

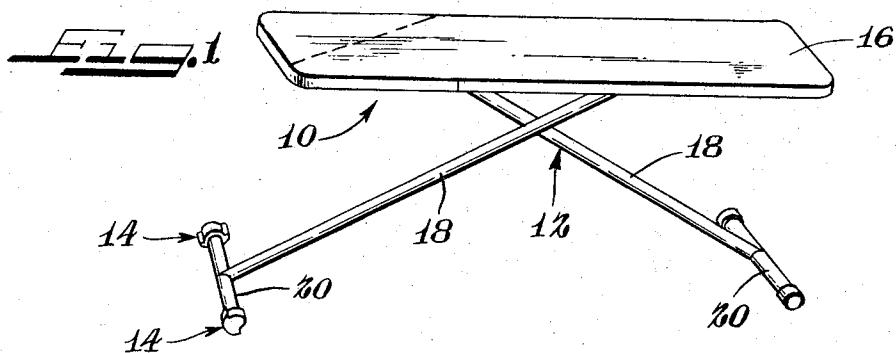
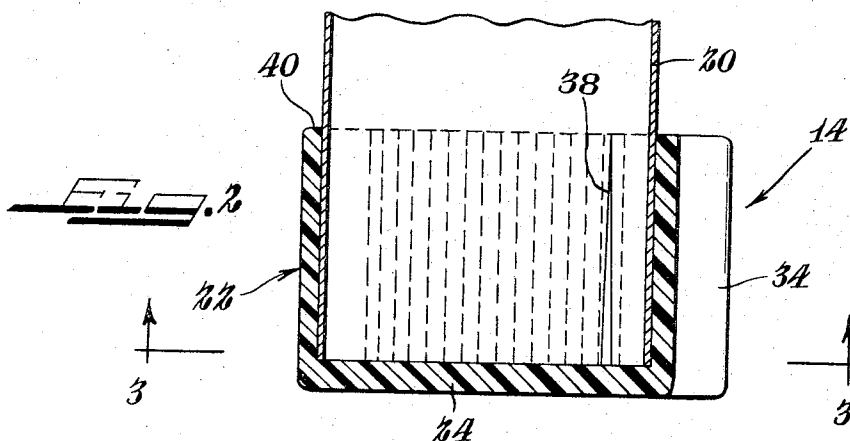
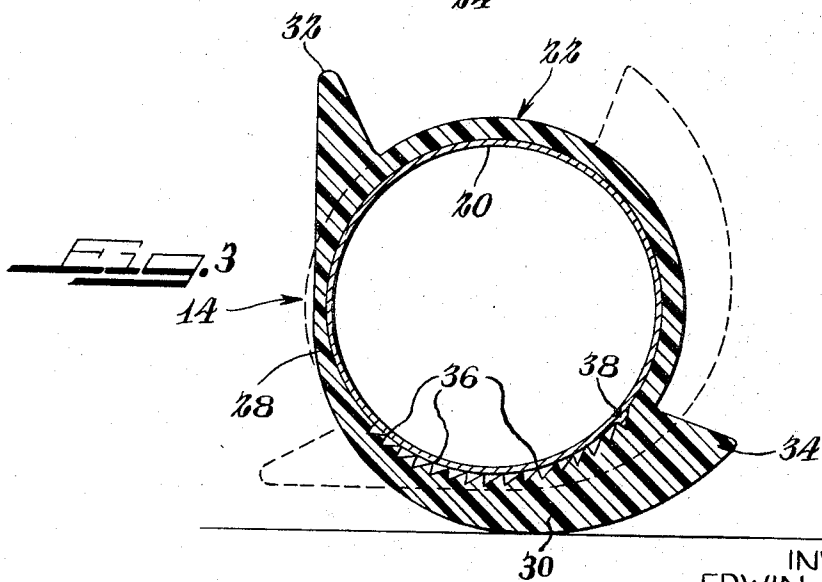
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LEVELING DEVICE

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LEVELING DEVICE

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ABSTRACT OF THE DISCLOSURE

A leveling device for ironing boards and the like including a tapered thickness sleeve rotatably mounted on a horizontal foot portion and having projections thereon by which it can be turned and internal teeth engaging a projection on the foot member to prevent accidental turning.

