

United States Patent

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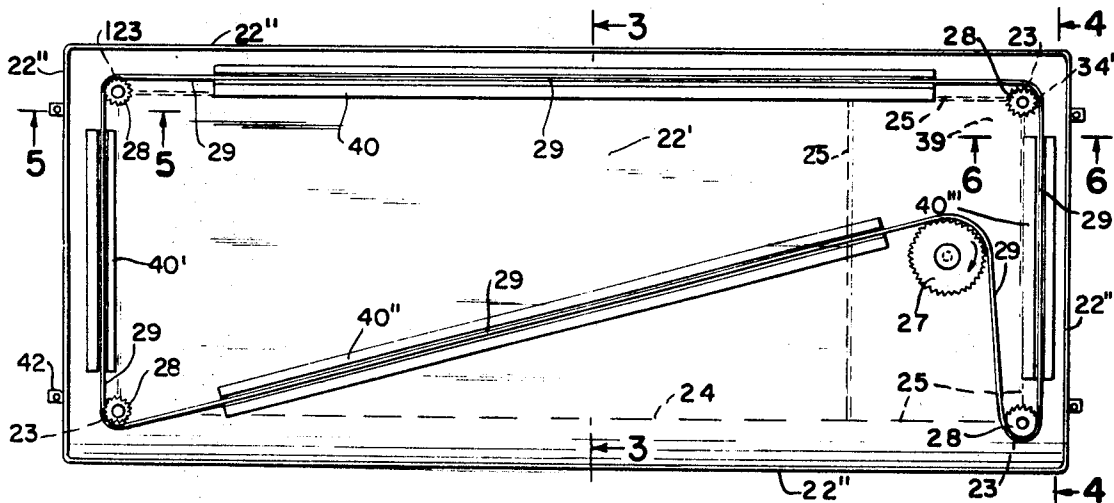
[54] THERAPEUTIC TREATMENT TABLE
1 Claim, 7 Drawing Figs.

[52]	U.S. Cl.....	108/147, 5/63
[51]	Int. Cl.....	A47b 9/12
[50]	Field of Search.....	108/147; 5/63

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ABSTRACT: The invention comprises a motorized table for therapeutic treatment having four telescoping legs mounted to the frame with a reversible motor also mounted to said frame with the motor shaft projecting vertically upward. A toothed gear mounted to said shaft and a gear mounted to each of the four telescoping legs. An endless link chain passing thereby the motor shaft gear and the four gears of the endless link chain to power the legs for raising and lowering the legs simultaneously.



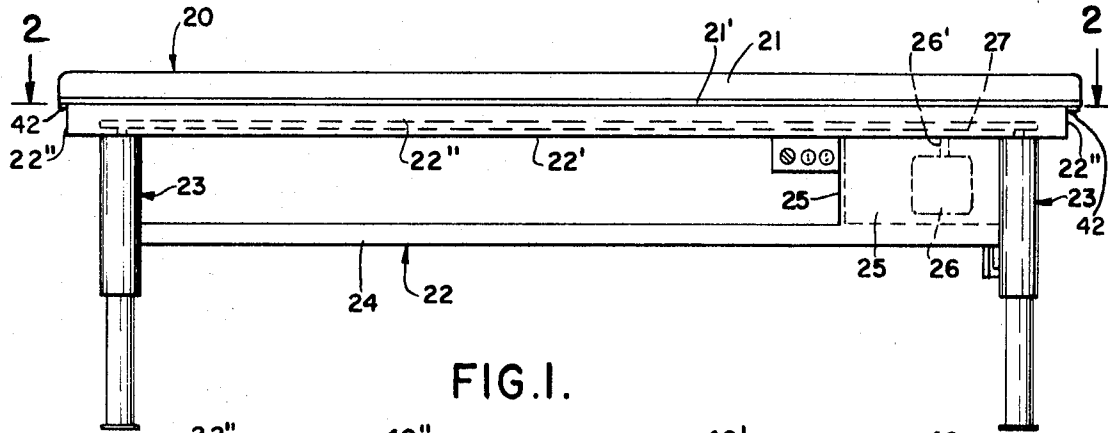


FIG. 1.

