Jan. 27, 1931. F. C. GRANT 1,789,974

CHAIR TIP

Filed Oct. 25, 1926

Fig. 1.

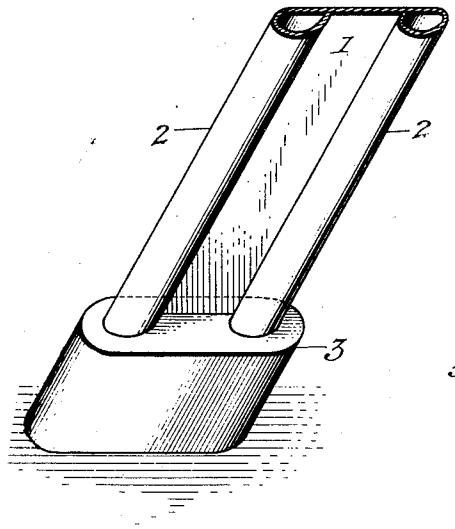


Fig. 2.

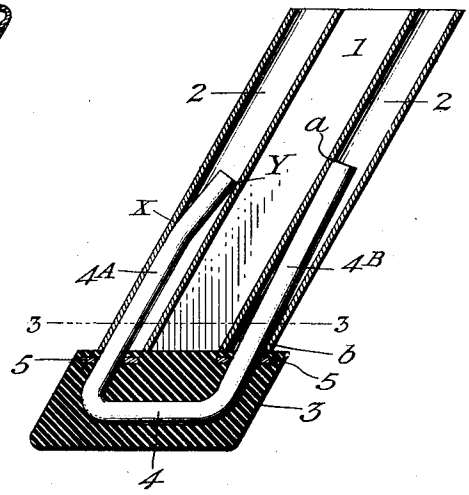
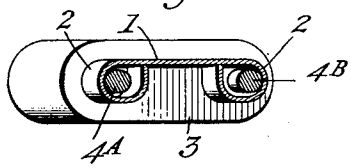


Fig. 3.



Inventor
Frederick C. Grant,
By G. Sargent Elliott.
Attorney.

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UNITED STATES PATENT OFFICE

FREDERICK C. GRANT, OF CHICAGO, ILLINOIS, ASSIGNOR TO CLARIN M'F'G. CO., OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS

CHAIR TIP

Application filed October 25, 1926. Serial No. 144,036.

This invention relates to improvements in chair tips, and more particularly to tips which are used in connection with metal chair legs of special construction.

The main object of the invention is to provide a resilient tip which can be easily and quickly attached to or detached from the leg of a chair, and when attached is securely held against accidental displacement.

A further object of the invention is to provide a chair tip comprising a rubber foot or block and a yoke-shaped fastening member which is embedded in the block in the vulcanizing process, the fastening members being adapted to be inserted in the ends of the chair legs and to be securely held therein by frictional engagement, the rubber feet preventing disfiguration of the floor in moving the chair from place to place, and also eliminating the noise which would otherwise be caused by such movements.

Further, to provide a chair tip which is simple and inexpensive and which is complete in itself and therefore requires no additional fastening means; it being secured in the act of inserting it in the end of the chair leg.

These objects are accomplished by the device illustrated in the accompanying drawings, in which:

Figure 1 is a perspective view of a portion of a metal chair leg of special construction, equipped with the improved tip.

Fig. 2 is a vertical longitudinal sectional view through the leg and tip; and

Fig. 3 is a horizontal sectional view on the line 3—3 of Figure 2.

Referring to the accompanying drawings:

The numeral 1 indicates a metal chair leg, which, in the present instance, is made from a strip of suitable sheet metal, the longitudinal edge portions of which are rolled upon themselves to form parallel tube-like edges 2, such construction forming a leg which embodies the maximum of lightness, strength and rigidity, and the extremities of the legs are finished to rest squarely upon the floor, whatever the angle of the leg may be. It is apparent, however, that without a suitable tip, such legs would disfigure floors of polished wood or tile and would also be destructive to carpets or rugs, and the improved tip, therefore, is designed to overcome these objectional features.

The improved tip comprises a rubber block 3, in which is embedded, in the vulcanizing process, the looped end of a yoke-shaped fastener 4, the arms 4A and 4B of which are arranged to stand at an inclination corresponding to the inclination of the leg in which they are inserted. The yoke is made from a piece of steel wire or rod of suitable diameter and of such length that when bent into the proper shape, the arms will project about two inches above the top of the block, as shown.

