March 7, 1944. I. I. WILSON 2,343,604

CLEANING TOOL

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FIG. 1

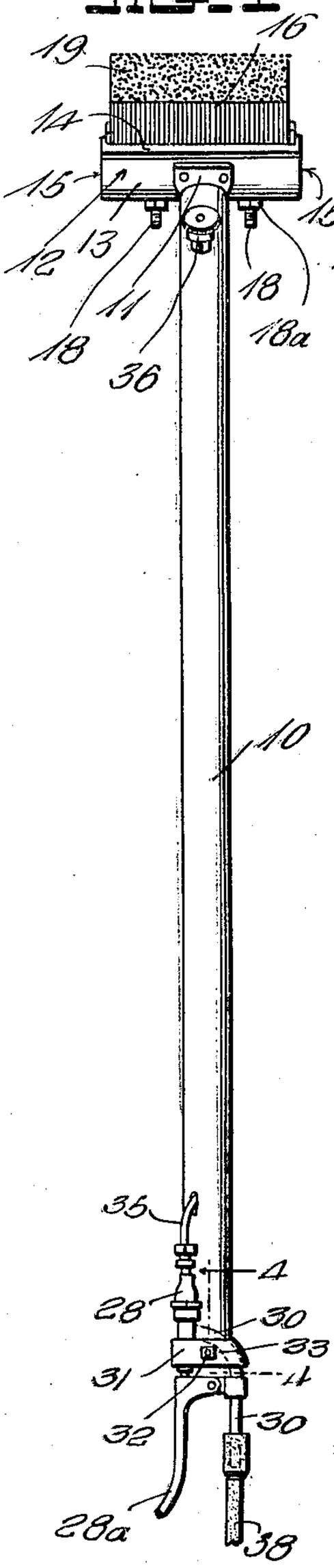


FIG. 2

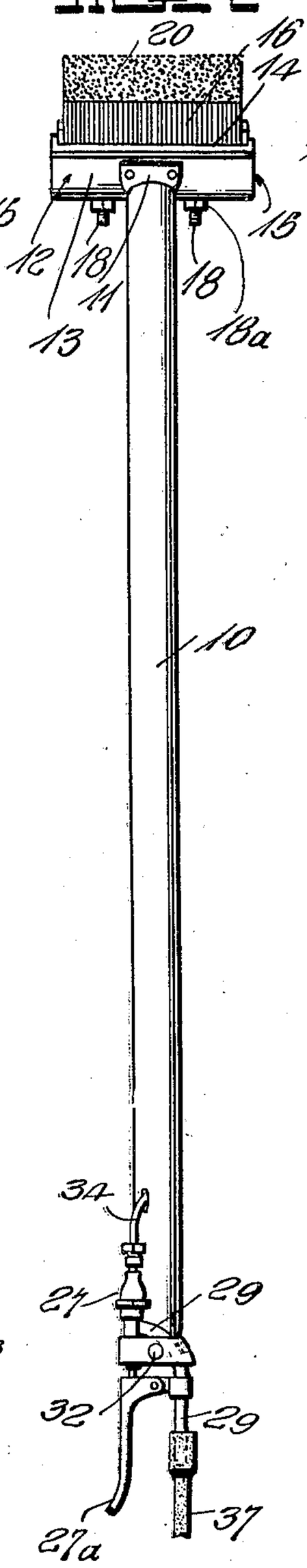