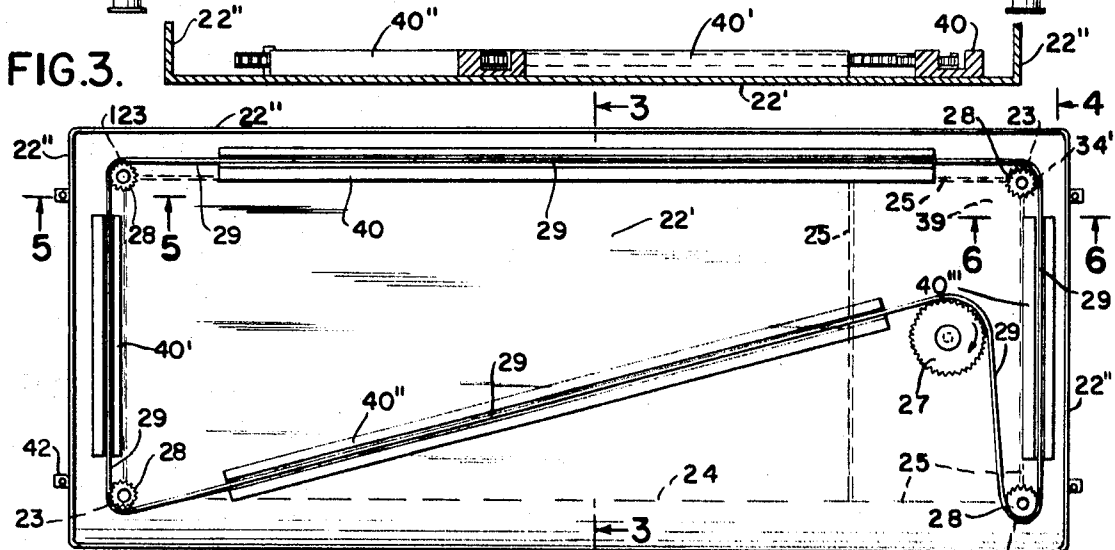
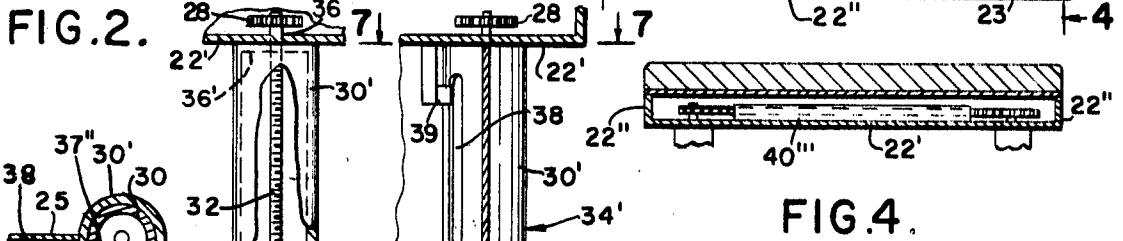


FIG. 2.

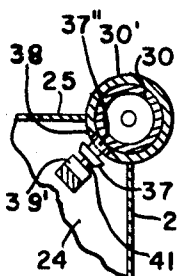


FIG. 5.

FIG. 6.

