

Sept. 23, 1924.

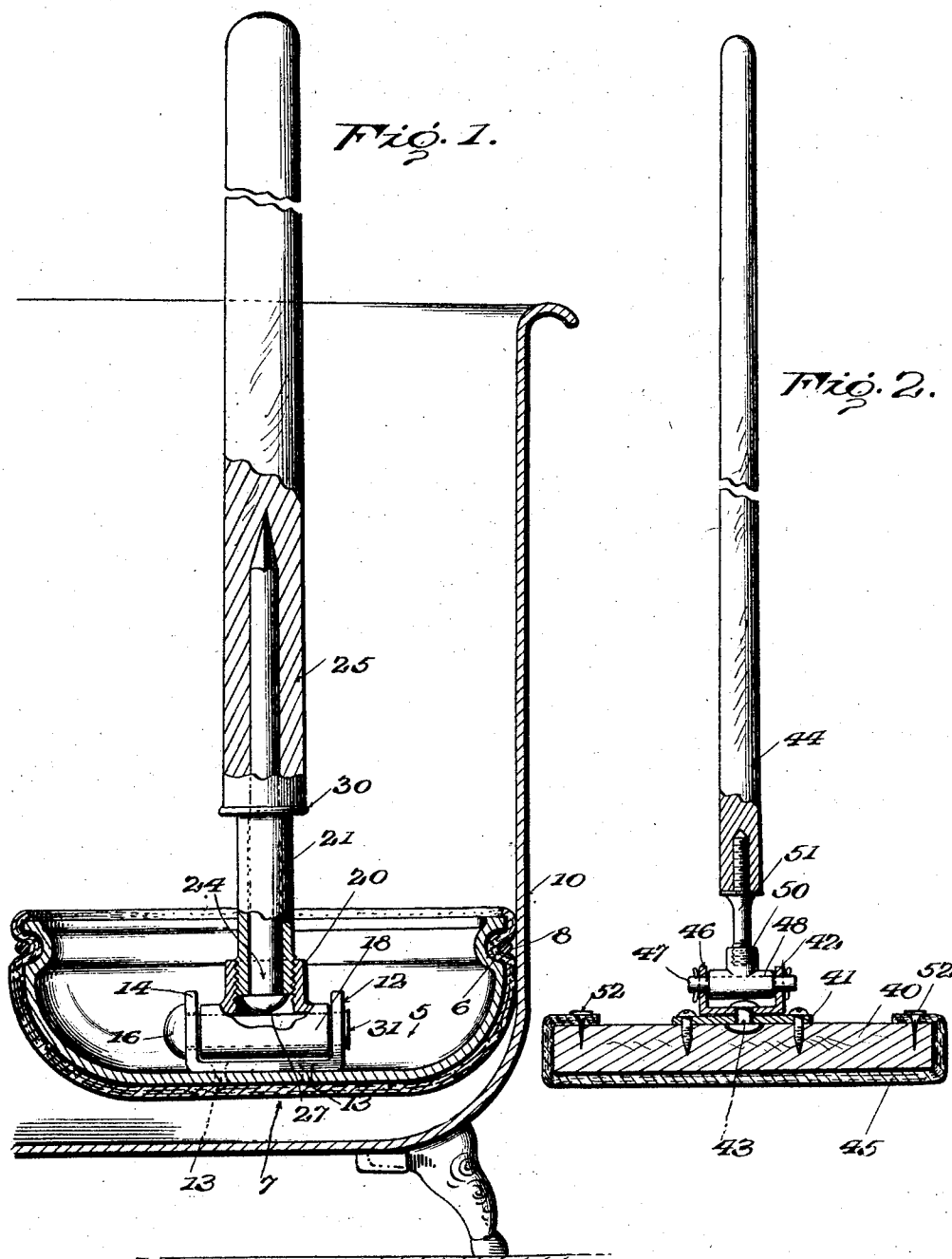
G. G. TOWNSEND

1,509,381

CLEANING DEVICE

Filed March 31, 1922

2 Sheets-Sheet 1



WITNESSES

W. A. Williams.

J. G. Jurscha.

INVENTOR

G. G. Townsend.

BY

M. H. Keo.

ATTORNEYS

Sept. 23, 1924.