FIG. 3

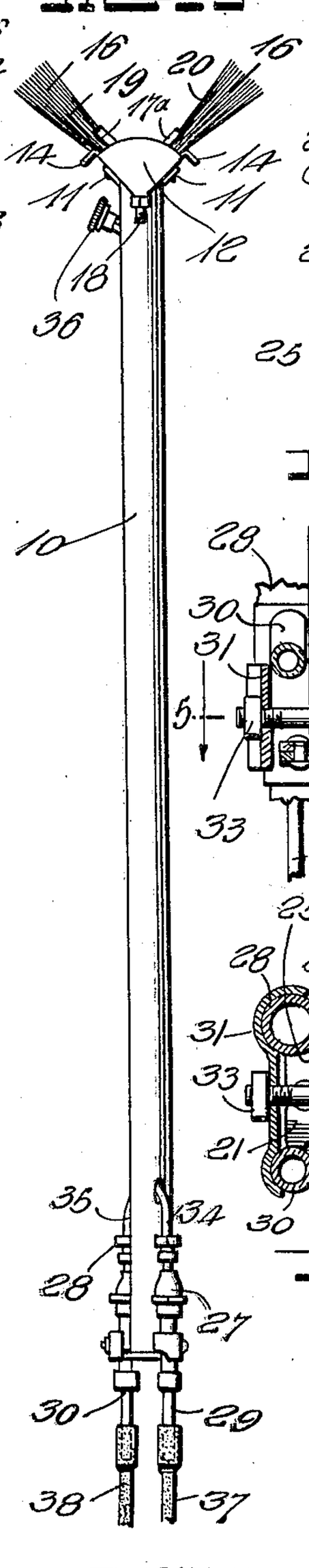


FIG. 6

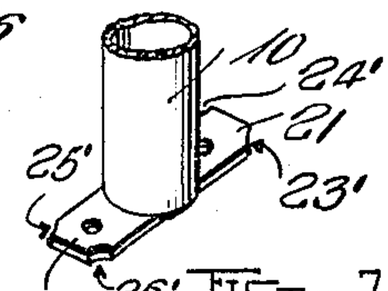


FIG. 7

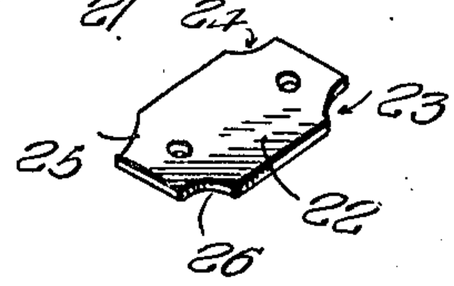
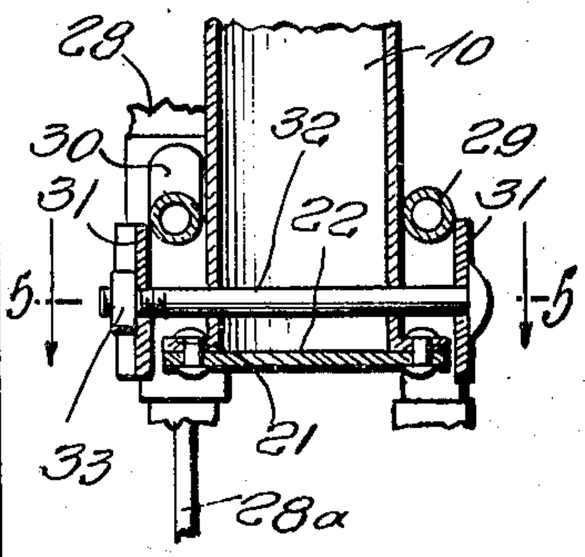


