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J. D. CONWAY
APPARATUS HAVING COMPOUND MOTION CARPET ENGAGING
MEANS FOR BEATING CARPETS OR RUGS
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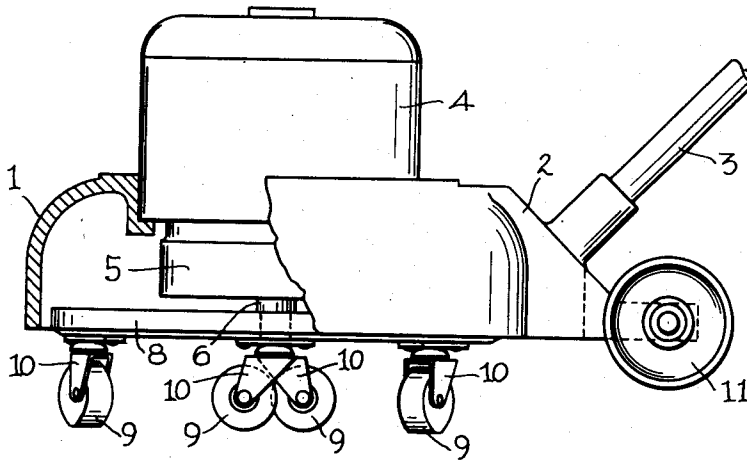


FIG. 1

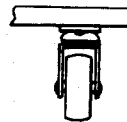


FIG. 3

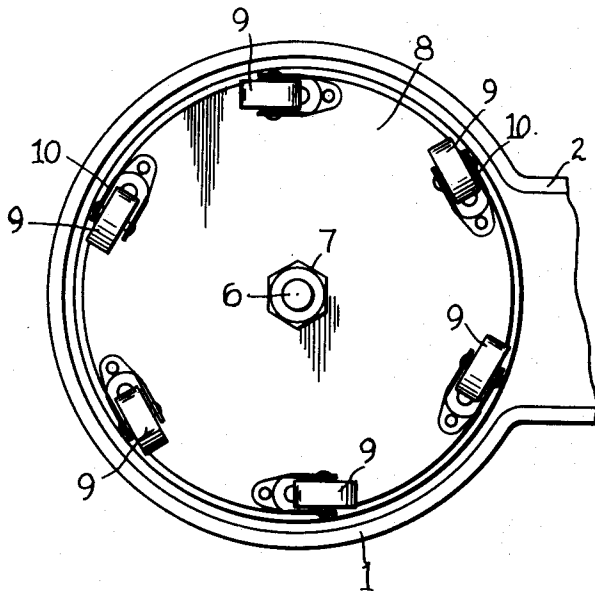


FIG. 2

INVENTOR.
JOSEPH D. CONWAY
BY
William Isler
ATTORNEY.

UNITED STATES PATENT OFFICE

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APPARATUS HAVING COMPOUND MOTION CARPET ENGAGING MEANS FOR BEATING CARPETS OR RUGS

Joseph D. Conway, Cleveland Heights, Ohio

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3 Claims. (Cl. 15-92)

1

This invention relates, as indicated, to apparatus for beating carpets or rugs.

A primary object of the invention is to provide an apparatus for beating carpets which does not require their removal from a horizontal or flat supporting surface, and which, therefore, eliminates a great deal of the effort and fatigue usually associated with such operations.

Another object of the invention is to provide apparatus which may be traversed over a carpet or rug in a horizontal position, and which is effective to impart a vibratory beating action to the carpet or rug, whereby dust and dirt are shaken out of the carpet or rug and find their way through the interstices of the rug to the floor or surface beneath the rug.

A further object of the invention is to provide apparatus of the character described, which is effective to produce a sustained, strong, uniform, and highly efficient beating action for the purpose described.

A still further object of the invention is to provide apparatus of the character described, which is of extremely simple and rugged construction, which is virtually foolproof, and which can be manufactured at fairly low cost.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings, forming a part of this specification, and in which like numerals are employed to designate like parts throughout the same,

Fig. 1 is a fragmentary side elevation of one form of apparatus embodying the invention, with portions thereof broken away in order to more clearly show certain features of the construction;

Fig. 2 is a bottom plan view of the apparatus shown in Fig. 1, and

Fig. 3 is a fragmentary view, showing a preferred form of caster wheel.

