.

FIG. 3 is a side elevation of cable-supporting means illustrated in FIG. 2.

FIG. 4 is a fragmentary, perspective, further enlarged view of the cable-supporting means illustrated at the right-hand ends of FIGS. 2 and 3 as viewed facing the sheet of drawing.

FIG. 5 is a further embodiment of cable-supporting and tensioning means illustrating, at the right-hand end thereof, mechanism for simultaneously tensioning all of the cables in a manner different from the embodiment illustrated in FIGS. 2–4.

FIG. 6 is a side elevation of the tensioning means illustrated at the right-hand end of FIG. 5.

FIG. 7 is an exemplary electrical circuit diagram by which power is supplied to the cables of the several embodiments shown in the preceding figures.

FIG. 8 is a top plan view of the carriage illustrated in operative position upon the cables shown in FIG. 1.

FIG. 9 is a side elevation of the carriage shown in FIG. 8.

FIG. 10 is a fragmentary, exemplary top plan view of the supporting wheels of the carriage shown in FIGS. 8 and 9 mounted upon exemplary cable sections.

FIGS. 11 and 12 are exemplary, different embodiments of means capable of being supported by the lower end of the hoisting cable which depends from the carriage shown in FIGS. 8 and 9 for purposes of utilizing the mechanism either as a game or toy.

FIG. 13 is a side elevation, partly broken away to show details of game apparatus otherwise illustrated in FIG. 1.

FIG. 14 is a side elevation of additional apparatus capable of being operated either as a game or toy in conjunction with or independently of the apparatus shown in FIG. 13.

FIG. 15 is an enlarged vertical sectional view of the apparatus shown in FIG. 14 as seen on the line **15—15** of said figure.

FIG. 16 is a top plan view of part of the apparatus shown in FIG. 15 as seen on the line **16—16** of said figure.

FIG. 17 is an enlarged perspective view of an element of the game apparatus shown in FIG. 13 and illustrating details thereof.

FIG. 18 is a diagrammatic illustration of an end view of an alternate arrangement of the carriage and the supsupporting wheels therefor from the illustrations thereof in the preceding figures.

Referring to FIG. 1, an exemplary base **10** of any suitable type is illustrated in conjunction with the primary elongated base **12** upon which the apparatus comprising the principal elements of the present invention is mounted. It will be seen that the base **10**, for example, may be utilized for the arrangement of appropriate background and scenery, as well as to serve as means upon which other toys may be utilized in conjunction with the apparatus upon the base **12**. Further, it is contemplated that the base **12** in particular may be arranged in disconnectable sections which preferably may be attached to each other quickly such as by the use of dowels or the like, not illustrated in detail. Further, the base **12** may be made from any suitable material such as wood, sheet metal, plastics, or the like and finished or decorated appropriately by painting or otherwise.

Referring particularly to the apparatus mounted upon the base **12** which comprises the toy and game aspects provided by the present invention, it will be seen that the base **12** supports adjacent the opposite ends thereof a pair of vertical post-like members **14** which, if desired, may be formed from tubular metal such as pipe and supported, for example, upon vertical lugs **16** which are fixed to suitable brackets **18** mounted upon the opposite ends of the base **12**.

Referring to FIGS. 1–3, it will be seen that the upper end of the left-hand post **14** receives a lug **20** complementary to the upper end of the hollow member or post **14** and depending from a short cross-arm **22**, whereby when the lug **20** is fitted into the upper end of the left-hand post member **14**, the cross-arm will extend transversely thereto for purposes of supporting on opposite ends thereof clevises **24** which respectively support grooved sheaves **26** comprising part of self-equalizing tension means **28** which otherwise comprise another clevis **30** having preferably a rotatable grooved sheave **32** supported between the legs thereof, the clevis **30** also having an appropriate eyelet or hook **34** fixed thereto for purposes to be described.

One of the principal elements of the present invention comprises a car or carriage **36**, details of which are described hereinafter. Said car or carriage is supported by a series of three metallic cables **38**, **40** and **42** which, if desired, may be of the twisted strand type. The cables preferably are disposed within a horizontal plane and preferably are supported in relatively taut condition. The left-hand ends of the cables are each formed with a connecting loop **44**. Appropriate connecting means such as S-hooks **46** respectively are connected to the loops **44** in the outermost cables **38** and **42**, while the loop **44** of the intermediate cable **40** is engaged with the hook **34** of clevis **30**.