FIG. 4



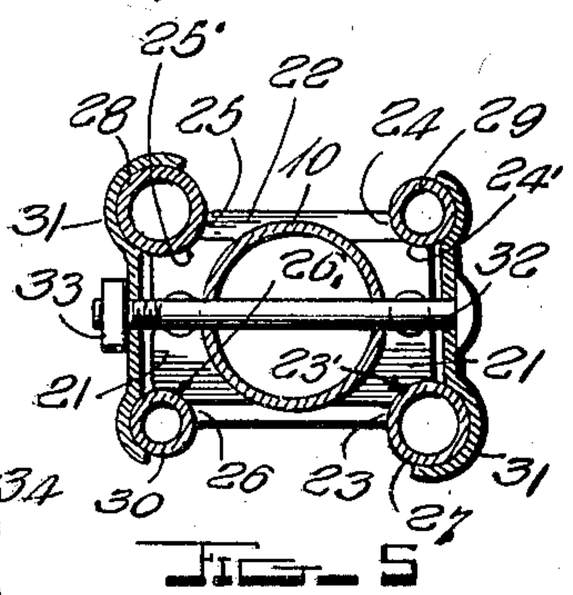


FIG. 5

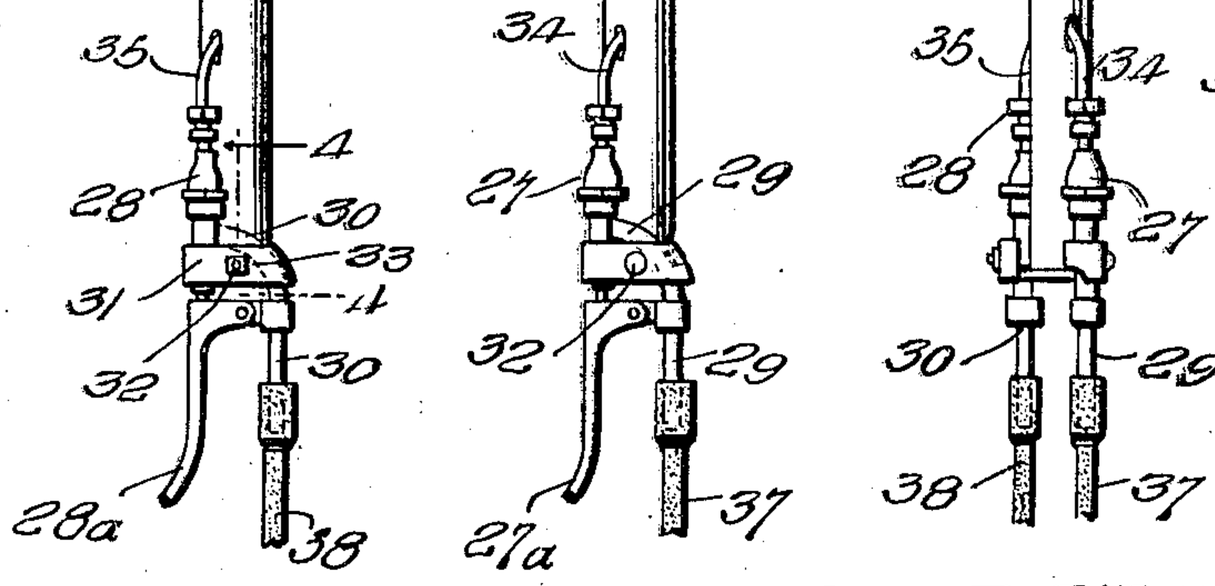


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FIG. 8

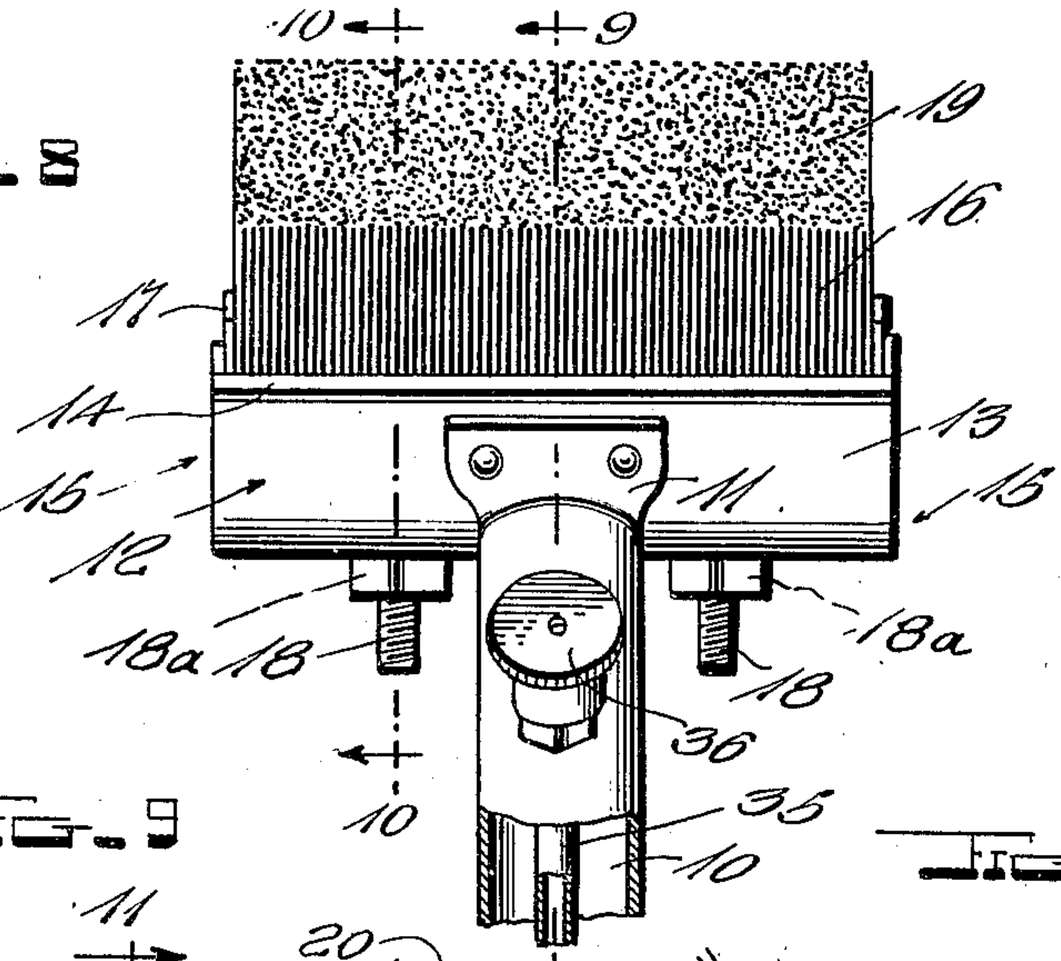

FIG. 9

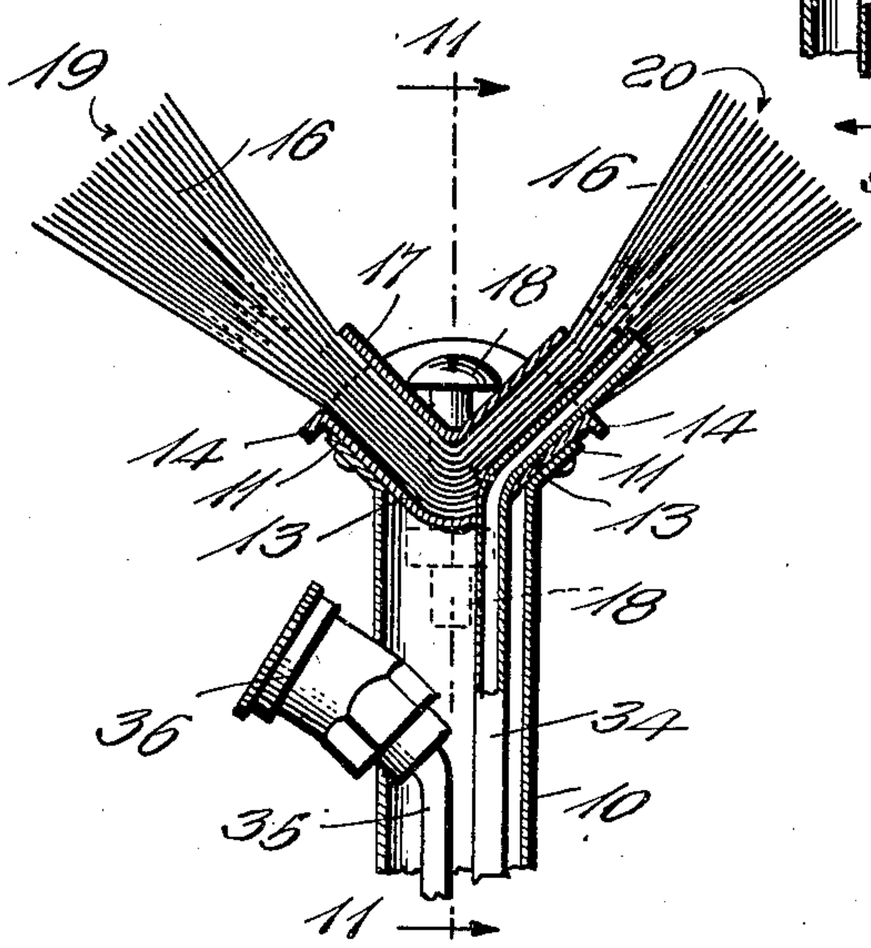

FIG. 10

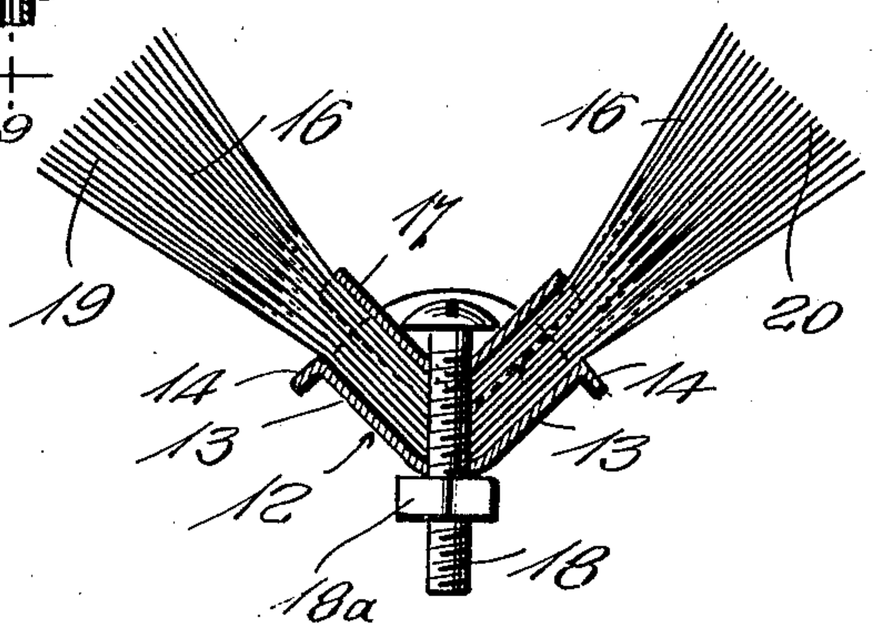

FIG. 11

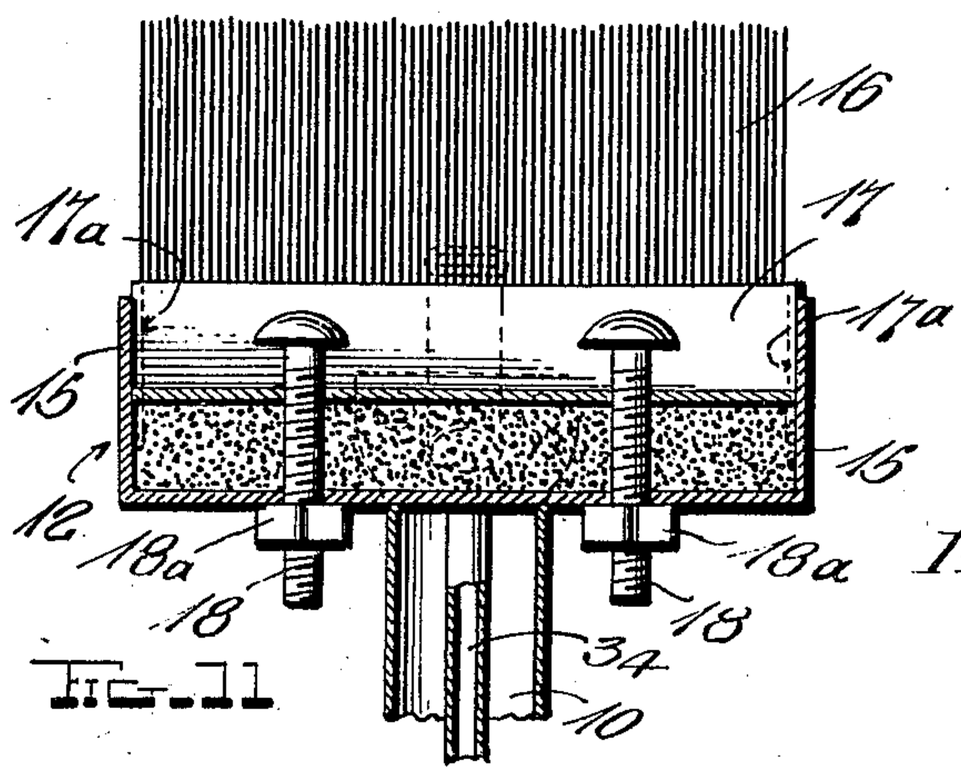

FIG. 12

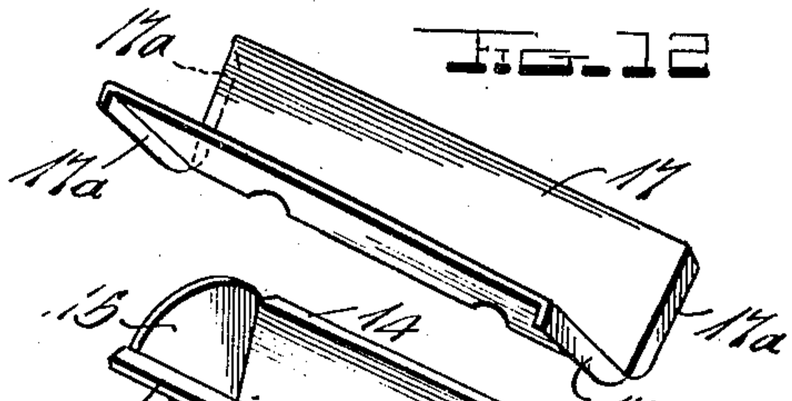

FIG. 13

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Patented Mar. 7, 1944

2,343,604

UNITED STATES PATENT OFFICE

2,343,604

CLEANING TOOL

Ira I. Wilson, Warren, Ohio

Application June 20, 1941, Serial No. 399,013

3 Claims. (Cl. 15—128)

My invention relates to improvements in scouring or cleaning tools, and more particularly to tools for cleaning the exteriors of buildings and other structures.

An object of the present invention is to provide a tool of the type mentioned which shall be provided with means whereby a liquid detergent may be applied