This invention relates to a leveling device and it particularly relates to a leveling device which is particularly useful for attachment to a horizontal foot member which is commonly used on certain types of ironing table structures.

In certain ironing table constructions, the board is supported by a pair of crossing leg members which are carried at the underside of the board. The leg members have, at their lower ends, horizontally disposed foot members which rest upon the floor. Since the feet often rest upon irregular surfaces, the ironing table usually is unsteady or wobbles. In order to effect leveling and to prevent wobbling thereof, it is necessary to provide devices on the horizontal foot members for accomplishing these purposes.

One known way to effect the desired leveling and steadying of the table is accomplished by rubber cup-like devices which slip over one or more of the ends of the tubular foot members. These known leveling devices have significant disadvantages since in order to adjust the cups, it is necessary for the user to bend down and rotate the leveling cups, which are usually dirty, until the table is level and is no longer wobbling.

Another known construction for avoiding the wobbling of and for effecting the leveling of an ironing table includes horizontal foot members which are pivoted to the crossing leg member of the table. A tightening means is provided for loosening or tightening the horizontal foot members at the desired pivoted position relative to the crossing leg members. This construction has a significant disadvantage since it is expensive and it is also inconvenient to properly adjust.

In view of these disadvantages of known leveling devices for ironing tables, it is an important object of this invention to provide an improved leveling device which substantially avoids the foregoing disadvantages of prior art devices.

It is also an object of this invention to provide an improved leveling device for an ironing table wherein the device is readily rotatable to the desired position by foot or toe pressure, thereby avoiding the necessity of the operator bending down and manually turning the leveling device.

It is a further object of this invention to provide an improved leveling device for an ironing table which upon being rotated to the desired position by toe pressure is positively maintained in the desired rotated position.

It is another object of this invention to provide a leveling device for an ironing board table wherein it is characterized by its simplicity and economy of construction, manufacture and use.

Further purposes and objects of this invention will appear as the specification proceeds.

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Particular embodiments of the present invention are illustrated in the accompanying drawings wherein:

FIGURE 1 is a perspective view of the type of ironing table with which my improved leveling device is particularly useful;

FIGURE 2 is a longitudinal cross sectional view of one of my leveling devices in place on one of the horizontal foot members of the table of FIGURE 1; and

FIGURE 3 is a cross-sectional view taken along the line 3—3 of FIGURE 2.

In FIGURE 1 of the drawings, there is shown an ironing table 10 having a supporting structure, generally, 12, with which my leveling devices 14 are particularly useful. The table 10 includes an ironing board 16 and the support 12 includes a pair of diagonal and crossing leg members 18 which are carried on the underside of the board 16 and include substantially horizontal leveling feet 20 which are transverse to the legs 18. When the two tubular feet 20 are in place on a floor, they are substantially parallel to each other, one being located below the front of the board 16, and the other being located below the rear of the board. My improved leveling devices 14 are positioned at one or more of the outer ends of the tubular members 20 and the construction thereof will be hereinafter described in greater detail. Conventionally, one or two leveling devices are used and the other two or three ends of the tubular members receive plain rubber cups. Each leveling device 14 is preferably integrally formed of plastic material which is substantially rigid, but which may exhibit some flexibility for reasons to be described. Each cup-like device 14 includes a substantially cylindrical side wall 22 having an inner surface which is snugly, yet rotatably received by the substantially cylindrical outer surface of the ends of the foot members 20. An outer wall or face 24 encloses one end of the side wall portion 22, thereby forming a cup-like leveling device.

Referring particularly to FIGURE 3, the side wall 22 of each leveling device 14 is provided with a camming portion, generally 26, the outer surface of which contacts with the floor. The cam portion 26 includes a relatively thin part 28 and a relatively thick part 30. As the leveling device 14 is rotatable on the ends of a tubular foot member 20, the cam portion, upon rotation between the thin portion 28 and a thick portion 30 of the cam 26, in approximately 90°, raises or lowers the ends of the feet to provide stability and leveling for the table 10.