As part of the self-equalizing tension means **28**, a non-current conducting flexible member **48**, which may comprise cotton cord or spun synthetic resin or the like, extends around the grooved sheaves **26** of the fixed clevises **24** and also around the grooved sheave **32** of clevis **30**, the opposite ends thereof respectively being connected to the S-hooks **46** somewhat in the configuration of an M or W, as seen in plan view in FIG. 2.

From FIGS. 1–3, it also will be seen that the corresponding ends of the cables **38**, **40** and **42**, which are connected to the self-equalizing tension means **28**, preferably extend through a spacing bar **50** which also serves as a stop indicating one end of the path of traverse for the carriage **36**. Similar spacing and stop means **52** are positioned at the opposite ends of the cables. The bar **52** however serves still another function, details of which are best shown in FIGS. 2–4, wherein it will be seen that the ends of the cables adjacent the bar **52** also are provided with loops **54** which extend through appropriate holes in bar **52** for purposes of receiving an elongated anchoring bar **56** which preferably has longitudinally spaced grooves corresponding to the positions of the loops **54** in the cables in order that said loops might be disposed within said grooves which are illustrated in FIG. 4. This arrangement also provides a very effective means for attaching the bare terminal ends **58** of a multi-wire current conduit **60**, details of which are set forth hereinafter.

The bar **52** also serves as part of one embodiment of tension-imparting mechanism which is relatively simple and comprises a threaded rod **62** which extends through an appropriate hole in the upper end of the right-hand post member **14**, as best shown in FIG. 3. One end of the threaded rod **62** is secured in any appropriate way to the lower part of bar **52** and tensioning movement of the rod **62** may be effected by means of a wing nut **64** for example. Further, if desired, the upper end of the right-hand post **14** may be provided with a suitable opening **66**, shown in FIG. 3, through which the various individual insulated wires of the multi-wire conduit **60** may extend so as to protect the same.

The supporting mechanism for the cables **38**, **40** and **42** described above may be quickly assembled from an appropriate kit arrangement, if desired, by connecting the various elements which have been referred to. Following the initial assembly of the ends of the cables, for example, with the self-equalizing tension means **28** and the spacing and supporting bar **52**, the threaded rod **62** is extended through the hole therefor in the upper end of the right-hand post member **14** after the cross-arm **22** has been mounted in the upper end of the left-hand post member **14**, following which the wing nut **64** is threaded onto rod **62** and brought into engagement with the upper end of the right-hand post **14**, turning of the nut continuing until desired tension is placed upon the cables **38**, **40** and **42**. Particularly in view of the function of the flexible member **48** of the self-equalizing tension means **28**, uniform tension automatically will be imparted to all of the cables simultaneously without any further operation of any of the mechanism being required.

Referring to FIGS. 5 and 6, another embodiment of tension-imparting mechanism is illustrated which cooperates with the self-equalizing tension means **28** described hereinabove but also illustrated in FIG. 5. The further embodiment of tension-imparting mechanism shown in FIGS. 5 and 6 comprises a pair of V-shaped bracket members **68**, the angled portions thereof being fixed, for example, to a vertical post **70** which, for example, may either be mounted in an appropriate wall bracket, depending upon whether certain background scenery is desired for the entire setup of the mechanism, or the lower portion of post **70** may be mounted in the upper end of the tubular right-hand post **14** illustrated in FIGS. 1–3 for example. The ends of the brackets **68** are affixed such as by welding or otherwise to longitudinally spaced bearing sleeves **72**. Fixed to said bearing sleeves are additional brackets **74**. Extending between the upwardly extending portions of said brackets, as seen in FIG. 6 in particular, is a combination stop member and spacing bar **76**.

Rotatably supported by the bearing sleeves **72** is a shaft **78** which supports between the inner ends of the bearing sleeves **72** a rotatable sheave **80** of substantially larger diameter than the shaft **78** and bearing sleeves **72**. Said sheave is provided with a series of three grooves **82** which are of sufficient depth and width respectively to accommodate substantially the entire length of each of the cables **38**, **40** and **42** after said cables have been disconnected, for example, from the self-equalizing tension means **28**. By holding the left-hand ends of said cables, as viewed in FIG. 5, such as by engaging the spacing bar **50** after it has been moved into engagement with the three S-hooks **46**, for example, as shown in FIG. 6, and rotating the shaft **78**, to which sheave **80** is fixed, by means of crank **84**, the entire length of the three cables may be coiled respectively within the grooves **82** which are of sufficient size to accommodate the entire volume of the cables when so coiled. An appropriate ratchet lock **86** suitably engages the hub of the crank **84** so as to maintain the cables in coiled condition, for example, and is shown somewhat diagrammatically in FIG. 6. Further, the same ratchet lock may be used to tension the cables in operative position when the same have been extended to the cross-arm **22** supported by the left-hand post member **14**.