to the surface to be cleaned, means for scrubbing said surface while the detergent is being applied, and means whereby water may subsequently be applied and distributed over the scrubbed surface for the removal of the detergent and its accumulation of foreign matter.

Another object is to provide a novel arrangement of a double-faced brush for the cleansing tool, one of the faces to be used in connection with the cleaning operation, and the other in connection with the distribution of the water.

A further object is to provide means for controlling the flow of the liquids mentioned, and for rigidly securing the controlling means to the tool.

Other objects and advantages will be readily apparent from the following specifications when taken in connection with the accompanying drawings.

In the drawings:

Fig. 1 is a front elevation of one side of the tool,

Fig. 2 is a front elevation of the opposite side of the tool,

Fig. 3 is an elevation taken at right angles to Fig. 1,

Fig. 4 is a sectional view on the line 4—4 of Fig. 1,

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

Fig. 6 is a fragmentary detail view in perspective illustrating the lower end of the handle portion of the tool,

Fig. 7 is a detail view in perspective,

Fig. 8 is an enlarged detail view of the upper end of the device as shown in Fig. 1, partly in section,

Fig. 9 is a sectional view on the line 9—9 of Fig. 8,

Fig. 10 is a sectional view on the line 10—10 of Fig. 8,

Fig. 11 is a sectional view on the line 11—11 of Fig. 9,

Fig. 12 is a detail view in perspective, illustrating a clamping member embodied in the invention, and

Fig. 13 is a detail view in perspective, illustrating a brush support also embodied in the invention.

In the drawings, 10 designates a tubular handle, the upper end of which is bifurcated, the resultant furcations 11 being flattened and spread apart substantially at right angles to provide a seat for a trough-like brush support designated generally at 12, the longitudinal walls 13 of which are disposed substantially at right angles and are riveted or otherwise rigidly secured to the furcations 11. The walls 13 have their upper edges bent outwardly to provide flanges 14, and are connected at their ends by walls 15.

Positioned within the support 12 is a double-faced brush 16 the bristles or strands of which are held tightly within the support 12 by an angular clamping plate 17 the ends of which are turned downwardly to provide flanges 17*a* which abut against the inside of the end walls 15 of the support 12. Bolts 18 having nuts 18*a* pass through openings in the plate 17 and support 12 by means of which the two are drawn together, thus securely clamping the intermediate portions of the bristles or strands of the brush so that their ends protrude outwardly beyond the sides of the trough 12 to provide upwardly inclined and oppositely extending bristle faces 19 and 20.

