No. 876,540. PATENTED JAN. 14, 1908.

R. T. GILLESPIE.

CLEANING BRUSH.

APPLICATION FILED OCT. 26, 1906.

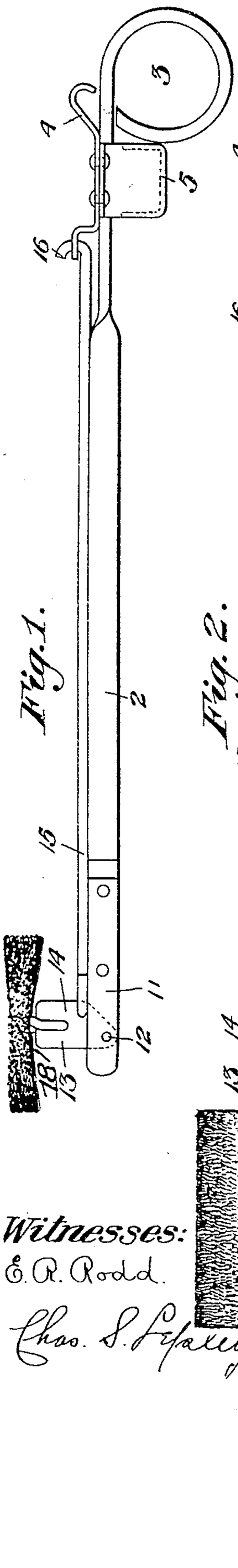

Fig. 1.

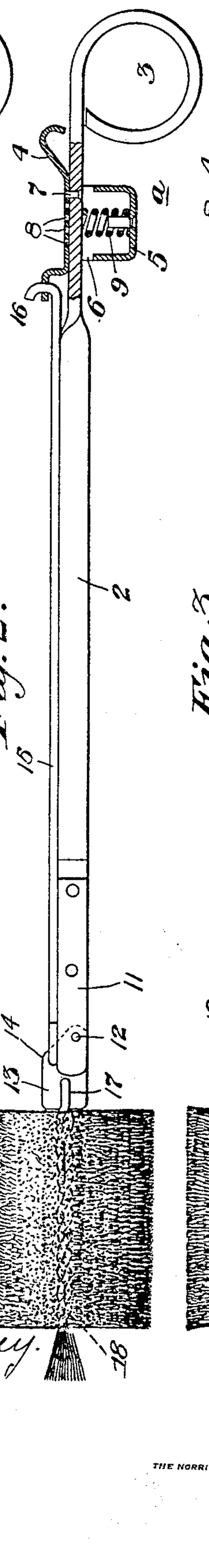

Fig. 2.

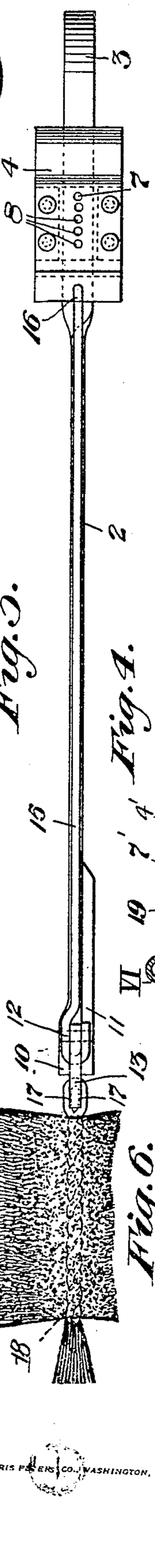

Fig. 3.

Fig. 4.

Fig. 7.

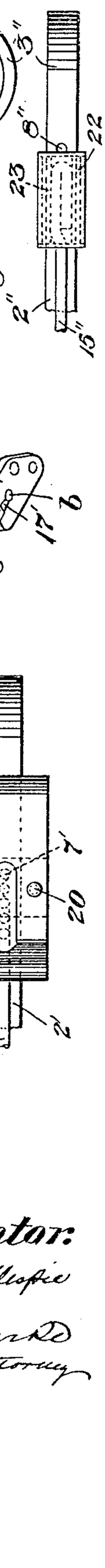

Fig. 8.

Fig. 9.

Fig. 5.

Fig. 6.

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UNITED STATES PATENT OFFICE.

ROBERT T. GILLESPIE, OF BLOOMFIELD, NEW JERSEY.

CLEANING-BRUSH.

No. 876,540. Specification of Letters Patent. Patented Jan. 14, 1908.

Application filed October 26, 1906. Serial No. 340,759.

