

(No Model.)

H. G. LEISENRING.

ADJUSTABLE SUPPORT FOR TABLES, CHAIRS, &c.

No. 541,369.

Patented June 18, 1895.

Fig. 1.

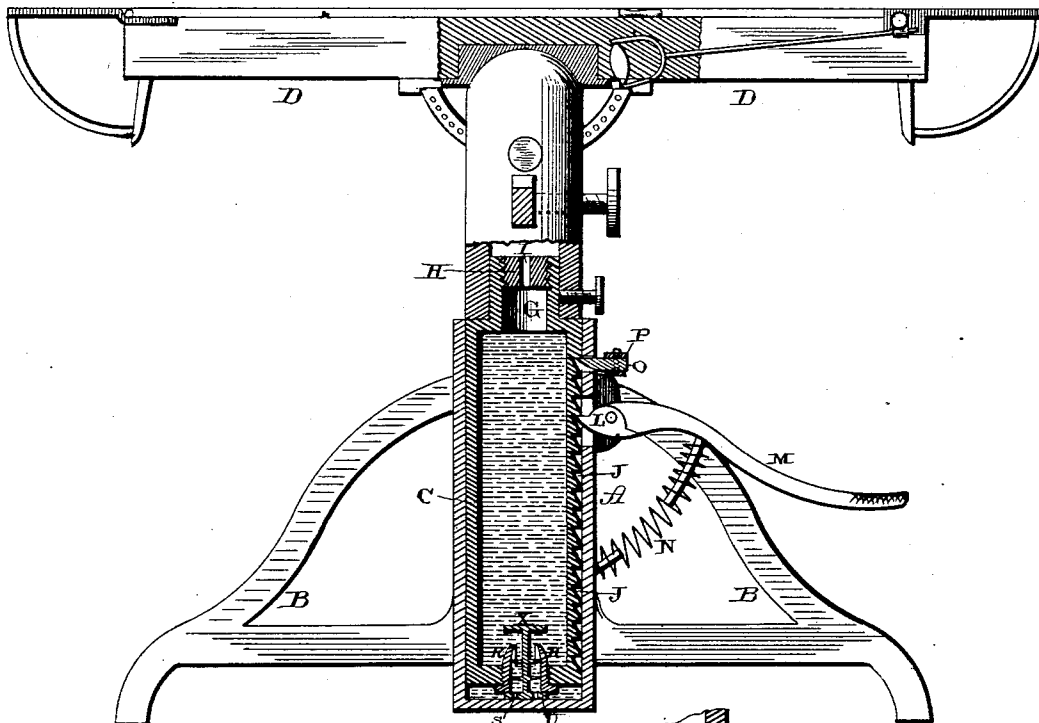


Fig. 2.

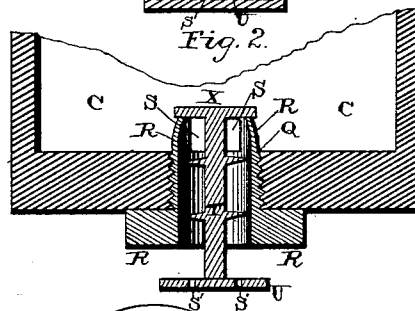
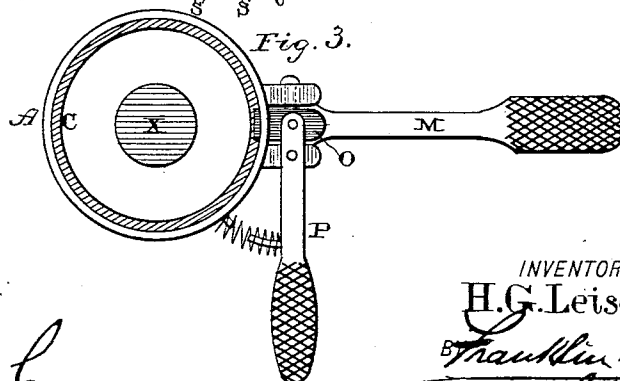


Fig. 3.



WITNESSES:

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ADJUSTABLE SUPPORT FOR TABLES, CHAIRS, &c.

SPECIFICATION forming part of Letters Patent No. 541,369, dated June 18, 1895.

Application filed September 15, 1894. Serial No. 523,151. (No model.)

To all whom it may concern:

Be it known that I, HENRY G. LEISENRING, a citizen of the United States, residing at Wayne, in the county of Wayne and State of Nebraska, have invented certain new and useful Improvements in Adjustable Supports or Standards for Tables, Chairs, &c.; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to an improvement in surgical tables and chairs; and it consists in the outside cylinder provided with legs at its lower end, combined with an inside vertically moving cylinder having the chair adjustably attached to its upper end, and a mechanism for raising and lowering it, the cylinder being provided at its upper end with an air hole and at its lower one with a hollow plug, and a vertically moving valve that extends through the plug and regulates the passage of the oil into the cylinder when it is being raised or lowered, all of which will be more fully described hereinafter.

