

G. A. BARBER.
TABLE SUPPORTING MECHANISM.
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1,346,586.

Patented July 13, 1920.

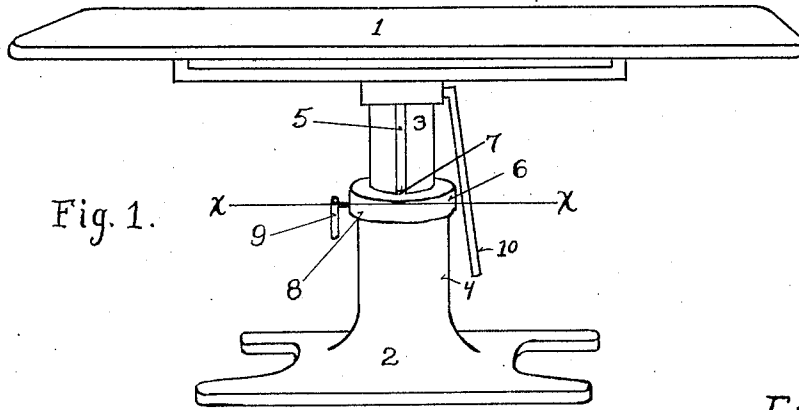


Fig. 1.

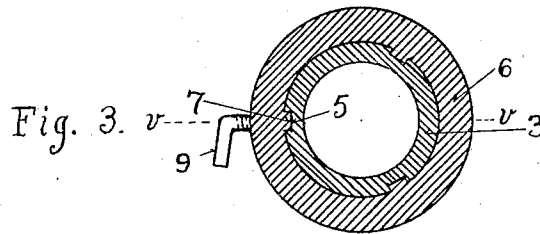


Fig. 3.

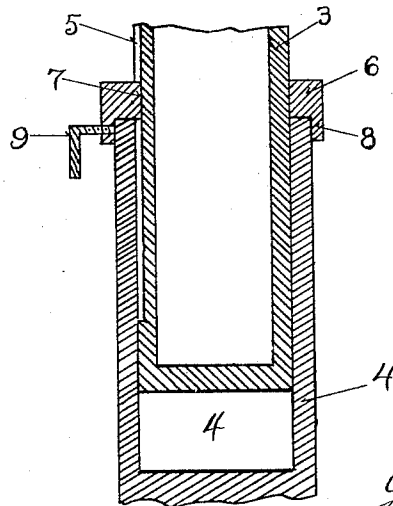


Fig. 2.

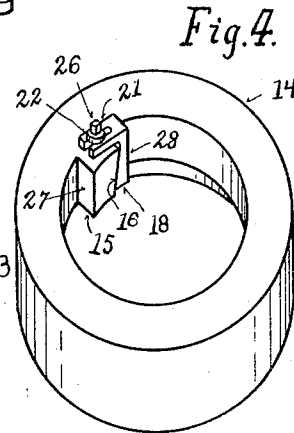


Fig. 4.

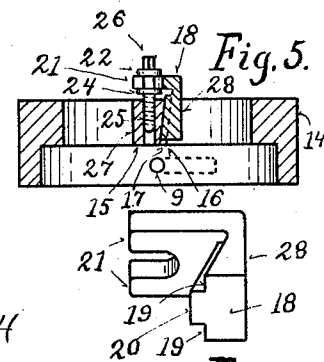


Fig. 5.

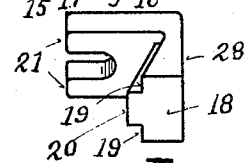


Fig. 6.

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TABLE-SUPPORTING MECHANISM.

1,346,586.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE A. BARBER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Table-Supporting Mechanism, of which the following is a specification.

My invention relates to improvements in osteopathic tables, and it is adapted to be used on any table or chair that is mounted upon a telescopic supporting mechanism to be raised and lowered by hydraulic or other lifting means. One of its objects is to provide a reliable, safe, and inexpensive means to be used with the pedestal of such tables to releasably lock the telescoping member of the pedestal against rotary motion, while allowing free vertical motion to the same. Another object is to provide against lost motion between the telescoping and locking members, and for taking up any lost motion which may develop. My invention also comprises certain details of form, combination and arrangement, all of which will be fully set forth in the description of the accompanying drawings, in which:

Figure 1 is a perspective view of one type of table embodying my invention.

Fig. 2 is a vertical section on line *v v* of Fig. 3.

Fig. 3 is a horizontal section on line *x x* of Fig. 1.

Fig. 4 is a perspective view of my improved locking means detached, and illustrating a modification.

Fig. 5 is a vertical section through the collar Fig. 4, and with the key mechanism also in section.

Fig. 6 is a perspective view of the adjustable key-member detached.

The accompanying drawings represent the preferred embodiments of my invention. In Fig. 1 I have illustrated a plain top section 1, comprising a single top section, but my invention is designed to be employed with tables having a plurality of adjustable and movable top sections, such for instance as heretofore disclosed in Letters Patent of the United States granted to J. V. McManis and W. L. Sherwood for improvements in osteopathic table, May 20, 1913, No. 1062489.