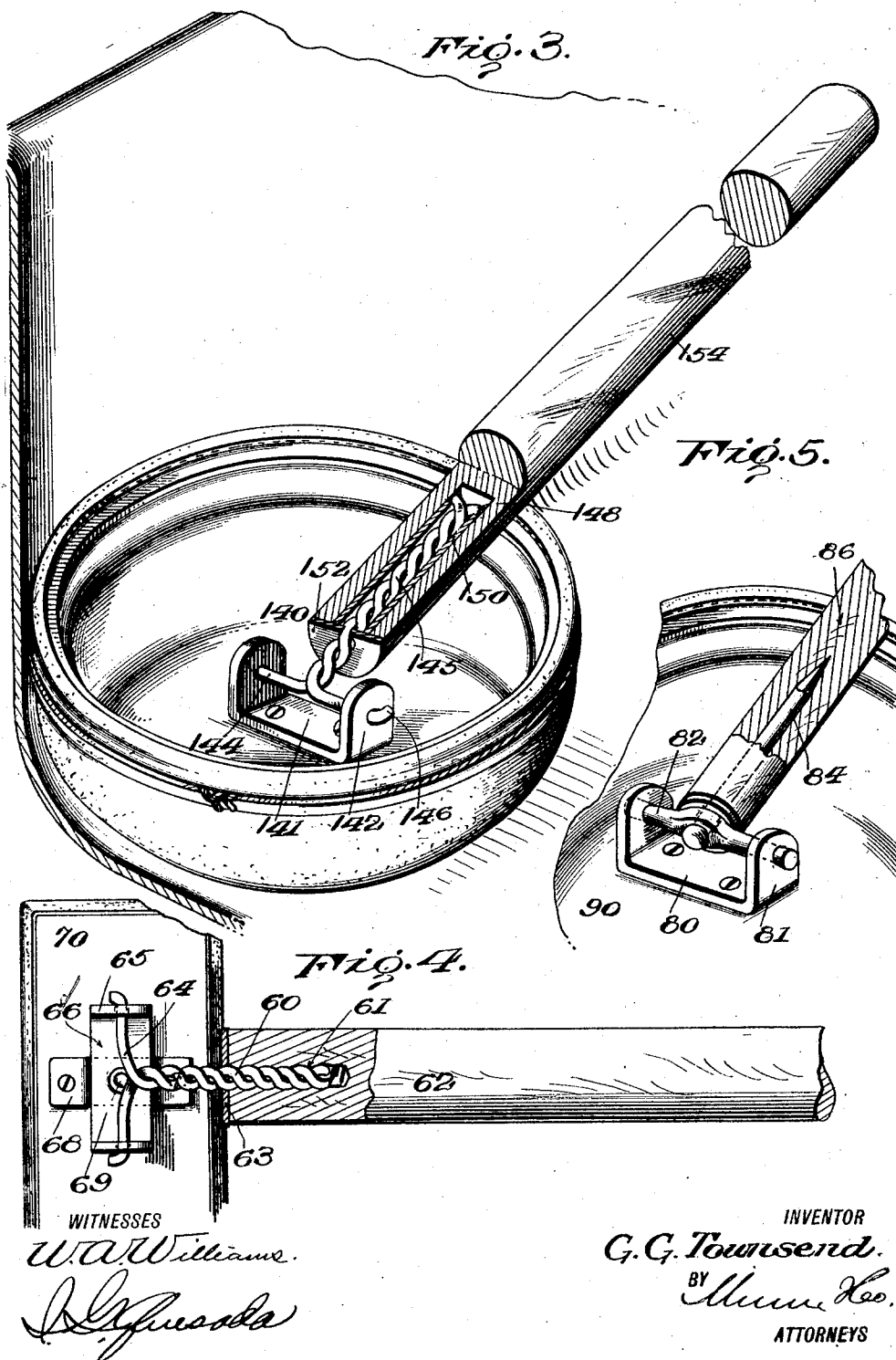
G. G. TOWNSEND

1,509,381

CLEANING DEVICE

Filed March 31, 1923

2 Sheets-Sheet 2



UNITED STATES PATENT OFFICE.

GEORGE G. TOWNSEND, OF FROSTBURG, MARYLAND.

CLEANING DEVICE.

Application filed March 31, 1922. Serial No. 548,356.

To all whom it may concern:

Be it known that I, GEORGE G. TOWNSEND, a resident of Frostburg, in the county of Allegany and State of Maryland, have invented certain new and useful Improvements in Cleaning Devices, of which the following is a specification.

This invention relates to cleaning devices especially adapted for cleaning the interior of bath tubs and for cleaning flat surfaces such as windows, walls and ceilings.

Briefly stated an important object of this invention is to provide a cleaning device having novel means whereby the brush or cleaning head may partake of pivotal movement about a horizontal axis to conform to the surface being cleaned.

Further the invention aims to provide a cleaning device having novel means whereby the cleaning element may be rotated about the longitudinal axis of the handle while the handle remains relatively stationary.

Another object is to provide a cleaning device having a high degree of stability due to the fact that the handle is connected to the head at a point below the center of gravity whereby the cleaning head will not tilt when pressure is applied to the same.

A further aim of the invention is to provide a cleaning device having simple means whereby a cleaning element such as a rag, a brush, a rubber scraping device or the like may be readily and conveniently connected to the cleaning head.

A further object is to provide a cleaning device which may be quickly assembled, is durable in use and is cheap to manufacture.

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

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

Figure 1 is a vertical sectional view through the improved cleaning device in use.

