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J. L. ROBERTSON

CASTER FOR STOVES, ETC

Filed May 17, 1923

Fig. 1.

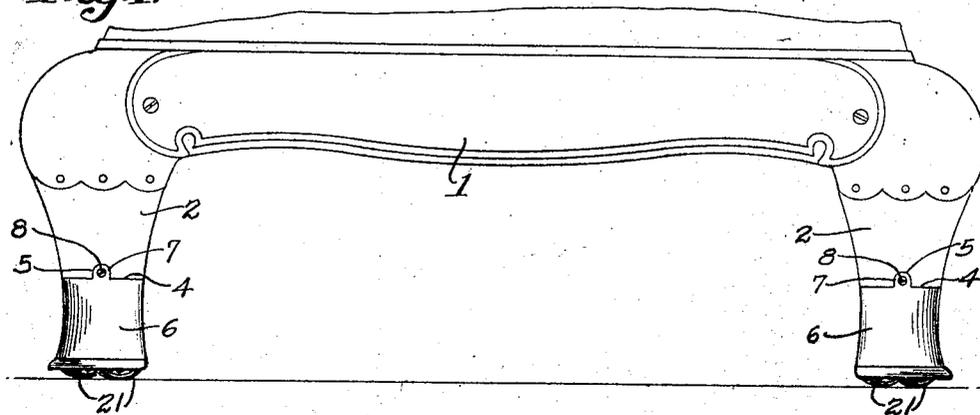


Fig. 2.

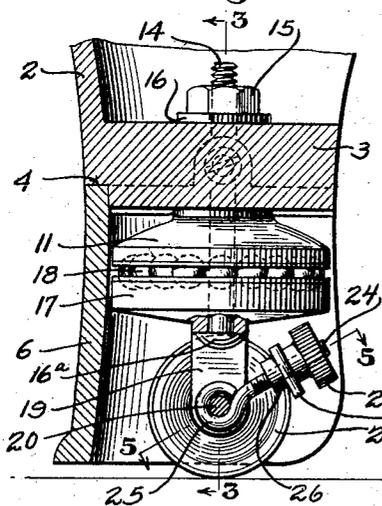


Fig. 3.

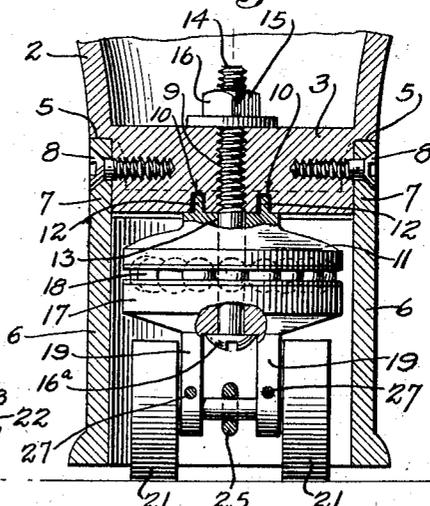
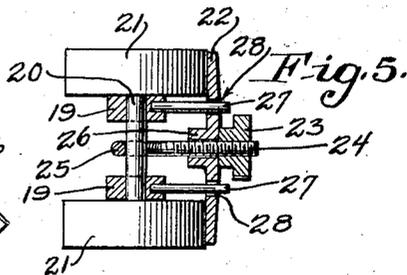
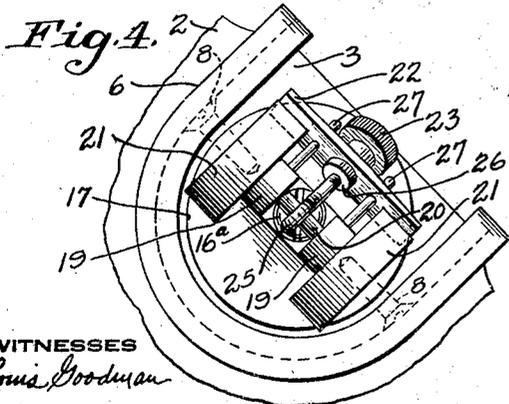


Fig. 4.



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# UNITED STATES PATENT OFFICE.

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CASTER FOR STOVES, ETC.

Application filed May 17, 1923. Serial No. 639,584.

*To all whom it may concern:*

Be it known that I, JAMES L. ROBERTSON, a citizen of the United States, residing at Oxford, in the county of Butler and State of Ohio, have invented a new and useful Improvement in Casters for Stoves, Etc., of which the following is a specification.