It is one of the important features of the invention that projections 32 and 34 be provided at the ends of the thin portion 28 and the thick portion 30, respectively. The projections are tangential to the outer surface of the camming portion 26. The projections 32 and 34 enable the user to merely contact the projections with the tip of his foot and effect rotation of the leveling device about the tubular members 20 so as to effect the desired leveling. Thus, it is no longer necessary for the operator to bend down and manually grasp the leveling devices 14 and rotate them to the desired position.

Another important feature of the applicant's construction is that the inner surface of the side wall 22 of the leveling device 14 cooperates with the outer surface of the tubular foot member 20 to effectively and positively maintain the leveling device in the desired rotated position. In the preferred embodiment shown in FIGURE 3, a portion of the inner surface of the wall 22 includes a series of adjacent longitudinal serrations or teeth 36, preferably V-shaped, which extend in a direction parallel to the axis of the cylindrical wall 22. These teeth 36 cooperate with a longitudinal ridge or projection 38

formed on the outer end of each tubular foot 20. The ridge 38, preferably substantially V-shaped in cross-section engages the teeth 36 in the wall 22 to lock the leveling device 10 into position.

Preferably, the projecting ridge 38 is greater in depth at the outer tip of the tube 20 than at the portion of the tube which is adjacent the annular end 40 of the wall 22 since the outer wall 24 substantially prevents the plastic device 10 from stretching out of round at the parts adjacent the outer tip of the tube 20; this thereby provides improved gripping. Since the tendency of the device 10 is to unwind only in one direction, it is preferred that the teeth 36 slant, such as a ratchet, in one direction, to thereby provide even greater holding force opposing unwinding and to also permit easier rotation in one direction.

Although it is preferable to provide positive means for locking the leveling device 10 in a desired rotated position, the teeth 36 may be avoided if desired. In one embodiment, the outer ends of each tubular foot 20 are formed to be oval in shape so that when the cylindrical leveling device 10 is slipped over the oval portion of the foot, there is substantial gripping force between the tube 20 and device 14. Also, referring to FIGURE 3, the end of the tube 20 is preferably flattened to provide an oval shape for the portion of the tube which is co-extensive with the leveling device 14 and the elongated axis of the tube is to be substantially aligned with the projection 38 so as to provide a resilient force for insuring engagement between the projection 38 and grooves 36.

While in the foregoing there has been provided a detailed description of particular embodiments of the present invention, it is to be understood that all equivalents obvious to those having skill in the art to be included within the scope of the invention as claimed.

What I claim and desire to secure by Letters Patent is:

1. A leveling device in combination with a substantially horizontal cylindrical foot member of a support structure, said device comprising a cup having an inner cylindrical surface fitting over and snugly gripping said

foot member and being rotatably movable about the horizontal axis of said foot member, and an outer spiral camming surface on said cup, said camming surface having integral projection means at its opposite ends for receiving external force for rotating said cup and to thereby move said camming position into a desired rotated position for effecting leveling of said support structure.

2. A leveling structure in combination with a horizontally disposed foot member of an ironing table, said structure comprising a wall having an inner cylindrical portion for snugly gripping said foot member while being rotatably movable about the horizontal axis thereof, said member also having an outer camming portion with a relatively thin portion and a relatively thick portion, said camming portion having projection means at each of its opposite ends adjacent said thin and thick portions and to which external force is applied for effecting rotation of said device and to move said camming surface into a desired rotated position for effecting leveling, and cooperating engaging means on said inner cylindrical portion and on said foot member for maintaining said camming portion in a desired rotated position relative to said foot member.

3. The device of claim 2 wherein said cooperating engaging means comprises a longitudinal projection on the outer surface of said foot member and a plurality of longitudinal teeth on said inner portion for engaging said projection to resist movement of said camming portion with respect to said foot member.

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