As illustrated in Figs. 1, 2, and 3, the table top is mounted upon a plunger 3, which is movable vertically in a cylinder 4, formed

in the lower section or base 2. The plunger is preferably raised and lowered by means of valve and pump mechanism housed within the plunger and actuated by a pump handle 10.

In the common use of an osteopathic table of the types mentioned the elevation of the top will be changed very many times without requiring any change whatever in the horizontal position; but at the same time it is desirable to be able to change the horizontal position of the table, without disturbing or shifting the base thereof, which base is very heavy and hard to move. When in use the telescoping part of the pedestal must be locked to the base to prevent rotation of the top of the table. As now constructed a set screw is employed, at the point where the plunger emerges from the cylinder, to press against the plunger and prevent any motion of the table top, either lateral or vertical. To allow the desired freedom for vertical movement of the plunger, while it is restrained from any rotary movement, I provide in said plunger one or more vertical slots, 5, extending from the top of the plunger to the point thereon which reaches the top of the cylinder when the plunger is extended to the highest point attained in elevating the table. That portion of the lower end of the plunger remaining at all times in the cylinder is not slotted, as it is necessary to maintain a close fitting joint between the lower end of the plunger and the cylinder in which it moves.

On the plunger I mount a close fitting collar, 6, provided with lugs or feathers, 7, adapted to engage and slide in the slots 5, and to travel snugly but freely therein. For strength and durability I have shown three slots and corresponding lugs, equidistant on the circumference of the plunger, though the number thereof is not an essential part of my invention.

On the outer edge of the collar 6, I provide a flange 8, to fit over the outside of the cylinder 4, in which flange any suitable device for pressing against the cylinder and locking the collar upon the cylinder, to prevent rotary motion, is mounted. In the drawings I have shown a set screw 9, as a simple and effective means of releasably locking the collar in place, but as it is obvious that other means may be used for the same purpose, such for instance as a cam-

action lever, mounted upon the collar and designed to press against the cylinder, or mounted upon the cylinder and designed to press upon the collar, I do not wish to be limited to the exact means illustrated.

As illustrated in Figs. 4, 5 and 6, I preferably provide means to secure a close fit of the key or feather in the groove or keyway of the plunger, and also for readjusting the fit of the key to the keyway to compensate for wear, expansion and contraction, or similar causes tending to result in lost motion at the keyway, which even though slight at the keyway might be noticeable at the extremities of the table top and cause vibration of the table top objectionable to the patient and operator.

In Figs. 4 and 5, the collar 14 corresponding to the collar 6 of Fig. 1 has rigidly secured thereto or formed integral therewith a key member 15, which has one face 16 beveled or inclined and provided with a channel 17. A movable or adjustable key member 18 is provided with a beveled or inclined face 19 and a projecting rib 20 to enter and slide along the channel 17. A forked angular portion 21 of member 18 is engaged between collars 22 and 24 by the shank of an adjusting screw 25. The threaded portion of screw 25 engages a threaded recess in the key member 15, and said screw may be turned by means of a wrench seat 26 at its outer end to force the screw into or out of the recess into which it is threaded. The adjustment of the screw 25 endwise carries the key member 18 with it, and causes the inclined faces of the key member 18 to slide upon the inclined faces of the key member 15 to cause the opposite bearing faces 27 and 28 of the key members to be adjusted to or from each other to accurately and closely engage the opposite faces of the keyway in the plunger 3, and thereby to avoid any perceptible lost motion between the plunger 3 and base 4, whereby the table top and plunger could move in a horizontal plane about the vertical axis of the plunger.

Having thus described my invention, what I claim is:

1. A supporting pedestal comprising a cylinder, a fluid actuated plunger movable

endwise and rotatably relative to said cylinder, said plunger being provided with a key-way extending through a portion of the length of said plunger, a collar rotatably adjustable relative to said cylinder and having a key to engage the key-way of said plunger, and means to lock said collar rigidly to said cylinder.

2. A table supporting mechanism comprising a cylinder, a plunger movable endwise and rotatably relative to said cylinder and adapted to be actuated by hydraulic means, said plunger having a key-way extending through a portion of its length, a collar resting upon the open end of said cylinder and having a flange overhanging the outer wall of said cylinder, said collar being rotatably adjustable relative to said cylinder and provided with a key to engage the key-way of said plunger, and means to lock said collar against rotation.

3. A supporting pedestal comprising a cylinder, a plunger movable endwise and rotatably relative to said cylinder, said plunger being provided with a key-way extending through a portion of its length, a collar rotatably adjustable relative to said cylinder and having a key to engage the key-way of said plunger, adjustable means to secure a close fit between the engaging faces of said key and key-way, and means to lock said collar rigidly to said cylinder.

4. A table supporting mechanism comprising a cylinder, a plunger movable endwise and rotatably relative to said cylinder, said plunger being provided with a key-way extending through a portion of its length, a collar rotatably adjustable relative to said cylinder and having a rigidly mounted key member and an adjustably mounted key member to adjust the engaging faces of said key into close relation with the engaging faces of said key-way, and means to lock said collar rigidly to said cylinder.

In testimony whereof I have affixed my signature in the presence of two witnesses.

GEORGE A. BARBER.

Witnesses:

HENRY H. BARBER,
Mrs. B. LESLIE.