The upper portion of the arm 4A is given a slight inward bend, so that when the arms are inserted in the rolled portions 2 of the leg, the arm 4A will bind against the wall of the roll, up to the bending point X of the arm, while the point Y of its terminal end will bind upon the diametrically opposite face of the said roll. The arm 4B stands at a slight inclination to the axis of the roll which surrounds it, so that the inner edge of its terminal end binds upon the adjoining face of the roll, as shown at *a*, while the outer lower portion thereof binds upon the adjoining face of the lower terminal portion of its roll, as shown at *b*. It will thus be seen that the arms 4A and 4B are in frictional engagement with the inner faces of their respective rolls, which are of slightly greater external diameter than the diameter of the wire of which the yoke is made, this frictional engagement of the parts being sufficient to securely hold the tip against accidental displacement.

The inward bent end of the arm 4A also enables the tip to be more readily inserted in the end of the leg, as the space between the extremity of this leg and the opposite leg is slightly less than the extreme distance between the walls of the said rolled portions.

The lower end of each chair leg rests squarely upon the rubber block, and to prevent the end of the leg from pressing into the top of the block, due to the weight upon the chair when in use, metal washers 5 are placed upon each arm of the yoke and are

embedded in the rubber block 3, in the vulcanizing process, so as to lie nearly flush with the top of the block, and these washers receive the thrust of the ends of the legs and thus prevent the said ends from sinking into the rubber blocks. When any one or all of the blocks become worn and unfit for further use, they can be quickly removed and replaced by new tips, and by an unskilled person, as it is only necessary, after removing the worn tip, to insert the new tip, which is secured in place in the act of inserting it.

Having described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. The combination with a chair leg having parallel openings, of a tip therefor, comprising a resilient block and a fastener secured therein having portions adapted to fit frictionally in said parallel openings.

2. The combination with a chair leg having parallel openings in its extremity, of a tip therefor comprising a rubber block and a fastener embedded in said block in the vulcanizing process, having portions adapted to fit frictionally in said parallel openings.

3. The combination with a metal chair leg having parallel openings in its extremity, of a tip therefor comprising a rubber block and a pair of fastening arms each having a portion thereof embedded in said block in the vulcanizing process, and each having a portion extending into one of said openings, said two arms frictionally and slidably engaging said openings to detachably retain the block in position on the end of the leg.

4. The combination with a metal chair leg having parallel rolled edges, of a tip therefor comprising a rubber block, and a yoke-shaped resilient wire fastener, the looped end of which is embedded in the block in the vulcanizing process, the arms of said fastener being adapted to be inserted at the end of the leg in the rolled portions, the upper portion of one of said arms having a slight inward bend, said arms being adapted to engage frictionally with the walls of said rolls.

5. In combination with a supporting leg having tubular portions, a foot having a block of resilient material, a member having a part embedded in said block and having resilient arms extending therefrom and engaging in said tubular portions to clamp the foot in position thereon.

6. In combination with a supporting leg having tubular portions, a foot having a block of resilient material, a metallic member having a part embedded in said block and having arms extending therefrom to enter said tubular portions, one of said arms being curved and both of said arms being arranged to clamp the walls of said tubular portions and retain the foot in position thereon.

7. The combination with a member having tubular portions, of a foot comprising a block of resilient material with a pair of arms of stiffer material embedded in said block in the vulcanizing process and extending upwardly therefrom each slidably engaging the inside of one of said tubular portions, and having a part within the block adapted to anchor the arm therein, said arms cooperating to detachably hold the foot in position on said member by a slidable and frictional engagement with parts of the walls thereof.

8. A foot comprising a block of resilient material having a pair of arms of stiffer material anchored in the block and extending upwardly therefrom, in combination with a member having seats for said arms adapted to slidably and frictionally engage them and thereby detachably hold the foot to said member.

9. The combination with a member having tubular portions, of a foot comprising a block of rubber, and a pair of metal arms embedded in said block and projecting upwardly therefrom, the upper ends of said arms being of less diameter than said tubular portions and extending into said portions, said arms being inclined relative to said tubular portions, so as to frictionally secure said foot to said member.

10. The combination with a member having tubular portions, of a foot comprising a block of rubber, and a pair of metal arms embedded in said block and projecting upwardly therefrom, the upper ends of said arms being of less diameter than said tubular portions and extending into said portions, said arms converging upwardly so as to frictionally secure said foot to said member.

In testimony whereof I affix my signature.

FREDERICK C. GRANT.