Figure 2 is a vertical sectional view through a modified form of the invention, the handle being shown partly in elevation.

Figure 3 is a fragmentary perspective of a further modification of the invention, parts being shown in section.

Figure 4 is a fragmentary plan view of a modification of the invention, the handle being shown partly in section.

Figure 5 is a fragmentary perspective of a slightly modified form of the invention, parts being shown in section.

In the drawing wherein for the purpose of illustration is shown a preferred embodiment of the invention the numeral 5 generally designates a semi-bulbous shaped body having its rear portion formed with a continuous groove 6 into which the edge portion of a cleaning element 7 is extended. A tying or retaining element 8 in the nature of a piece of string or wire is passed about the edge portion of the cleaning element and serves to secure the edge portion of the cleaning element in the groove 6 so that the displacement or loss of the cleaning element is positively prevented. It will be observed that the cleaning element 7 is extended over the entire exterior surface of the head 5 and thereby prevents the body from scratching or marring the tub 10 into which it is extended. While the invention is shown in connection with a bath tub 10 it is obvious that the device may be used for any purpose such as cleaning large or small receptacles of various natures.

As illustrated in Figure 1 the bottom or lower wall of the semi-bulbous body or head is provided with a U-shaped attaching member 12 having a bight portion secured flatly in contact with the bottom wall of the head by means of fastening devices 13 in the nature of rivets, screws or the like. The U-shaped body 12 is provided with spaced parallel apertured ears 14 which receive a pivot bolt 16. The pivot bolt 16 is extended through the aligned branches of a coupling member 18 and serves as a means for rotatably connecting the coupling member to the U-shaped attaching member 12.