This invention relates to casters for stoves, safes or similar heavy bodies.

The object is to provide a caster especially adapted to be fitted within a stove leg of the ordinary design so as to be entirely hidden from view and mounted in a manner to support the entire weight of the stove and to permit its movement in any desired direction, anti-friction means being interposed which cause the caster wheels to trail automatically in any direction.

Another object is to provide means to lock the wheels from turning about their axes, so that when the proper location has been reached, the stove may not be accidentally moved from its position.

A final object is to provide a stove leg provided at its lower end with a caster having means for attachment to the lower end of the leg for concealing the said caster which, when removed, facilitates the assembling of the parts of the caster and which will readily permit the functioning of the parts as described.

A full and complete understanding of the invention may be obtained from a consideration of the following detailed description, taken in connection with the accompanying drawing forming a part of this specification; it being understood that while the drawing shows a practical form of the invention, the latter is not confined to strict conformity with the showing thereof, but may be changed or modified, so long as such changes or modifications mark no material departure from the salient features of the invention, as specifically pointed out in the appended claims.

In the drawing in which similar reference characters designate corresponding parts throughout the several figures:—

Figure 1 is a front elevation of the lower portion of an ordinary stove, or range, showing the same equipped with the improved leg and caster;

Figure 2 is a vertical sectional view through one of the legs and drawn on a larger scale;

Figure 3 is a similar view, taken on the line 3—3 of Fig. 2;

Figure 4 is an inverted plan view of the leg and caster contained therein;

Figure 5 is a detail sectional view, taken on the line 5—5 of Fig. 2.

Referring to the drawing, in Fig. 1 there is shown the base portion 1 of an ordinary stove, which may be indicative of any kind, shape or size of stove having the usual corner legs 2, either cast integrally therewith or bolted to the same, said legs being formed of cast metal and of hollow construction, the lower end of the same having a bottom wall 3 formed integrally therewith.

The leg is preferably U-shaped in cross-section, and the bottom wall 3 is provided around its lower, exterior edge with a marginal groove 4 having, on the opposite sides of the legs, extensions or countersinks 5, extending upwardly and provided at their centers with screw or bolt holes.

A U-shaped apron or cover-plate 6, is adapted to have its upper, free edge seated in the groove 4, and is provided with apertured ears 7 registering with and seated into the extensions or countersinks 5, and held therein by screws 8 which rigidly attach the plate 6 to the lower end of the leg proper.

The bottom wall 3 is provided with a central, screw-threaded aperture 9, at each side of which there is formed in the lower face of the bottom wall, a shallow socket 10, the entire structure, as thus far described, comprising the stove leg, the lower end of the cover plate extending to within a short distance of the floor and giving the appearance of an ordinary, continuous leg, it being understood that all four of the legs are constructed in this manner.

An upper, circular ball-race member or block 11 is fitted into the hollow portion of the apron or cover-plate 6, and is of a diameter to freely turn therein, the said block having its upper portion reduced and provided with spaced pins 12 adapted to be seated in the sockets 10, and having a central bore or aperture 13 for the reception of a pivotal bolt 14. The upper end of the bolt 14 is threaded upwardly into the aperture 9, and is prevented from turning therein by means of a nut 15 bearing upon an interposed washer 16 upon the upper face of the bottom wall 3.

Between the lower headed end 16<sup>a</sup> of the bolt and the lower face of the block 11, there is mounted on the bolt another, opposed ball-race member 17, the upper flat face of which, as well as the lower flat face of the member 11, are provided with ball races for antifriction balls 18.

The lower face of the block 17 carries spaced legs 19 at either side of the head 16 of the bolt, said legs extending downwardly and being provided with alined apertures for the reception of an axle 20, upon which are mounted, at the outer sides of the legs, caster wheels 21 adapted to bear upon the floor and carry the weight of the stove, the same being normally free to rotate about the axle and to turn about the axis of the bolt through the medium of the antifriction members.

When the stove is moved in any desired direction, the spaced caster wheels will all trail uniformly in the proper direction to facilitate such moving, and the engagement of the pins 12 of the upper ball member in the sockets 10 prevents the member 11 from turning and readily permits the wheels to turn about the bolt while supporting the weight of the stove.