To all whom it may concern:

Be it known that I, ROBERT T. GILLESPIE, a citizen of the United States, residing at Bloomfield, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Cleaning-Brushes, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention consists of a brush or cleaning implement adapted for use in the interior of hollow vessels or other articles such as jars, bottles, cruets, lamp chimneys, etc. and it has for its object to provide a device which may be readily inserted within the reduced neck of such a vessel and then adjusted so as to present the brushes against the interior faces of the vessel at varying angles or against the bottom portion. Ordinarily vessels of this character cannot be cleaned with an ordinary brushing implement, owing to the inflexible character of the brush stem, and my invention is designed to provide an article which may be readily and quickly adjusted by the hand while the brush is in the interior of the vessel being cleaned so as to reach all of its parts, and capable of being held in such adjusted position with facility and ease.

Generally stated the device consists of a longitudinal shank portion of a suitable or convenient form, provided at the holding end with a finger extremity, an adjustable rod having a movable thumb terminal in adjustable proximity to said finger terminal, means whereby the thumb terminal may be readily moved and set in different positions, and a hinged brush extremity at the other end of the shank so connected with said movable element that it may be adjusted thereby and securely held in combination with the main shank or stem, as shall be more fully hereinafter described.

The invention comprises certain features of improvement, advantage and novelty in that class of similar devices shown and described in my prior application filed November 22, 1905 bearing the Ser. No. 285,572 and refers more particularly to the detailed construction.

Referring now to the drawings: Figure 1. is a longitudinal view in side elevation showing one form of device, the brush being extended at right angles with the main shank or stem. Fig. 2. is a similar view, partly in section, showing the brush extended into alinement with the stem. Fig. 3. is a plan view of Fig. 2. Figs. 4 and 5 are detail views showing a modified construction of the thumb-actuated locking mechanism for the operating rod. Fig. 6. is a cross section on the line VI. VI. of Fig. 4. Figs. 7 and 8 are similar views showing a further modification. Fig. 9 is a detail view of the brush bearing link.

In the drawings, 2 represents the main shank or stem of the device which as shown in Fig. 1 consists of a rectangular rod or bar provided at its holding extremity with a finger extension 3 of circular form made by bending the bar around upon itself as shown.

4 is a slidingly mounted thumb piece conveniently made of a flat piece of plate metal mounted upon the back end of the bar 2 near the finger hole 3 and provided with a depending strap 5 of box shape having sufficient clearance as indicated at 6, so that the thumb piece and box may rise and fall a limited distance with relation to the shank.

7 is a pin of any suitable form projecting upwardly from the shank and adapted to project into one of a series of holes 8 passing through the thumb piece 4, so that it will hold it rigidly in the desired position against longitudinal movement.

Mounted within the box-like strap 5 is a coiled spring 9 arranged to hold the thumb piece downwardly into contact and in engagement with the pin at all times, except when it is pressed upwardly underneath by the fore finger of the operator. By thus pressing it upwardly the thumb piece may be released from engagement with pin 7 and may be shifted backwardly or forwardly by the thumb. The spring 9 may be of the form shown, or a spring of any other design may be utilized, and for centering the coiled spring I employ a pin *a* secured in the bottom of the box.

At its other end the shank 2 is provided with a bifurcated extremity comprising two sides 10, 11, formed of the terminal of the main shank 2 and of a supplemental piece riveted to it, between which is mounted upon a pivotal pin 12 the brush-bearing link 13. This link, as shown in the drawings, consists of a flat metallic block preferably provided with an upwardly extending shoulder 14 to which is connected the end of the operating rod 15, also connected at its rear end with the front portion of the thumb terminal 4, as indicated at 16. Such connection may

be in the manner shown in the drawings by merely bending the end of the wire 15 and passing through an aperture in the end of the thumb terminal being preferably bent over to prevent disengagement and preventing a sharp corner. The connection may however be made in any other suitable way. Beyond its pivotal portion the block 13 is widened as shown and provided with a transverse hole and longitudinally arranged recesses or grooves 17 adapted to receive the bristle wires 18. These wires are twisted together beyond such connection as shown, engaging the assembled bristles of the brush as will be readily understood.

The main shank 20 as shown is twisted upon itself at right angles immediately in front of the thumb piece 4, thus giving a flat bearing for said thumb piece and utilizing the full depth of the shank beyond said point to the best advantage in opposing the strain of use. The construction is also advantageous in combination with the other portions of the device.