Referring to FIGS. 8–10, wherein details of the car or carriage **36** are best illustrated, it will be seen that said carriage comprises a base frame **88** which may be formed appropriately from metal, molded from plastics, or otherwise. Rotatably supported in appropriate bearings formed in the opposite sides of the frame **88** are a pair of shafts or axles **90** and **91** upon each of which is a series of three grooved wheels **92**, **94** and **96** are mounted in electrically-insulated relationship with respect to each other, such as by utilizing appropriate and conventional insulating sleeves or otherwise, not shown. The wheels are mounted upon

the shafts **90** and **91** in the same spaced relationship as the cables **38**, **40** and **42**, the grooves of said wheels respectively receiving said cables and the shafts **90** are spaced longitudinally with respect to each other, in the direction of the cables, to afford reasonably firm support of the carriage upon the cables.

A pair of small capacity electric motors **98** and **100** are suitably supported by the frame **88** of carriage **36**, preferably in side-by-side relationship as best seen in FIG. 8. Both motors preferably are of the reversible type. As best seen in FIG. 8, the drive shaft **102** of motor **100** projects a suitable distance to accommodate a drum **104**, which is fixed thereto for rotation therewith. A hoisting cable **106** is coiled around drum **104** and is arranged to be raised and lowered thereby depending upon the direction in which the motor **100** is actuated by control means described in detail hereinafter.

The motor **98** is the drive motor for the carriage **36** and the shaft thereof, not shown in detail, is suitably connected to one of the shafts **90** or **91**, or both if desired, by appropriate gear reduction means of conventional nature not illustrated in detail in the drawings.

The motors **98** and **100** are of commercial type and appropriate conductors **108** and **110** respectively extend between the motors and the frame **88**. Additional conductors supported by the frame but not specifically illustrated extend between the conductors **108** and **110** and appropriate binder posts **112**, best shown in FIG. 8. Supported by one of the binder posts **112** at each side of the frame **88** is a contact brush **114** which wipingly engages one of the wheels **92** and **96** of each pair thereof. This arrangement respectively supplies current to the, motors **98** and **100** selectively from the cables **38** and **42** in accordance with the circuit diagram shown in FIG. 7, further details of which are described hereinafter.

To complete the circuit through the motors **98** and **100**, the cable **40** is a common neutral or negative conductor. Engagement of the intermediate wheels **94** therewith provide means by which additional contact brushes **116** wipingly engage, respectively, the two wheels **94** on shafts **90** and **91**, the brushes otherwise respectively being connected to the circuits of the motors **98** and **100**.

Referring to FIG. 7 in which an exemplary wiring diagram of the electric circuit is illustrated, a double-throw selector switch **118** has a switch lever which selectively may be engaged with contacts respectively connected to the cables **38** and **42**. By manipulating said switch, the operator may select whether the propelling motor **98** or the hoisting motor **100** is to be operated. In accordance with the present circuit, which is relatively simple, no provisions are included for simultaneously operating said motors. Connected in circuit with the switch lever of selector switch **118** is a polarized switch **120** provided with a manually operable switch lever **122** movable between a pair of contacts illustrated in FIG. 7. The switch **120** is connected to the neutral or negative cable **40**. Accordingly, the contacts selectively engageable by the switch lever **122** respectively determine the direction in which the motors will rotate and thereby determine the direction in which the propelling motor **98** will drive the carriage **36**, and whether or not the hoist motor **100** will raise or lower the hoisting cable **106**.