The coupling member 18 is of T-shaped formation and is provided with a branch 20 interiorly screw threaded for the reception of a nipple or sleeve 21. The sleeve 21 is threaded into the branch 20 and receives a fastening element 24 in the nature of a nail, a screw or the like, the said fastening element 24 being driven into the forward end of the handle 25. The head 27 of the fastening pin 24 contacts with the lower end of the sleeve 21 and serves to prevent the handle from being disconnected with the sleeve. It will be observed that the handle 25 is not necessarily rotated during the rotation of the head 5 as the sleeve 21 has rotatable connection with the handle 25.

tion with the attaching pin 24. This permits the device to rotate to conform to the curvature of the surface to be cleaned without in any way turning the handle.

5 It is thus seen that in the use of the device the head 5 may rock about the axis of of the pivot bolt 16 so as to flatly contact with the surface being cleaned and the head 5 may rotate about the longitudinal
10 axis of the handle 25, to permit the operator to thoroughly clean the surface without the necessity of bending or stooping, thus giving in effect a universal joint connection between handle and head.

15 In carrying out the invention, a washer 30 is interposed between the forward end of the handle and the rear end of the sleeve 21 and prevents the sleeve from being driven into the forward end of the handle. Also
20 one end of the pivot bolt 16 may be flattened as indicated at 31 so that its withdrawal is positively prevented.

In manufacture the cleaning head 5 and the other parts of the device may be made
25 from any desired material and any suitable cleaning element may be employed. In fact a number of cleaning elements of different types may be provided for use in connection with the head 5 as the original cleaning
30 element may be conveniently detached by simply removing the tying element 8. Any cleansing substance may be used, such as soap in cake, liquid or powdered form.

It will be observed with reference to Fig.
35 1 that the U-shaped attaching portion 12 is secured to the hollow head 5 at a point spaced substantially below the center of gravity so as to insure the stability of the device. That is to say in the use of the
40 device the head is not likely to turn about the axis of the pivot bolt 16 to an extent sufficient to cause the head to turn over. It will be seen that pressure on the head will cause the cleaning element to bear flatly in
45 contact with the inner side of the tub or other receptacle being cleaned and tipping of the head is positively prevented.

In the form of the invention illustrated in Fig. 2 the cleaning head is designated by
50 the numeral 40 and is provided with a base plate 41 to which the U-shaped attaching member 42 is connected by means of a pivot element 43. The pivot element 43 permits the U-shaped attaching member 42 to partake of
55 pivotal movement with relation to the cleaning head 40 whereby to permit the head to rotate with relation to the handle 44.

The head 40 is provided with a cleaning element 45 of any desired type and of any
60 desired shape. The head 40 is also of any desired shape and may be formed from any desired material such as wood, steel or the like.

The U-shaped attaching member 42 has its
65 bight portion secured flatly in contact with

the base plate 41 by means of a pivot element 43 and the U-shaped member is provided with apertured ears 46 through which a pivot element 47 is extended, the said pivot element also being extended through the
70 aligned branches of a T-shaped coupling 48. Said T-shaped coupling 48 is provided with a lateral branch 50 to which the spindle 51 is connected. It will be seen, that the spindle 51 is extended into the forward end
75 of the handle 44 and serves as a convenient means for connecting the head to the handle, the turning movement in this form of the device taking place about the pivot 43 which is below the pivot 47. This gives a
80 better movement for flat surfaces than the arrangement shown in Figure 1.

In this form of the invention also the head may partake of rotation with relation to the handle and may partake of a rocking
85 motion with relation to the handle so that the cleaning element may readily adjust itself to any irregularity on the surface being cleaned.

However, in the form of the invention
90 illustrated in Figure 2 the U-shaped member to which the T-coupling is connected is mounted on the top of the head 40 and the width of the head is sufficient to retain the head flatly in contact with the surface being
95 cleaned.

Figure 3 illustrates a still further modification of the invention and in this figure the head which may be of any desired construction is indicated by the numeral 140. The
100 head 140 is provided with a U-shaped attaching member 141 having upstanding ears 142 to which the laterally projecting arms 144 of a spindle 145 are connected. The terminal portions of the arms 144 are extended
105 through the ears 142 and are then bent laterally to provide retaining members 146.