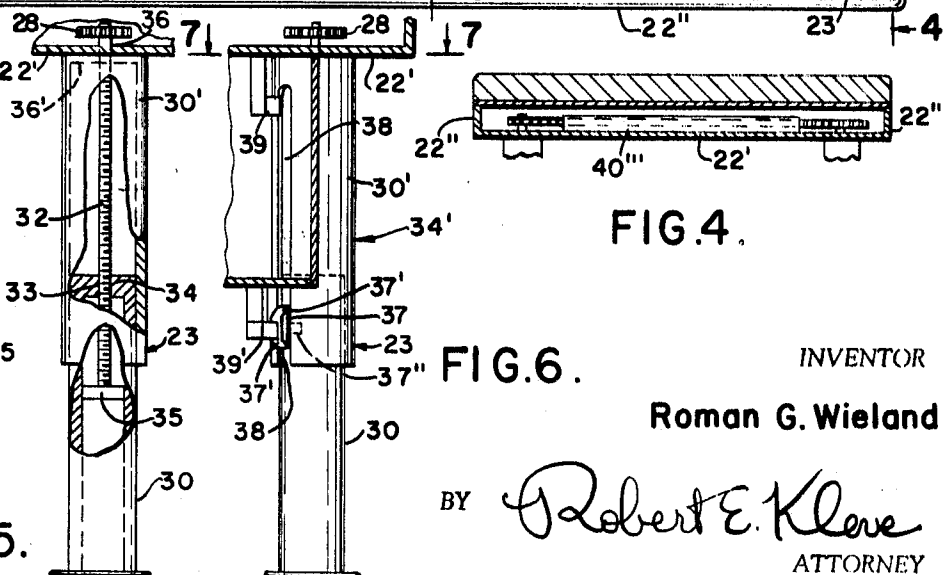


FIG. 7.

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THERAPEUTIC TREATMENT TABLE

The invention relates to a therapeutic tables. More particularly, the invention relates to a therapeutic table or plinth which may be raised and lowered. The invention also relates to my earlier copending application, U.S. Ser. No. 659,642, filed, Aug. 10, 1967.

It is an object of the invention to provide a novel table for therapeutic treatment which can be inexpensively manufactured and easily produced.

It is a further object of the invention to provide a novel table for therapeutic treatment which raises and lowers the legs of the table simultaneously.

Further objects and advantages of the invention will become apparent as the description proceeds and when taken in conjunction with the following drawings wherein:

FIG. 1 is a side elevational view of the motorized, vertically adjustable table invention.

FIG. 2 is a cross-sectional view taken along line 2-2 of FIG. 1.

FIG. 3 is an enlarged cross-sectional view taken along line 3-3 of FIG. 2.

FIG. 4 is a cross-sectional view taken along line 4-4 of FIG. 2.

FIG. 5 is an enlarged cross-sectional view of one of the telescoping legs of the motorized treatment table invention taken along line 5-5 of FIG. 2.

FIG. 6 is an enlarged cross-sectional view taken along line 6-6 of FIG. 2.

FIG. 7 is an enlarged cross-sectional view taken along line 7-7 of FIG. 6.

Briefly stated, the invention comprises a motorized table for therapeutic treatment having four telescoping legs mounted to the frame with a reversible motor also mounted to said frame with the motor shaft projecting vertically upward. A toothed gear mounted to said shaft and a gear mounted to each of the four telescoping legs. An endless link chain passing thereby the motor shaft bear the four gears of the endless link chain to power the legs for raising and lowering the legs simultaneously.

Referring more particularly to the drawings, in FIG. 1, the motorized treatment table or plinth 20 is illustrated as having a mattress 21. The mattress 21 has a wooden rectangular base 21' to which the mattress 21 is fixed. The mattress is mounted onto a frame 22. The frame 22 has a rectangular base plate 22' and four walls 22'' extending upward from the outer edges of the base plate 22'. Four telescoping leg members 23 are mounted to the underside of each of the corners of the base plate of frame 22.

A rectangular platform 24 is mounted at its corners to the upper sleeves of each of the telescoping legs and is spaced below the base plate 22' with an open area therebetween. Along with right portion of the platform 24 are sidewalls 25 which extend upwardly from four sides to the frame 22 to form a housing. A motor 26 is mounted to the frame 22 and is housed within the sidewalls 25.

The motor shaft 26' of motor 26 extends upward through a bore in the base plate 22' of the frame 22 and a toothed drive gear 27 is mounted to the upper end of the motor shaft 26'. At each of the corners of the base plate 22' is a toothed gear 28, and an endless link chain 29 travels about portions of gear 27 and each of the four gears 28. Whereby, the rotation of gear 27 rotates the four gears 28. Four wooden U-shaped channel members 40, 40', and 40'', and 40''' are mounted to the base plate 22' and provide guide ways for the chain 29 to travel on and act to keep the chain 29 from slapping against the base plate 22' and also act to reduce the noise caused by the chain movement.

