

C. J. TRAVERS.
SHEET METAL HAND WHEEL FOR CHAIR ADJUSTMENTS, &c.
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Fig. 1.

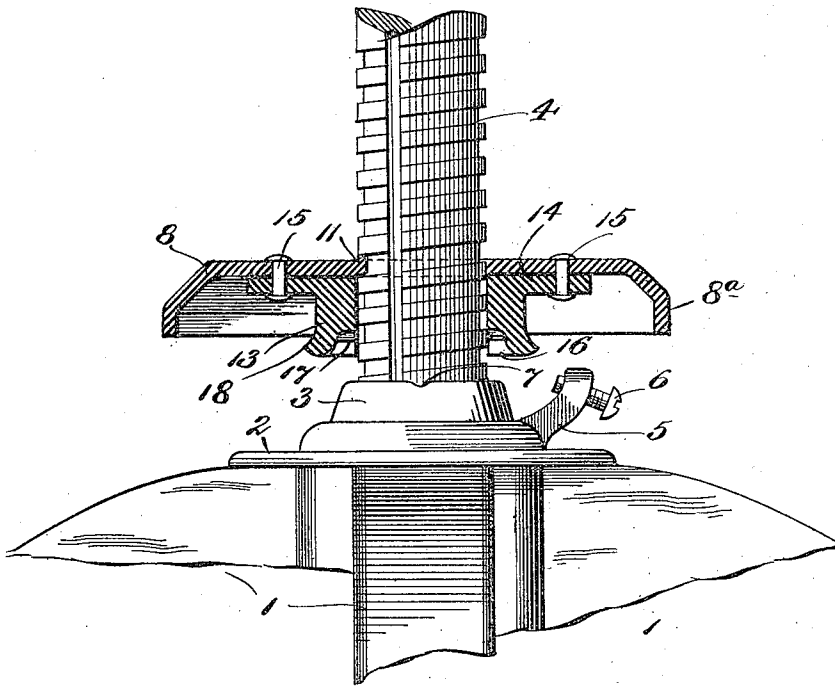
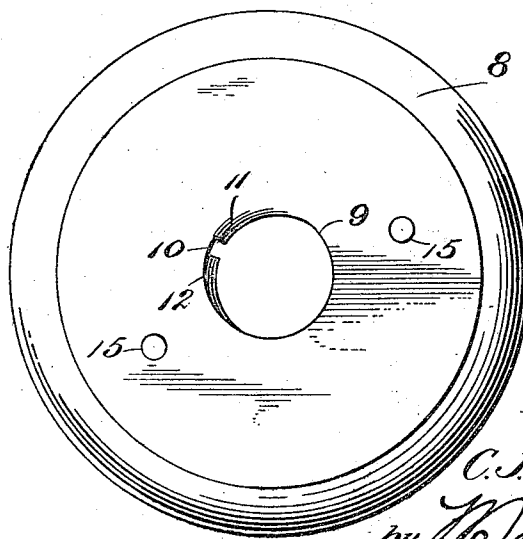


Fig. 2.



Inventor:

C. J. Travers,

by W. D. Duwall,
Attorney.

UNITED STATES PATENT OFFICE.

CHARLES J. TRAVERS, OF PORT WASHINGTON, WISCONSIN, ASSIGNOR TO GILSON MANUFACTURING CO., A CORPORATION OF WISCONSIN.

SHEET-METAL HAND-WHEEL FOR CHAIR ADJUSTMENTS, &c.

1,263,158.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES J. TRAVERS, a citizen of the United States, residing at Port Washington, county of Ozaukee, and State of Wisconsin, have invented a new and useful Sheet-Metal Hand-Wheel for Chair Adjustments, &c., of which the following is a specification.

This invention relates to improvements in hand-wheels and is primarily intended for use in connection with one of the conventional forms of adjustments for revolving and tilting chairs, though, as will hereinafter appear, the wheel may be used in other relations where it is desirable to use a hand-wheel upon a threaded shaft.

Heretofore, it has been usual to construct hand-wheels for numerous purposes (chair adjustments included) from cast metal, the thread for coöperating with that of the shaft or standard being cut therein at considerable expense, so that not only is the weight of the completed article augmented but also the cost as a result of the finishing necessary.

By my invention, I propose to reduce both the weight and the cost of manufacturing the hand-wheel, both of which I accomplish by forming the hand-wheel of sheet-metal of a gage to give it proper rigidity and shaping and stamping the aperture of the same, employed for the purpose of receiving the threaded shaft or standard, to produce fragments of a thread designed to and capable of coöperating with the threads of the latter.

Referring to the drawings—

Figure 1 illustrates in radial section a hand-wheel embodying my invention, the same being designed and adapted for use in connection with one of the many conventional forms of chair-adjustments, the latter being shown, in this instance, in side elevation and broken away at its lower portion to conserve space; and

Fig. 2 is a detail in plan of the improved hand-wheel.

Similar numerals of reference indicate similar parts in both figures of the drawing.

Merely for the purpose of illustrating one of the applications of my hand-wheel, I have shown the same in connection with one well-known type of chair-adjustment, wherein 1 designates the usual chair-legs or claws,

which are arranged about the usual metal hub, the upper flange 2, of which surmounts the upper sides of the legs or claws and are usually secured thereto by screws. On the upper side of the flange 2, at one side of its bore, is formed the short upwardly disposed lug 5, wherein is threaded a laterally disposed stop-screw 6. Within the bore of hub is located for vertical movement the usual adjusting-standard 4, at the upper end of which is carried the yoke (not shown) to which the stretcher and other component parts of the adjustment are attached. The standard 4, it will be understood, is longitudinally threaded, and is encircled by what is generally termed the "J-washer," designated as 3, the same having an internal spline for engaging with the longitudinal groove of the standard. The upper side of the J-washer is provided with a plurality of shallow radial recesses 7, in its upper side, the same being designed to removably engage with corresponding ribs formed in the underside of the hub of the hand-wheel. This is but the conventional form of one well-known type of chair adjustment and its operation is readily understood by those conversant with chair construction.

