



# UNITED STATES PATENT OFFICE

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## WRINGER MOP

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1 Claim. (Cl. 15—119)

This invention relates to a wringer mop.

One object of the invention is to provide a mop having a wringing attachment so arranged that the pressure applied to the mopping material in the wringing operation increases progressively as the operation itself progresses from the attached end to the free end of the mopping material.

Another object of the invention is to provide a wringer mop structure in which the mopping material is attached to one of the wringer rolls and said roll is so formed that said material may be easily and conveniently attached thereto without danger of damage to the floor by the attaching means.

Another object of the invention is to provide a wringer mop structure which is of light construction and easily handled.

Another object of the invention is to provide a wringer mop structure in which the mop material is attached to one of the wringer rolls and said roll serves as a reservoir for a supply of water for the mopping operation.

Other objects of the invention and the full nature thereof will be apparent from the accompanying drawing and the following description and claim:

Fig. 1 is a perspective view of a wringer mop constructed in accordance with the invention. Fig. 2 is a sectional view of one end of one of the wringer rolls.

In the form of the invention shown in the drawing, there is provided a mop handle 10 which may be threaded in a socket 11, or otherwise attached to said socket. The socket 11 is formed on a yoke member 12 having a pair of parallel arms 13, in the lower end of which there is journaled a wringer roll 14. Said roll has secured thereto a crank 15 having a handle 16 by means of which the roll may be rotated. A second wringer roll 17 is mounted on suitable trunnions operating in slots 18 in the legs 13 of the yoke member. A frame 19, preferably formed of relatively heavy wire, engages the trunnions of the roll 17 and is secured thereto by trunnion screws 20. The wire frame 19 has a portion 21 loosely wrapped about the socket 11 and engaged by a compression spring 22 surrounding said socket. Said spring abuts against a washer 23 secured to the socket by a cotter pin 24. By means of this construction, the spring 22 presses the frame 19 and roller 17 downwardly and maintains the roller 17 in contact with the face of the roller 14. A keeper 25 is provided with a

coil spring portion 26 surrounding a part of the wire frame 19 and with a hooked portion 27 engaging the crank 15 to maintain the parts in the position shown in Fig. 1 while the device is in use as a mop. The keeper is provided with an upstanding portion 28 which may be pressed to the left in Fig. 1 against the action of the spring portion 26 to free the crank from the keeper.

The wringer roll 14 is formed with a spiral cross section having a substantially radial face 29 connecting the inner portion 30 and the outer portion 31 of the spiral. Mop material 32, which may be either cord or fabric, is secured to the radial face 29 in any suitable manner.

The roll 14 is preferably hollow in construction and may be formed of sheet metal as shown in Fig. 2. In the form shown in that figure there is provided an opening 33 which is closed by a ring 34 welded thereto and provided with a threaded opening in turn closed by a plug 35. The plug 35 may be removed for filling the roll with water. In the radial face 29 there are provided a plurality of small apertures 36 through which the water may escape for wetting the mopping material 32.

In the use of the device as a mop the parts are held in the position shown in Fig. 1 by the keeper 25. When applied to the floor the inner portion 30 of the spiral face of the roller 14 rests on the mop material. The point of attachment of the mop material to the roll is protected against contact with the floor by the shaping of the radial face 29. Whatever fastening means are used to attach the mop material does not come in contact with the floor. Damage to the floor due to scratching by such fastening means is thereby prevented.

When the mop is to be wrung out, the keeper 25 is operated to free the crank 15 and the crank is turned in the direction of the arrow in Fig. 1. In this movement the portion of the mop material adjacent its point of attachment is first engaged between the rollers and this portion rides on the inner part 30 of the spiral surface. As the turning of the roll progresses, the shape of the spiral is such that the roll 17 is forced upwardly against the pressure of the spring 22 and the consequent compression of the spring increases the pressure. The mop material 32 has a length substantially equal to or slightly less than the spiral perimeter of the roll 14 so that the free end of the mop material rides on the outer portion 31 of the spiral surface as it passes between the rolls.

At this point the pressure of the spring 22 is a maximum and at this point also there is the greatest accumulation of water to be wrung out and the greatest amount of dirt in the mop material to be washed out by the water. Thus, the construction provides for maximum wringing pressure at the point where it is most needed whereas in other portions of the wringing operation a less pressure is applied. In that portion where the maximum pressure is not needed the crank 15 is comparatively easy to turn and the maximum resistance to turning only occurs where maximum pressure is required.

The invention has been described in one of its preferred forms, the details of which may be

varied without departing from the scope thereof as defined by the appended claim.

The invention claimed is:

5 In a wringer mop, a roller of spiral cross section having a radially extending face joining inner and outer portions of the spiral, mopping material secured to said radial face, a second roller yieldingly engaging said first roller, and means for rotating said first roller to pass said 10 mop material between said rollers, said spiral roller being hollow and adapted to contain a supply of water, and said radial face having orifices for delivery of said water to said mopping material.

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