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VERTICALLY ADJUSTABLE FOOT STOOL

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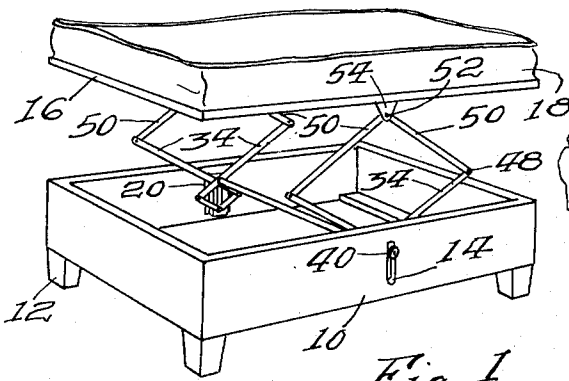


Fig. 1

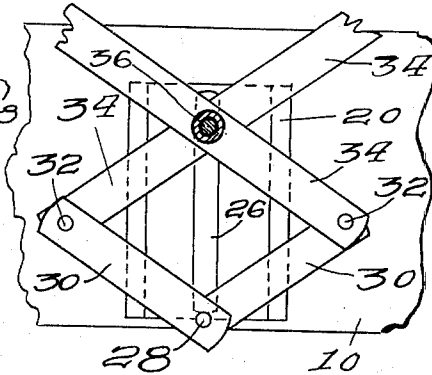


Fig. 2

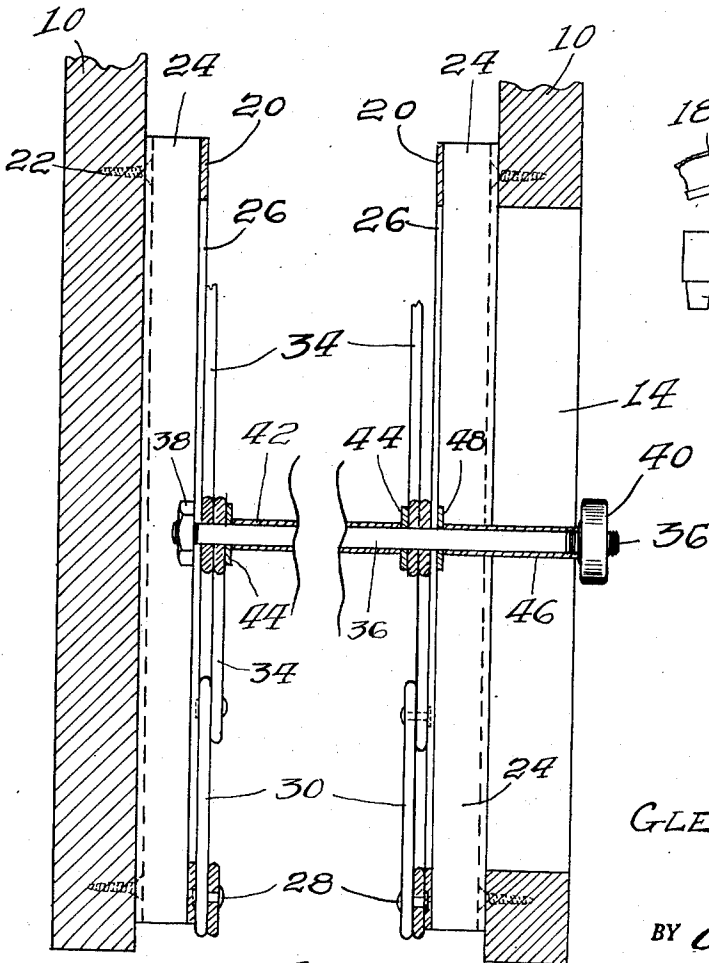


Fig. 3

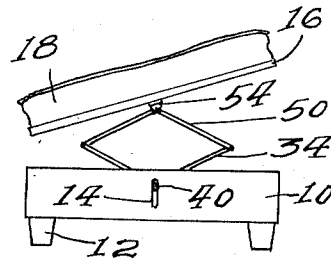


Fig. 4

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VERTICALLY ADJUSTABLE FOOT STOOL

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8 Claims. (Cl. 155-172)

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This invention relates to an improved foot stool and has for one of its principal objects the provision of a stool or the like which can be used for supporting the legs or feet and which is almost universally adjustable so that the utmost in comfort results.