The object of my invention is to provide the inside cylinder of a surgical table or chair with a valve which will allow the oil in the cylinder to rapidly run out when the chair is being raised, and to run very slowly into the cylinder when it is being lowered.

Figure 1 is a vertical section of the lower portion of the cylinder and its attachments and which embody my invention. Fig. 2 is an enlarged view of the valve and the plug in which it operates. Fig. 3 is a detail view showing the lever attachments for operating the cylinder.

A represents the outside cylinder to which the legs B are secured in any suitable manner. Fitting snugly inside of this cylinder is the inside cylinder C, to the upper end of which the table, or chair seat D, is adjustably attached, and which cylinder has a vertical movement in the outside one A, according as the chair is being raised or lowered. At the upper end of this cylinder is the contracted portion G, on which the lower part of the standard rests and rotates, as shown in patent

granted to me January 30, 1894, and in which is placed a plug H, and through this plug is made an air hole I, through which the air passes back and forth according as the oil is allowed to run out of the cylinder C when it is being raised, or to run slowly into it when the cylinder is being lowered.

In the outside surface of the cylinder upon one side is made a series of ratchet teeth J with which the pivoted pawl L on the inner end of the treadle M engages, and which treadle is held in a raised position when left free to move by the spring N. While in a raised position the pawl L allows the cylinder C to freely descend, but when the outer end of the treadle M is depressed, the pawl L engages with one of the ratchet teeth and forces the cylinder C upward, carrying the chair with it. Also pivoted in the upper portion of the cylinder A, above the pawl L, is a second pawl O which engages with the ratchet teeth J, for the purpose of holding the cylinder C in a raised position while the pawl L is being lowered to engage with another tooth, or simply to hold the cylinder stationary in any position into which it may have been adjusted by means of the treadle. Operating in connection with the pawl O is a foot-piece P, by means of which the pawl O can be moved, so as to allow the cylinder C and the chair attached to the upper end of it to descend either from their own weight or the weight of the person in the chair.

Through the bottom of the cylinder C, which forms an oil chamber, is made a large opening Q, into which the hollow plug R is screwed, the lower end of the plug being made to project below the lower end of the cylinder as shown. Through the upper end of the plug which projects a suitable distance up into the cylinder C are made four small openings S through which the oil passes with more or less rapidity, according as the oil is being forced into the cylinder C as it descends, or run freely from it as the cylinder is being raised. Extending through this plug R is the valve T, which is provided at its lower end with a disk U which is larger than the opening through the plug, and through which disk are made several small openings S', through which the oil is slowly forced, as the cylinder descends. To the valve-stem are secured a suitable number of guides which project therefrom to the

inner sides of the opening through the plug, and thus always keep the valve in an operative position. To the upper end of the valve stem is secured the disk X which catches upon the top of the inwardly turned end of the plug R, and thus prevents the valve from becoming displaced.

When the cylinder C is being raised by the treadle M the valve assumes the position shown in Fig. 2, and then the oil runs from the cylinder through the openings S in the upper end of the plug as fast as the cylinder is raised. The valve U having dropped down below the lower end of the plug offers but little obstruction to the flow of the oil, but when the cylinder begins to descend the valve U is forced tightly against the lower end of the plug R, and then the oil can only pass from the outer cylinder A into the one C through the small openings S', made through the valve for that purpose. The valve playing freely back and forth through the plug, according as the cylinder C is raised or lowered, is automatic in its action, and is operated entirely by the movement of the oil. The oil runs freely from the cylinder as the cylinder is rapidly raised, but as the oil is allowed to pass from the cyl-

inder A into the cylinder C very slowly, the cylinder C will descend with a slow, even, and regular movement, and that only when the foot-piece P is operated so as to move the pawl O and leave the cylinder free to descend.

Having thus described my invention, I claim—

In a dental chair, the vertically moving cylinder having an escape for the air near its top, and an opening through its bottom, combined with a screw threaded hollow plug Q, which is screwed into the lower end of the cylinder, and which has its ends to project beyond both sides of the end of the cylinder, and which plug has its upper end provided with openings S; and the valve T, provided with a disk at its upper end, and a second one at its lower one provided with small openings through which the oil is slowly forced as the cylinder descends, substantially as shown.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY G. LEISENRING.

Witnesses:

J. D. KING,

E. D. MITCHELL.