Referring more particularly to the drawings, there is illustrated, by way of example, one form of apparatus which may be used in carrying out the invention.

Such apparatus includes an annular hollow housing or casing 1 having a radial extension 2, to which handles 3 may be secured, these handles being adapted for manually propelling the apparatus over a carpet or rug which is to be beaten.

Mounted on the casing 1, centrally thereof, is an electrically driven motor 4, having a vertically extending shaft, which, through a reduction gear

2

unit 5 drives a vertical spindle or shaft 6. Removably secured to the shaft 6, as by a nut 7, is a disc or plate 8, which is adapted to be driven or rotated by the motor 4.

Secured to the lower surface of the disc or plate 8, adjacent the periphery of the disc, is a series of circumferentially-spaced swivel casters 9, the peripheries of these casters being preferably transversely rounded or crowned, as shown in Fig. 3, so as to facilitate movement thereof onto a carpet. The axes of rotation of the frames or brackets 10, in which the casters are mounted are offset vertically from the axes of rotation of the caster wheels, as is conventional in this type of caster. The casters are preferably of the ball bearing type, so as to facilitate rotation of the brackets 10 about their axes of rotation.

In the use of the apparatus, the rugs or carpets are removed from the floor and placed on a floor with the nap surface downward. The apparatus is then propelled over the rug or carpet and the motor 4 started. This imparts a rapid rotation to the disc 8, and thereby to the casters. As the casters rotate with the disc, they are also rotated to some extent about the axes of rotation of their brackets 10, this latter rotation being due principally to centrifugal movement of the casters caused by rotation of the disc. In any event, this conjoint or compound rotation causes a vibration of the whole apparatus, which vibration has a vertical component which is effective to impart a beating action to the carpet or rug. This beating action is continuous and does not interfere with movement of the apparatus over the rug or carpet, since the rollers 9 roll over the carpet, irrespective of their position in relation to the disc.

The theory as to what causes this vibratory or beating action is not fully understood, but the fact remains that the vibratory or beating action is fairly strong and constant, and is highly effective in beating the dust and dirt from the rug or carpet. The dust and dirt seep through the interstices of the rug or carpet and find their way to the floor, from which they may be removed after the carpet or rug has been lifted.

The number of casters employed may be varied, as well as their size and spacing. These variations give rise to some variations in the vibratory or beating action, but in all cases, the action has been found sufficient in intensity to remove substantially all of the loose dust and dirt from the carpet.

The extension 2 of the apparatus is preferably also provided with laterally spaced wheels

3

11, which are not used during the beating action, but may be used to assist in propelling or moving the apparatus at other times, as by tilting the apparatus rearwardly until the wheels 11 touch the ground and the casters 9 are clear of the ground.

It is to be understood that the form of my invention, herewith shown and described, is to be taken as a preferred example of the same, and that various changes in the shape, size and arrangement of parts may be resorted to, without departing from the spirit of my invention or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. In a carpet beating apparatus, the combination of a plurality of carpet-engaging means, each of said means being axially rotatable in a vertical plane, a driving element axially rotatable in a horizontal plane, and swivel means pivotally securing each of said carpet-engaging means circumferentially to said element for orbital movement about the axis of rotation of said swivel means, whereby each of said carpet-engaging means has a compound orbital movement about said swivel means and the axis of rotation of said element in response to carpet traversing movement of said element.

2. In a carpet beating apparatus, the combination of a roller supporting element axially rotatable about a vertical axis, a plurality of roller brackets rotatably secured to said element in circumferentially spaced relationship, each of said brackets being orbitally rotatable about an

4

individual vertical axis, and a carpet engaging roller rotatably secured to each of said brackets for axial rotation about a horizontal axis, whereby each roller has swinging movement relatively to an individual vertical axis in response to traversal of a carpet by said element.

3. In a carpet beating apparatus, the combination of a roller supporting element axially rotatable about a vertical axis, a plurality of roller brackets rotatably secured to said element in circumferentially spaced relationship, each of said brackets being pivotally movable about an individual vertical axis, and a carpet engaging roller secured to each of said brackets for axial rotation about a horizontal axis spaced from said individual vertical axis, whereby each of said rollers has a compound orbital movement about said two vertical axes in response to carpet traversing movement of said rollers.

JOSEPH D. CONWAY.

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