When the stove has been located in the desired position, the wheels are prevented from turning on the axle 20 by means of a locking or clamping plate 22, the ends of which are in a position to bear upon the peripheries of the wheels, and to be clamped thereon by means of a thumb nut 23 bearing upon the central portion of the clamp plate, and having threaded connection with the outer portion of the shank of an eye-bolt 24, having an eye 25 surrounding the axle at the center of the same and between the legs 19. The plate has a central aperture for the passage of the eyebolt 24, and the same is strengthened by a boss 26 located on the inner face of the plate 22 and surrounding the aperture therein. The eyebolt is supported at an angle of substantially forty-five degrees by spaced pins 27 rigidly secured at their inner ends in the lower ends of the legs 19, as clearly shown in Fig. 5 of the drawing, and their outer ends freely slide through alined apertures 28 formed in the clamp plate to permit the latter to move inwardly or outwardly under the action of the thumb nut 23.

When the clamp nut is forced against the peripheries of the bearing wheels 21, it will be seen that the latter are prevented from rolling or turning about the axle 20, and when such clamping or locking action is desired, it is only necessary to turn the wheels about the axis of the vertical bolt 14 to bring the thumb nut 23 to the open, inner side of the stove leg, when the nut may be tightened or loosened as desired.

From the foregoing it will be seen that a simple, cheaply manufactured stove leg and caster for the same has been provided, which is entirely hidden from sight, and which may be readily applied in position and easily operated to move the stove to any desired position and to so lock the wheels against rotation as to provide a rigid support for the stove.

What is claimed is:

1. In combination with a rigidly mounted stove leg having at its lower end a bottom wall provided with a marginal groove with countersinks at intervals, a substantially U-shaped cover plate having its upper edge seated in the groove and provided with apertured ears fitted in the countersinks, screws passing through the apertures of the ears for holding the cover plate to the leg, and a caster arranged within the cover plate connected to said bottom wall.

2. In combination with a rigidly mounted stove leg having at its lower end a bottom wall provided with a central aperture, and spaced sockets at either side of the aperture, a stationary ball race member having spaced pins seated in said sockets, a caster connected to the stationary member and a screw bolt connecting the caster and stationary member to the bottom wall, said bolt passing through the aperture of the bottom wall and provided with a nut.

3. In combination with a rigidly mounted stove leg having at its lower end a bottom wall provided with an aperture, a ball race member arranged below the bottom wall, a caster carried by the ball race member, a substantially U-shaped cover plate connected to the bottom wall and partially surrounding the caster and ball race member, and means for securing the ball race member to the bottom wall.

4. In combination with a rigidly mounted stove leg having at its lower end a bottom wall provided with an aperture, and spaced sockets at either side of the same, ball race members, one of which has spaced pins fitting said sockets, a caster carried by said ball race members, a bolt connecting the ball race members together and passed through said aperture and held to the bottom wall by a nut, and a substantially U-shaped apron connected to the bottom wall and partially surrounding the ball race members and the caster.

5. A stove leg open on the inner side and having at its lower end a bottom wall, upper and lower ball race members located below the bottom wall, means for preventing the upper member from turning, anti-friction balls located between the members, a bolt for securing the members to said bottom wall to permit of the rotation of the lower member, the lower member having spaced

depending legs, an axle carrying caster wheels mounted in the lower ends of said legs and a cover plate substantially U-shaped in cross section and having means for attachment to the leg to conceal the caster.

5 6. In combination with an axle provided with a caster having a pair of wheels, an eye bolt fitted on the axle, a locking plate fitted on the shank of the eyebolt, means for supporting the eyebolt at an angle, and a nut engaged with the shank of the eyebolt and bearing upon the locking plate.

10 7. In combination with a caster having an axle carrying wheels at each end, an eyebolt having its eye surrounding the axle, a clamping plate fitting on the shank of the eyebolt and having spaced holes, a nut engaging the shank of the eyebolt and bearing against the clamping plate, and supporting

pins passed through the holes in the clamping plate. 20

8. In combination with a rotatable member having spaced depending legs, an axle carrying caster wheels mounted in the lower ends of said legs, pins extending from said legs beyond the peripheries of the caster wheels, a locking plate having apertures to receive said pins and a central aperture, the ends of the plate overriding the wheels, an eye-bolt engaged with the axle and extending through said central aperture, and a thumb nut threaded on the projecting end of the eye-bolt shank and adjustable to bind the plate to lock the wheels from rotation. 25 30

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature. 35

JAMES L. ROBERTSON.