Further in accordance with the principles of the present invention, particularly if the distance between the outermost cables **38** and **42** is substantial with respect to the height and weight of the carriage **36** and particularly the motors included therewith, the arrangement illustrated in FIGS. 1 and 9 with respect to the cables and carriage is sufficient to afford stable travel of the carriage with respect to the cables without appreciable tilting or swaying thereof. If it is desired however to afford greater stability and more assurance against any tendencies of the carriage to tilt and possibly fall from the cables, attention is directed to the arrangement in FIG. 18 wherein the frame **88** is inverted with respect to the wheels **92**, **94** and **96** so as to be arranged pendant-like with respect to the supporting cables **38**, **40** and **42**. Such arrangement is easily provided by the appropriate brackets **124** which extend upward from the base frame **88** for example and having U-shaped portions receiving the outermost wheels **92** and **96** respectively as well as providing bearings for the opposite ends of a pair of auxiliary shafts **126** which are used to support the wheels **92**, **94** and **96**. However, shafts **90** and **91** may be retained so that at least one of them may be driven by the motor **98** and the driving force thereof is transmitted to at least one of the shafts **126** by means of a pair of transfer gears **128** and **130** respectively connected to said one of shafts **126** and one of the shafts **90** or **91**. Accordingly, substantially all of the weight of the carriage will be below the level of the supporting cables **38**, **40** and **42**.

When adapting the toy traversing hoist described hereinabove to game use, a number of different possibilities exist. For example, the lower end of the hoisting cable **106** may have, for example, a short cylindrical permanent magnet **132** connected thereto as shown in FIG. 11. Possible use thereof is described hereinafter. Under other circumstances however, especially if the apparatus is to be used strictly as a toy to lift certain objects, an appropriate hook **134** may be affixed to the lower end of the hoisting cable **106**, one example of such hook being shown in FIG. 12.

One type of game apparatus to which the toy traversing hoist readily may be adapted however is illustrated in FIG. 13 wherein an inclined trough or chute **136** is provided, the same also being illustrated in FIG. 1. From the latter particularly, it will be seen that the trough or chute **136** preferably is mounted directly below the supporting cables and especially directly below the hoisting cable **196**. Assuming that the hoisting cable **10** is supporting a permanent magnet **132**, the game apparatus comprising the chute **136** preferably has a series of pivotally supported gate members **138** mounted in longitudinally spaced positions along the trough as best shown in FIG. 13. The gates preferably are of ferrous metal and have a terminal, downwardly extending lip **140** thereon which preferably is complementary to the inner surfaces of the chute **136**.

By manipulating suitably the selector switch **118** and the polarized switch **120**, the carriage **36** may be caused to move longitudinally with respect to the chute **136** and the magnet **132** on the hoisting cable for example, may be brought into attracting position with respect to one of the gate members **138** and elevate the same, for example, to the dotted line position shown near the right-hand end of FIG. 13. To release the gate, appropriate elevation of the magnet **132** will finally overcome the magnetic attraction and thus permit the gate to fall to its normal position shown in full lines in FIG. 13.

Further in accordance with the contemplated game operation, a plurality of steel ball bearings **141** may be disposed within the chute **136** and a certain number may be positioned respectively behind the lips **140** of each of the gates **138** for example. By successively elevating the gates **138**, the balls can be caused to roll to the lower end of the chute **136** as shown in FIG. 13 for example.

To render the game aspects still more complex, an additional chute **142** may be mounted at an incline in longitudinally spaced relationship to the trough **136**, as illustrated in exemplary manner in FIG. 1. Disposed near the upper end of additional chute **142** is a wiping plate **144** which has a V-shaped notch **146** formed therein. By lowering the magnet **132** for example into the accumulation of the ball bearings **141** near the lower end of trough **136**, and then elevating the same, followed by movement of the carriage **36** along the cables until the magnet **132** is above the additional chute **142**, the magnet **132** then may be lowered by the hoisting cable **106** until the magnet is wipingly dragged into the notch **146** of plate **144** so that, upon elevating the magnet, the ball bearings at-

tached thereto by magnetic force are separated therefrom. The ball bearings **141** then may roll down into an appropriate bin **148** or toy truck, if desired.

From the foregoing, it will be seen that many variations of play and game arrangements are possible with this apparatus. To further complicate the operation of the apparatus either as a game or contest type of diversion, one or more obstacle devices **150** may be mounted in the line of travel between the chutes **136** and **142**, as shown for example in FIG. 1. Under the circumstances, the heads **152** of the obstacles will function to wipe the ball bearings from the magnet **132** as moved between the several chutes, unless the magnet has been elevated sufficiently to avoid the heads **152**.