In the present instance, and in accordance with my invention, the hand-wheel 8, is formed of ordinary sheet-metal of suitable gage or thickness sufficient to give it rigidity, and it will be understood that it may have any external appearance or shape desired. In the present instance, the wheel is circular when viewed in plan and is concavo-convex in radial section, a surrounding depending flange 8^a, being employed so as to provide an effectual hand-hold or grasp. It will be apparent that this flange may be formed plain, as shown, or with protuberances after the fashion of the usual cast-metal wheel. At its center the wheel is provided with an aperture 9, of a diameter adapting it to receive and therefore approximate the threaded adjusting-standard 4, and at one side of said aperture the edge of the same is slit or notched radially, as at 10, thus forming at each side of the latter semi-tangent shaped flanges 11 and 12. The flange 11 is upwardly inclined to a point slightly above the upper surface of the hand-wheel, and the flange 12 is inclined downwardly a corresponding distance below the under surface

thereof, so that when the wheel is assembled upon the standard 4, the said flanges, forming, as will be seen, fragments of a thread, will embrace the thread of the standard at the upper and lower sides of the latter as well as fill the intermediate groove and thus cooperate with the standard in the same manner as if the thread in the wheel were continuously formed in the usual manner.

10 As the flanges 11 and 12 both embrace the thread and fill the intermediate groove, the hand-wheel is steadied in position.

In order to reinforce the wheel as well as help steady the same upon the shaft or standard, I employ in connection with the wheel a smoothly bored cast-metal hub 13, though the same may be of sheet-metal if preferred. This hub is provided with an attaching-flange 14, at its upper end which, by means of rivets 15, is secured to the underside of the hand-wheel. It is, furthermore, recessed on its underside, at 16, to receive the upper portion of the J-washer 3, and in the bottom of said recess, is provided with the shallow radial ribs 17, to removably engage with the corresponding recesses 7 of the J-washer when the said wheel is lowered to its operative position upon the washer. The exterior of the hub 13 is provided with an annular bead 18, and after the wheel has been lowered to position upon the washer, the stop-screw is rotated so that its inner end will engage the bead and thus prevent the hand-wheel from being elevated a distance more than sufficient to permit of a temporary disengagement of the recesses 7 and the ribs 17.

A hand-wheel constructed in accordance with my invention will be much lighter than one constructed of cast-metal, as is customary, and moreover is practically unbreakable. The doing away with the necessity of cutting the thread in the standard receiving aperture greatly reduces the labor of finishing, the semi-tangential flanges being readily stamped during the operation of forming the wheel.

Having described my invention, what I claim, is:

50 1. A hand-wheel for chair-adjustments and other purposes, the same being formed of sheet-metal and having an aperture adapted to receive a threaded standard, the edge of said aperture being disposed to form a rigid thread adapted to engage and cooperate with the thread of the standard.

2. A hand-wheel for chair-adjustments and other purposes, the same being formed of sheet-metal and having an aperture adapted to receive a threaded standard, the edge of said aperture being disposed to form a rigid fragment of a thread adapted to en-

gage and cooperate with that of the standard.

3. A hand-wheel for chair-adjustments and other purposes, the same being formed of sheet-metal and having an aperture adapted to receive a threaded standard, said aperture having at one side a rigid tangential inclined flange for engaging the thread of said shaft or standard.

4. A hand-wheel for chair-adjustments and other purposes, the same being formed of sheet-metal and having an aperture adapted to receive a threaded standard, said aperture having its edge slit and those portions of the edge lying at opposite sides of the slit bent in opposite directions to form rigid semi-tangential inclined flanges embracing the upper and lower edges of the thread of the shaft or standard.

5. A hand-wheel for chair adjustments and other purposes, the same being formed of sheet-metal and having an aperture adapted to receive a threaded standard, the edge of said aperture being disposed to form a rigid fragment of a thread cooperating with that of the standard, and a bored hub secured to the hand-wheel, and having a plain bore coaxial with the aperture of the hand-wheel and approximating the diameter of the standard.

6. A hand-wheel for chair-adjustment and other purposes, the same being formed of sheet-metal and having an aperture slit at one side and the metal thereof at opposite sides of the slit inclined in opposite directions to form upper and lower rigid semi-tangential flanges adapted to coact with and embrace the thread of an adjusting standard at opposite sides thereof, and a hub extending from the face of the hand-wheel and having a plain bore in line with the aperture in the hand-wheel and approximating the diameter of the standard.

7. The combination with a threaded standard, of a hand-wheel formed of sheet-metal and provided with an aperture approximating the diameter of the standard and receiving the same, said aperture having at one side a radial slit and the metal at each side thereof oppositely inclined to form rigid tangential flanges embracing the upper and lower sides of the thread of the standard and approximately agreeing in width with the groove of said standard, and a bored hub secured to the hand-wheel upon the underside thereof, the bore of said hub approximating the diameter of the standard and adapted to move thereover.

CHARLES J. TRAVERS.

Witnesses:

T. A. BOERNER,
H. W. BOLENS.