In the construction shown in Figs. 4 and 5 the parts are generally similar to that just described, but embody a construction wherein the locking pin 7′ is connected with the thumb terminal 4′ and is adapted to be inserted in one of a series of holes 8′ made in the main bar 2′. In this construction the rear portion of the thumb piece is made of thin sheet metal doubled upon itself as shown and extends forwardly, providing an intervening space in which the rear terminal of the operating rod 15′ is inserted, wherein it may be held by solder, or by pressing the upper plate of the thumb piece in ridge form, as indicated at 19. The operating rod 15′ is bent or kinked as shown to more securely hold it in place and in engagement with the thumb piece, and its terminal is bent downwardly as shown, forming the locking pin 7′ as stated. The spring box 5′ is secured to the thumb piece by rivets 20, thereby holding all of the parts securely together. It will be understood that the under face of the thumb piece is made smooth to facilitate sliding, while the kinked rear terminal of rod 15′ insures against turning or dislodgment.

21, 21, are pins riveted through the middle of the shank 2′ and projecting downwardly at one side thereof adapted to limit the back and forward movement of the thumb piece or prevent separation of the parts by coming into contact with either end of the spring box. In the construction shown in Figs. 7 and 8 the locking pin 7″ is also mounted on the lower side of the thumb piece, which is formed of sheet metal in loop form as indicated at 22, bent upon itself and in combination with a downwardly extending strap 23 embracing the sides of the shank 2″. The operating rod 15″ is likewise embraced between the upper sides of strap 23, as indicated in dotted lines in Fig. 7, by which construction the thumb piece, operating rod, embracing strap and locking pin are rigidly incorporated in one movable element. The operating rod 15″ passes through a keeper or clip 23 secured to the main shank adjacent to the holding end and the resiliency of rod 15″ will tend to hold the pin 7″ in engagement with its hole, due to its tendency to spring back towards the shank.

The lower divided terminals 24 of the strap are passed around the shank in assembling the device and then pressed together from opposite sides thus furnishing the bearing for the edges of the shank and preventing the adjusting terminal 22 from being raised too high. In using this construction the middle finger is passed through the loop terminal 3″ and forefinger inserted through the opening of terminal 22, the thumb bearing down upon the top of the shank immediately above the ring 3″, whereby the adjusting terminal may be raised by the finger to clear the pin from engagement, thus obviating the necessity of a spring. It will be seen that it may be moved backward and forward by the forefinger and that the pin may be inserted in the desired hole 8″.

In Fig. 9 I show a detail view of an improved form of brush bearing block or link 13′ having grooves 17′ at each side in front of the transverse bristle wire-receiving opening *a*. At its front the link is cut out or grooved as shown at *b* so that when the bristle wires are twisted together they may be forced tightly into the groove, thereby greatly increasing their holding power and stiffening the device generally.

The operation of the device will be readily understood from the foregoing description, as by adjusting the rear locking terminal the brush may be located at the desired angle, the locking terminal being held by the pin engagement in the hole. If desired the pin may be tapered at its point to facilitate engagement, and the device may be otherwise changed or varied within the province of the skilled mechanic, but all such changes or variations are to be considered as within the scope of the following claims.

What I claim is:

1. A cleaning implement comprising a main shank portion provided with terminal cheeks and a rear holding loop, a brush having its rear portion pivoted between said cheeks, an operating rod pivotally connected with said brush terminal, a sliding thumb piece, an adjustable pin-and-hole locking device to hold the thumb terminal in fixed position with relation to the shank, a spring, and an embracing centering box for the spring, substantially as set forth.

2. A cleaning implement comprising a main shank portion provided with terminal cheeks and a rear holding loop, a brush having

its rear portion pivoted between said cheeks, an operating rod pivotally connected with said brush terminal, a sliding thumb piece, an adjustable pin-and-hole locking device to hold the thumb terminal in fixed position with relation to the shank, a spring device adapted to hold the thumb terminal into engagement with the shank, and an embracing box therefor secured to the thumb piece, substantially as set forth.

3. In a cleaning implement of the class described, the combination of a main shank, a pivoted brush extremity and an operating rod, a sliding terminal connected with the rear end of the operating rod and provided with a spring box embracing the main shank, a spring therein adapted to hold the thumb terminal into engagement with the shank, and pin-and-hole locking mechanism arranged to hold the parts in relatively fixed position, substantially as set forth.

4. The combination with the main shank or handle having a holding terminal and provided with a series of openings, of a relatively movable operating terminal for the actuating rod comprising a plate having a spring box embracing the main shank, a pin projecting from the terminal adapted to make engagement with one of said openings, and a spring within the spring box adapted to hold the parts into locking engagement with each other, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ROBERT T. GILLESPIE.

Witnesses:

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LAURENCE H. SHORTEY.