This invention relates to an agitator device and more particularly to an agitator for cleaning and drying paint brushes and for agitating a liquid medium.

It is an object of the present invention to provide a hand operated agitator mechanism having means for effecting the rotational and longitudinal movement of a paint brush within a liquid solvent, whereby the paint brush may be cleaned without damage thereof.

It is another object of the present invention to provide a manually operated agitator mechanism having removable attachment devices for cleaning paint brushes and for mixing a liquid solution, which device includes a longitudinal agitator rod that is mounted for rotational movement and for reciprocating movement in a longitudinal direction.

Other objects of the invention are to provide a manually operated agitator bearing the above objects in mind which is of simple construction, has a minimum number of parts, is inexpensive to manufacture and efficient in operation.

For other objects and for a better understanding of the invention, reference may be had to the following detailed description taken in connection with the accompanying drawings, in which:

Figure 1 is a perspective view of a preferred embodiment of the present invention shown in operative use for cleaning a paint brush and showing, in phantom lines, an inoperative position thereof.

Figure 2 is a top plan view of the device shown in Figure 1;

Figure 3 is an enlarged cross sectional view taken along line 3—3 of Figure 1;

Figure 4 is a view similar to Figure 1, showing a modified form of adaptor for use with the present invention;

Figure 5 is a transverse cross sectional view taken along line 5—5 of Figure 4; and

Figure 6 is a view similar to Figure 1, showing a further modified form of adaptor for use with the present invention.

Referring now more in detail to the drawing, and more particularly to Figures 1 to 3 thereof, a manually operated agitating device made in accordance with the present invention is shown to include a cylindrical housing 10 that has a stationary lower compartment 12 and an upper, pivotal section 13 that is mounted for pivotal movement relative to the stationary compartment 12, such as by a hinge 14. The upper section has a downwardly depending enlarged peripheral flange 15 that is adapted to overlie the upper edge of the stationary compartment 12 so as to define a liquid tight seal therewith.

The top wall 17 of the housing provides a support for a stationary bearing 18 to which a bevel gear 20 is rotatably secured for rotation in a plane parallel to the top wall 17. An agitating rod 22 extends downwardly through aligned bores 23 in the bearing 18 and top wall 17 and has a keyed section at its upper extremity that is in rotational engagement with the bearing 18 and secured for rotation with the bevel gear 20 that is provided with a keyway 24 which slidesably engages with the rod 22. The outer end of the rod 22 is provided with a ball 26 that is received within the open side of a coupling 27 for universal movement therewith. This coupling 27 is rotatably mounted upon a pivot pin 28 that is secured to the web 30 of a sector gear 31 that has teeth 32 in meshing engagement with the teeth 21 of the first bevel gear 20. This second bevel gear 31 is secured to a horizontal shaft 33 that is supported for rotation in spaced bearings 34, 35, extending upwardly from a base 36 that is secured to the top wall 17 of the housing. A crank handle 38 secured to the outer extremity of the shaft 33 provides means for effecting reciprocating rotation of the bevel gear 31 in the direction of the arrows shown in Figure 3.

It will thus be recognized, that by effecting reciprocating or continuous rotation of the handle 38, the bevel gear 31 is adapted to effect rotation of the bevel gear 20 and the rod 22 that is secured for rotation therewith. Simultaneously, the eccentrically mounted coupling 27 effects the reciprocating longitudinal movement of the rod 22 so that the rod is both rotated and longitudinally reciprocated by the actuation of the handle 38.

As shown in Figure 1, a ferrule 40 is removable secured, such as by a thumb screw 41, to the lower end of the rod 22. The outer end of the ferrule is provided with a thumb screw 43 that is adapted to releasably engage with the handle 44 of a paint brush 45 that is intended to be cleaned by the aforementioned agitation in a solvent 46 confined within the lower compartment 12 of the housing.

In Figures 4 and 5, a liquid mixing or agitating device 47 is shown to have a plurality of radially outwardly extending blades 48 secured to a ferrule 50 that is removable secured to the rod 22 by a thumb screw 51. The blades are provided with spaced openings 49 that are adapted to facilitate the agitation of a liquid 53 contained within the compartment 12.

In Figure 6, a still further modified form of the present invention is shown wherein a combination liquid agitator and brush cleaner 55 is shown to have a plurality of radially outwardly extending blades 56 secured to the mid-portion of a ferrule 59. One end of the ferrule is provided with a sleeve 55 that has a thumb screw 60 for removably securing the ferrule to the inner end of the rod 22. The outer end of the ferrule is similarly provided with a thumb screw 69 that is adapted to removably secure the handle 62 of a brush 63 thereto for movement within a liquid solvent 65 contained within the housing 12.

As shown in Figure 1, the housing may be opened by rotating the upper half 13 of the housing in an open position 13a, whereby access may be had to all of the interior parts.

While various changes may be made in the detail construction, it shall be understood that such changes shall be within the spirit and scope of the present invention as defined by the appended claims.

What I claim as new and desire to protect by Letters Patent of the United States is:

1. In a paint brush cleaning machine, an agitator mechanism comprising, in combination, a liquid tight housing having a top wall, a motion transmitting rod having one end extending within said top wall and the other end outside of said housing, motion producing means carried by said top wall connected to said one end of said rod for rotating and longitudinally reciprocating said rod, said motion producing means comprising a first bevel gear rotatably supported upon said top wall for rotation in a plane parallel to said top wall and having a central key way, said one end of said rod comprising a keyed shaft slid-
ably received within said key way, operating means for effecting rotation of said gear, and eccentric means for effecting reciprocating longitudinal movement of said rod, said operating means comprising a second bevel gear supported by said top wall for rotation about an axis perpendicular to the axis of rotation of said first bevel gear and in driving meshing engagement with said first bevel gear, a crank handle connected to said second bevel gear for effecting rotation thereof, said eccentric means comprising a coupling having one end secured to said one end of said rod, the opposite end of said coupling being pivotally and eccentrically secured to said second bevel gear, and said one end of said coupling defining a universal connection with said one end of said rod.

2. The combination according to claim 1, and a ferrule removably secured to the opposite end of said rod within said housing, said ferrule having releasable means for supporting a paint brush for movement with said rod.

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