In carrying out the invention the spindle 145 is formed from two pieces of suitably
110 stout wire twisted together to provide the desired strength and the forward terminal portions of the two lengths are extended laterally to provide the arms 144. The rear portions of the lengths of wire from
115 which the spindle is formed are extended laterally to provide anchoring members 148 which rotatably contact with the rear of a tubular member 150 through which the spindle is extended. In carrying out the invention the spindle 145 is rotatably extended
120 through the tubular member 150 and the laterally directed terminal portions 148 of the several lengths of wire form a means for preventing the accidental withdrawal of the spindle. A disk 152 may be
125 soldered or otherwise secured on the forward portion of the spindle and rotatably contacts with the forward end of the handle 154.
130

In the operation of this form of the invention the handle has rotatable connection with the spindle so that the head may turn as the occasion requires. Furthermore, the head may revolve about a horizontal axis since the laterally projecting arms 144 are rotatably connected to the ears 142.

Figure 4 illustrates a further modification of the invention wherein the spindle 60 is screwed fast into a socket 61 in the forward portion of the handle 62. A washer or disk 63 is soldered or otherwise secured on the intermediate portion of the spindle 60. In carrying out this form of the invention several pieces of stout wire are twisted together and the forward terminal portions of the same are extended laterally to provide arms 64 which are rotatably connected to the ears 65 of a U-shaped attaching member 66.

The U-shaped attaching member has its bight portion connected to an attaching plate 68 through the medium of a pivot pin 69 so that the U-shaped member 66 may rotate about the head 70 to which the plate 68 is connected.

In carrying out the forms of the device illustrated in Figures 3 and 4, the twisted pieces of wire may be soldered together for the purpose of strengthening the construction and these forms of the invention may be manufactured at an extremely low cost.

In the form of the invention illustrated in Figure 5 the U-shaped attaching member is designated by the numeral 80 and is provided with upstanding apertured ears 81 through which the end portions of a pivot bar or rod 82 are rotatably extended. The intermediate portion of this pivot rod 82 is enlarged and is apertured to rotatably receive a spindle 84 of any desired construction and which is driven into the forward end of the handle 86. As the spindle 84 is rotatably connected to the transversely extending pivot rod 82 the handle 86 may be freely rotated and the rod 82 may partake of movement about a horizontal axis

when it is desired to rock the handle. It is thus seen that a universal connection is provided between the handle and the cleaning head 90 which permits the cleaning head to readily adjust itself to the object being cleaned.

As illustrated the cleaning head 90 is of semi-bulbous formation and the U-shaped attaching member is secured to the same at a point substantially below the center of gravity so that the device may be expeditiously used and prevented from accidental tipping. In this connection it will be noted that the head 90 is of the same formation as the heads 5 and 140.

The foregoing description illustrates that the inventive idea involved in this application is capable of a variety of mechanical expressions and it is therefore to be understood that the forms of the invention herewith shown and described are to be taken as preferred examples of the same and that such minor changes in the arrangement and construction of parts may be made as will remain within the spirit of the invention and the scope of what is claimed.

Having thus described the invention, what I claim is:—

1. A cleaning device comprising a U-shaped attaching member having ears, a pivot rod having its ends rotatably connected to said ears, a spindle rotatably extended through the intermediate portion of said rod, and a handle connected to said spindle.

2. A cleaning device for use in bath tubs and the like comprising a head, an attaching member secured to the head and provided with a pair of ears, a pivot rod having its ends rotatably connected to said ears, a spindle rotatably extended through the intermediate portion of said rod, and a handle connected to said spindle, the connection between the attaching member, the rod and the spindle providing a universal connection between the handle and the head.

GEORGE G. TOWNSEND.