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2,822,559

BRUSH LOCK

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2 Claims. (Cl. 15—128)

This invention relates to a brush lock particularly adapted for locking a brush member to an operating spray head mounted on the handle of a dishwashing device.

In dishwashing devices of the type disclosed in my Letters Patent No. 2,652,850, sudsy water or clear rinse water is discharged through a flexible hose, operating handle and spray head for washing and rinsing dishes in conjunction with a brush secured to the head. Ordinarily such a brush is formed with an annular body from which the bristles of the brush extend in angularly disposed and annular formation, the body being provided with a pair of opposed lugs adapted to lock in the head of the brush holder through a bayonet lock arrangement so that a twist of the brush body in one direction interlocks it with the holder and a twist in the opposite direction frees it therefrom. However, in the usual bayonet lock arrangement difficulty has been experienced in retaining the brush on the holder during the cleansing of dishes generally through a circular motion. Such circular motion is apt to rotate the brush relative to the head until the lugs are freed from the bayonet slot.

It is, therefore, the purpose of this invention to provide a bayonet type of lock which will permit locking and removal of the brush in the same manner as heretofore but which will effect a securing grip on the lugs to prevent angular displacement or relative rotation to a position for their release unless and until releasing force is applied.

To this end the invention contemplates a locking device for such a brush member wherein the brush holder is provided with the usual locking collar for receiving the lugs of the member through suitable gaps formed therein in the usual manner, but wherein there is provided a pair of peripherally disposed depressible spring locking tongues separated by slots from the locking collar to permit of spring action thereof, and each provided with a free floating camming end followed by a retaining lip terminating in a depressed retaining pocket. By means of this structure, upon the brush body being axially disposed over and in telescoping relation with the locking collar of the holder, the lugs on the brush body are free to pass through the gaps into alignment with the locking tongues. A twist of the body in the proper direction will then cause the lugs to engage the camming end faces of the tongues camming them inwardly until the lugs ride over the spring retaining lip and seat themselves in the retaining pockets. The brush body is then locked in operative position against removal until it is rotated in the opposite direction with sufficient force to depress the spring tongues to permit the lugs to ride out of the retaining pockets and over said tongues into the gaps.

The full nature of the invention will be understood from the accompanying drawings and the following description and claims:

Fig. 1 is a plan view of the brush body locked in position on the brush holder with portions of the bristles removed.

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Fig. 2 is a side elevation of the structure shown in Fig. 1.

Fig. 3 is a plan view of the brush holder.

Fig. 4 is a central vertical section through the brush holder with a portion of the locking collar in elevation.

Fig. 5 is a section taken on the line 5—5 of Fig. 4.

In the drawings there is shown a spray brush such as used in connection with dishwashing devices mounted for manipulation by a handle 10 through which sudsy or rinsing water may be discharged through the brush. Said handle terminates in a brush holder including a head portion 11 screw threaded onto the handle and terminating in a reduced annular locking collar 12. The brush includes a brush body or member 13 to be removably secured to the brush holder 11 by telescopically mounting it over the locking collar 12 and giving it a twist or partial rotation thereon. Said brush further includes the usual outwardly flared annular series of bristles 14 and a pair of oppositely disposed lugs 15 extending radially inwardly from the inner surface of the annular brush body.

The locking device for the brush body or member 13 is formed on the locking collar 12. Said collar is provided with a pair of oppositely disposed lug receiving gaps 16 through which the lugs are free to pass in slipping the brush body on the holder. Inwardly of the forward edge of the locking collar and spaced therefrom there is provided a pair of depressible spring locking tongues, the inner ends of which are integral with the locking collar and the outer free floating ends of which extend adjacent said gaps 16. The side edges of the locking tongue are separated from the collar by the lanced slots 17, 18 to permit flexing of the respective tongues relative to said collar.

Each of said tongues has its free floating end formed with a camming face 19 followed by an outwardly bowed hump or retaining lip 20. Said lip terminates in a depressed retaining pocket or offset bend 21.

In locking the brush on the holder the annular body thereof is telescoped inwardly thereover with the lugs 15 moving axially through the gaps 16 until they become aligned with the locking tongues. Thereupon, through twisting or partial rotation of the brush body clockwise as in Fig. 1 or counterclockwise as in Figs. 3 and 5, the lugs engage the camming surface 19 of said tongues, camming the tongues inwardly to permit the lugs to ride over the retaining lips 20 when depressed thereby. Continued movement causes the lugs to pass into the retaining pockets 21 permitting the spring tongues to return to normal position. The brush body will thereupon be locked in operative position until and unless sufficient force is applied to twist it in the opposite direction with the cams riding back over the lips 20 into the gap 16. By reason of this structure the brush may be readily twisted and removed by a reasonable amount of force applied thereto and it cannot escape from its locked position through ordinary manipulation.

The invention claimed is:

1. A locking device for two tubular members to be removably telescoped together, one member having an integral inwardly and radially extending rigid lug, the other member including a locking collar over which said one member is adapted to be telescoped, said collar having a lug-receiving gap extending axially inwardly from the receiving end thereof, said collar being peripherally lanced along spaced parallel lines from near the bottom of said gap to form a peripherally disposed depressible spring locking tongue integral with said collar, said tongue having intermediate its ends a radial offset bend to yieldingly interlock with said lug upon relative angular displacement therebetween.

2. A dishwashing spray head adapted to detachably

receive an annular brush body with a radially inwardly extending locking lug, said head comprising a tubular metal collar adapted to telescope into the annular brush body to be attached, said collar having an axially extending gap to receive said lug, said collar being circumferentially lanced to form a tongue integrally joined at one end to the collar and terminating at the other end adjacent said gap, said tongue having an offset bend intermediate its ends to yieldably receive said lug and retard rotational movement of said lug along said tongue.

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