It also should be understood that the power-supplying, multi-wire conduit **60** may be connected to the various cables **38**, **40** and **42** in any other manner than that specifically illustrated in FIG. 4 for example. One alternate form comprises pinch-type contact clips commonly used in many types of electrical apparatus but the arrangement specifically illustrated in FIG. 4 offers the advantage of having the connection removed from the path of movement of the carriage **36** with respect to said cables.

While the invention has been described and illustrated in its several preferred embodiments, it should be understood that the invention is not to be limited to the precise details herein illustrated and described since the same may be carried out in other ways falling within the scope of the invention as claimed.

I claim:

1. A toy traversing hoist comprising in combination three metallic cables, means to support said cables at opposite ends in parallel relationship substantially within a common horizontal plane and electrically insulated from each other, a carriage having a set of at least three grooved wheels rotatable thereon in transversely spaced relationship similar to the spacing of said cables and arranged respectively to engage said cables for support of said carriage thereby, reversible electric motor means carried by said carriage, means interconnecting said motor means and said wheels selectively to rotate them in desired opposite directions, and a double-throw electric polarized switch means connectable to a source of current and two of the contacts thereof being interconnected respectively to two of said cables and the other being connected to ground, whereby when said switch is closed to complete a circuit between said grounded cable and one of the other cables said carriage will move in one direction and when the switch establishes a circuit between ground and the other cable the carriage will move in an opposite direction.

2. The toy traversing hoist according to claim **1** further including insulating tensioning means interconnected to all three cables at one end and operable to equalize the tension on all said cables automatically while preserving the same electrically insulated from each other.

3. The toy traversing hoist according to claim **2** in which said tensioning means comprises a pair of sheaves having supporting clevises supported in transversely spaced relationship by one of said means supporting said cables, another sheave having a clevis connected to one end of the intermediate cable, and a cord-like tensioning and equalizing flexible insulating member extending around said another sheave and then respectively around said pair of sheaves, the outer ends of said member being connected respectively to one end of each of said outermost cables, whereby tension applied to said one of said means supporting said cables will apply tension equally to all of said cables at one end thereof.

4. The toy traversing hoist according to claim **2** further including coiling means supported for rotation within the plane of said cables and connected to the opposite ends of said cables, said coiling means being rotatable simultaneously to place all of said cables under tension.

5. The toy traversing hoist according to claim **1** in which said means to support said cables at opposite ends comprise vertically extending members at opposite ends of said cables and cross-arm support means connected to and extending transversely relative to said vertical members, the opposite ends of said cables being connected respectively to said cross-arm support means in transversely spaced relationship to each other substantially within a common plane.

6. The toy traversing hoist according to claim **1** further including a second reversible electric motor connected to said carriage for support, a drum rotatably supported by said carriage and connected to said second motor for rotation thereby, a flexible hoisting cable connected to said drum for raising and lowering the same in accordance with the direction of rotation of said drum, and a double-throw selector switch connected between said polarized switch and said two outermost cables, said selector switch also being connectable to a source of current and operable to establish a circuit selectively to said first-mentioned or second motor and said polarized switch being operable to determine the direction of rotation of the motor to which a circuit is established by said selector switch.

7. The toy traversing hoist according to claim **6** further including a second set of three grooved wheels extending transversely to said carriage and the axis thereof being spaced longitudinally of said carriage relative to the axis of said first-mentioned set of three wheels, said wheels of each set being metallic and in electrical engagement with said cables, and contact shoes slidably engaging at least a pair of said wheels of each set for electrical contact therewith and being connected in circuit with said motors, thereby to transmit current thereto from said cables.

8. The toy traversing hoist according to claim **6** further including game means comprising a magnet on the free end of said hoist cable, an inclined chute extending in parallelism with the path of movement of said carriage relative to said cables below the same, a series of gates pivotally connected to said chute in longitudinally spaced relationship to each other, and rolling ferrous metal members rollable along said chute between said gates when said gates are raised by said magnet as moved longitudinally of said chute and vertically.

9. The toy traversing hoist and game means according to claim **8** further including notched means also positioned below said cables in alignment with the path of movement of said carriage and operable to have said magnet dragged into said notch to strip therefrom any metallic rolling members attached thereto magnetically to free the magnet of said members.

10. The toy traversing hoist according to claim **6** in which said wheels are mounted above said carriage in use, whereby the weight of said motors carried by said carriage is below said wheels and serves as a pendant to prevent possible accidental tilting of said carriage incident to moving along said cables.

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