Each of the four telescoping legs 23 is of identical construction. Each of the legs 23 has an outer sleeve section 30' which telescopes over the inner sleeve section 30; and a threaded shaft 32 which extends upward with its upper end fixed to its respective gear 28 and its intermediate portion threaded into a threaded bore 33 of a disc 34. The disc 34 is fixed to the inner

sleeve section 30. At the lower end of each of the shafts 32 is a disc 35 which is slideably mounted in the sleeve 30.

OPERATION

The treatment table is operated as follows:

The energizing of the motor 26 drives the endless link chain 29 which in turn rotates the gears 28 at each of the corners of the table. The rotation of the gears 28 rotates the threaded shafts 32 which by their threaded engagement with the threaded bore 33 of the disc 34 of the inner sleeve lowers and raised the inner sleeves 30 simultaneously relative to the outer sleeves 30' and thereby raises and lowers the mattress 21 and frame 22 and outer sleeves 30' relative to the ground. The disc member 35 mounted to the lower end of the shafts 32 keeps the shafts in axially alignment with the legs.

Each of the shafts 32 is also rotatably mounted in the bores through the base plate 22' and the upper cap portion 36 of the outer sleeve, the upper cap portion 36' being fixed to the outer sleeve sections 30'.

The motor is a conventional reversible type and is reversed automatically by a cam 37 which is fixed to the inner sleeve section 30 of the one telescoping leg member 34' of the four leg members 23. The outer sleeve section 30' of leg member 34' has an elongated slot 38 for the cam to travel along when the inner leg telescopes relative to the outer leg.

The pair of micro switches 39 and 39' are mounted in vertical alignment with one another and are mounted to the underside of the base plate 22' and the platform 24, respectively, and are positioned so that they limit the telescoping action of the legs 23 in both directions.

When the cam 37 engages the button energizer 41 of the upper microswitch 39, it reverses the motor 26 and causes the inner sleeves 30 to telescope downwardly which raises the table. When the cam 37 engages the button energizer 41 of microswitch 39', it again reverses the motor 26 and causes the inner sleeve to retract which lowers the table. The cam 37 has tapered surfaces 37' for the button energizer 41 to engage to cam the button energizers upward to a retracted position to activate the switches.

The electrical circuitry for reversing the motor in response to the activation of the microswitches is of a conventional type.

A pin 37'' is fixed at its inner end to the inner sleeve 30 and extends outwardly through the slot 38 with its outer end fixed to the cam 37 to thereby mount the cam 37 to the inner sleeve 30.

The sidewalls 22'' of the base plate 22' have out turned lugs 42 and screws pass through bores in the lugs 42 and into the wooden base 21' of the mattress to secure the mattress to the frame 22.

Thus it will be seen that a novel motorized treatment table has been provided which will raise and lower the treatment table.

It will be obvious that various changes and departures may be made to the invention without departing from the spirit and scope thereof and accordingly, it is not intended that the invention be limited to that specifically described in the specification or as illustrated in the drawing, but only as set forth in the appended claims wherein.

I claim:

1. A motorized therapeutic treatment table comprising a frame, four vertically telescoping legs mounted to said frame, said frame having a rectangular base panel with vertically extending wall members extending upward from the outer edges of said base panel, said frame being open along its top between said wall members, gear drive means extending upward from said legs through said base panel with gears mounted to the upper ends of said gear drive means for driving said telescoping legs, an endless chain extending around said gears for driving said gears, U-channel means mounted to said base panel and supporting portions of said endless chain between said gears with said endless chain portions located in the apex of

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said U-channel means, flange means projecting horizontally from the upper edges of said wall members, a mattress member resting upon said flange means, means to secure said flange means to said mattress member, a motor mounted to

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said frame having an output shaft with an output gear mounted thereon with said output gear driving said endless chain.

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