One of the important objects of this invention is to provide a leg supporting stool which can be adjustably fixed and maintained at various heights and also at various angles whereby practically any desired condition of leg support can be accomplished.

Another object is the provision of a foot stool which is adjustable both as to height and angular relationship and which adjustments can be practically instantaneously varied as desired, thereby enabling the device to meet changing conditions with a minimum expenditure of time and inconvenience.

Yet another object of this invention is to provide in an adjustable and tiltable foot stool means for supporting the adjustable and tiltable portion which shall be simple of construction but at the same time efficient and sturdy.

Another and still further important object of the invention is the provision in an adjustable and tiltable foot stool of supporting arrangements for the movable portion which will allow said portion to be moved into such relationship to the base that the entire device will resemble an ordinary foot stool or cushioned seat and can be used as such.

Other and further important objects of the invention will be apparent from the disclosures in the accompanying drawings and following specification.

This invention, in a preferred form, is illustrated in the drawings and hereinafter more fully described.

In the drawings:

Figure 1 is a perspective view of the improved leg stool of this invention showing the movable portion raised and also showing the adjustable and tiltable supporting elements for the movable and adjustable head.

Figure 2 is a detail view of the combination of links which comprise the adjustable supporting element.

Figure 3 is a detail view, partly in section, showing the actual construction of the adjustable supporting links and the means for fixing the same in locked relationship with the support.

Figure 4 is an end view showing the head of the leg stool tilted into one of the many positions to which it may be adjusted.

As shown in the drawings:

The reference numeral 10 indicates generally the base or relatively fixed portion of the improved leg stool of this invention which is preferably of rectangular form and has four or more supporting legs 12.

As shown, this is of open construction and is provided with a slot or opening 14 in one side into which the adjusting and fixing means is fitted.

The upper movable and tiltable portion of the stool comprises essentially a platform 16 which preferably corresponds in size and shape to the outline of the base 10 and which is surmounted by a cushion or the like 18 which can be of any suitable or preferred construction.

Fitted inside the base structure 10 and preferably adjacent the middle of the side portions are opposed slotted plates 20 which are fastened to the sides 10 in any suitable manner as by screws 22. The plates are preferably channel shaped with web portions 24 whereby the plates themselves can be spaced away from the side frame elements 10. These slotted plates are similar in construction and are disposed exactly opposite to each other, one of the plates being positioned adjacent the slot 14 in the base portion 10 and with its slot 26 in alignment therewith.

Pivotally mounted at the bottom of each of the plates 20 and below the slot 26 by means of a pin or the like 28 is a pair of connected links 30, as best shown in Figure 2. At its outer ends these links are in turn pivotally connected by means of pins or the like 32 to longer links 34 which cross each other as illustrated. Aligned openings are provided in the links 34 at the points of crossing and a shaft 36 is fitted through the aligned openings of both sets of links as best shown in Figures 1 and 3.

The shaft 36 is screw-threaded at each end, the inner end having a fastening nut 38 mounted thereon behind the corresponding plate 20.

The other end of this shaft 36 extends through the opposite plate 20 and then through the slot or opening 14 in the front of the base portion 10 and this end is also screw-threaded, having a knurled nut or the like 40 mounted thereon.

A sleeve 42 is positioned on the shaft 36 and this sleeve extends between the plates 20 and the respective links 34. The ends of this sleeve abut against washers or the like 44 which in turn contact the inner opposed faces of the links 34.

Another sleeve 46 surrounds the outer end of the shaft 36 and extends between the inside face of the corresponding plate 20 and the inner face

of the adjusting nut 40. This sleeve also abuts against a washer 48 and another washer may be used between its outer end and the inner face of the knurled nut 40. Composite short sleeves and washers may be employed as bearings for the crossed links on the shaft 36.

The outer ends of the links 34 are jointed at 48 to further links or arms 50, the upper ends of which in turn are connected to each other at 52 by means of pins or rivets, which pins or rivets are fixed into the lowermost ends of angle plates 54. These plates in turn are fastened to the under-surface of the supporting element or platform 16, as best shown in Figures 1 and 4. This arrangement permits of a pivoting of the platform or support 16 with its cushion 18 about the points 52 whereby its angular relationship to the supporting base 10 can be varied considerably.

The linkage 30—34—50 enables a raising or lowering of the cushion 48 and its platform support 16 with regard to the base 10 and this relationship can be varied considerably, depending upon the length of the slot 28 and the proportions of the associated parts. The device can be locked at any desired height by simply tightening the knurled nut 40, whereby the washers 44 and 48 are forced into such a tight relationship with the links 34 and the plates 20 by means of the sleeves 42 and 46, that relative movement of the links is not permitted. The pivotal supports 52 for the platform are such that sufficient friction exists, whereby tilted angular relationship will be satisfactorily maintained, while at the same time allowing of relative movement whenever desired.

It will be evident that herein is provided a leg stool or the like which will form a most convenient leg or foot rest for persons requiring or desiring such supports and which can be so adjusted that it will meet substantially any requirements so far as such a supporting position is concerned. Additionally, the same can be collapsed to form an ordinary foot stool or seat and will appear to be such when not in use. The device is simple of construction, easy of operation and will meet practically all requirements for leg support whether for simple comfort or in the event of various leg ailments or injuries.

I am aware that many changes may be made and numerous details of construction varied throughout a wide range without departing from the principles of this invention and I, therefore, do not purpose limiting the patent granted hereon otherwise than as necessitated by the prior art.

I claim as my invention:

1. A leg stool comprising a supporting base and a platform adjustably mounted on the base, said mounting including a series of links in pantograph relationship and means for locking the links against movement.

2. A leg stool comprising a supporting base and a platform adjustably positioned with respect to the base, said adjustment including a series of links in pantograph relationship and means for locking the links against movement, said means including a shaft passing through aligned openings in the crossed portions of the links.

3. A leg stool comprising a supporting base and

a platform adjustably mounted on the base, said mounting including a series of links in pantograph relationship, means for locking the links against movement, said means including a shaft passing through aligned openings in the crossed portions of the links, sleeves surmounting the shaft between the links and a locking means operating against the sleeves.

4. A leg stool comprising a supporting base and a platform adjustably positioned with respect to the base, said adjustment including a series of links in pantograph relationship, plates inside the base for supporting the links, said plates being slotted for permitting relative movement of portions of the links thereto, and a locking shaft passing through and connecting the links, said shaft movable in the slots.

5. A leg stool comprising a supporting base and a platform adjustably positioned with respect to the base, said adjustment including a series of links in pantograph relationship, plates inside the base for supporting the links, said plates being slotted for permitting relative movement of portions of the links thereto, a shaft passing through and connecting the links, said shaft movable in the slots, and means for locking the shaft in desired relationship with respect to the plates and links.

6. A leg stool comprising a supporting base and a platform adjustably and tiltably mounted on the base, said adjustable and tiltably mounting including a series of crossed and joined links and a pivotal connection between the uppermost junctures of the links and the bottom of the platform.

7. A leg stool comprising a supporting base and a platform adjustably and tiltably mounted on the base, said mounting including a series of pantograph links and a pivotal connection between the uppermost junctures of the links and the bottom of the platform, said tiltably connection comprising a frictionally-held relationship.

8. A leg stool comprising a support base and a platform adjustably and tiltably mounted on the base, said mounting including a series of pantograph links and a pivotal connection between the uppermost junctures of the links and the bottom of the platform, said tiltably connection comprising a frictionally-held relationship, and including angle plates on the bottom of the platform and rivets joining the angle plates to the upper ends of the joined links.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
371,373	Scarritt	Oct. 11, 1887
789,813	Longley	May 16, 1905

FOREIGN PATENTS

Number	Country	Date
131,602	Great Britain	Dec. 2, 1900
92,828	Austria	May 25, 1923