The handle 10 is also bifurcated at its lower end, and the resultant furcations are flattened and bent outwardly at right angles to the handle to provide oppositely extending ears 21, as illustrated in detail in Fig. 6. Riveted or otherwise secured to the under sides of the ears 21 is a plate 22, illustrated in detail in Fig. 7, the corners of which plate are arcuately recessed as at 23, 24, 25, and 26. The corners of the ears 21 are correspondingly recessed as at 23′, 24′, 25′, and 26′.

Positioned respectively in the recesses 23 and 23′, 25 and 25′, are valves 27 and 28 having operating levers 27*a* and 28*a* respectively. Formed integral with these valves are pipes 29 and 30, which curve outwardly and downwardly therefrom and are respectively positioned in the arcuate recesses 24 and 24′, and 26 and 26′, of the plate 22. As shown in Fig. 5, these valves and their connected pipes are securely held within the arcuate recesses and against the ears 21 and plate 22 by means of clamps 31 which are drawn together by means of a headed bolt 32. This bolt passes through the clamps, through the handle 10, and is provided with a nut 33 by means of which the clamping action is produced.

Connected to the outlet of the valve 27 is a duct

34, preferably in the form of a metal pipe, which passes into the handle 10 and extends along its interior to the supporting head 12 where it passes through an opening therein and terminates within the bristle face 20. It will be noted that the upper end of the duct 34 is bent so as to rest against a wall of the support 12.

Connected to the outlet of the valve 28 is a duct 35, similar to the duct 34, and likewise positioned, excepting that its upper end does not extend into the brush support 12 but terminates slightly therebelow where it is provided with a suitable spray nozzle 36 which protrudes outwardly through an opening in the handle 10 beneath the bristle face 19. Attached to the free ends of the pipes 29 and 30 are sections of hose 37 and 38 which lead respectively to a source of water supply and to a supply of liquid detergent under pressure, neither of the latter being shown.

When using the invention, the handle is raised with one hand so as to bring the nozzle 36 in close proximity to the surface to be cleaned whereupon the lever 28a of the valve 28 is depressed with the other hand to cause a flow of the detergent from the nozzle 36 after which the bristle face 19 is employed for scrubbing. Upon completion of the scrubbing operation, the brush is reversed so as to bring the bristle face 20 into position for use, and the tool manipulated in a manner similar to that already described to cause water to flow into and through the bristle face 20 for a final flushing and washing of the surface.

What is claimed is:

1. A device of the class described including a handle, a brush support mounted on one end of said handle having diverging side walls and perpendicular end walls, a stock of bristles transversely disposed in said support having their ends protruding beyond the edge of each of said side walls providing two bristle faces extending in diverging relation, a clamping plate adapted to fit within said support intermediate the stock of bristles, said plate having downturned flanges at its ends adapted to abut against the end walls of said support, and means for exerting downward pressure on said clamping plate to clamp the stock of bristles between said plate and support.

2. A device of the character described including a handle, a brush support mounted on one end of said handle having diverging side walls and perpendicular end walls, the edges of said side walls being turned downwardly, a stock of bristles transversely disposed in said support having their ends protruding beyond the edges of said side walls providing two bristle faces extending in diverging relation, a clamping plate adapted to fit within said support intermediate the stock of bristles having its side edges projecting beyond the side edges of said support, said plate having downturned flanges at its ends adapted to abut against the end walls of said support, and means for exerting a downward pressure on said clamping plate to clamp the stock of bristles between said plate and support.

3. A device of the character described including a handle having a bifurcated end with its furcations bent to extend in diverging relation with respect to the longitudinal axis of the handle, a brush support disposed in the bifurcation of said handle having diverging side walls secured to the furcations, the edges of the side walls being bent downwardly, said support having perpendicular end walls, a stock of bristles transversely disposed in said support in diverging relation, a V-shaped clamping plate disposed in said support over the intermediate portion of the stock of bristles, the ends of said plate being bent downwardly to form flanges adapted to abut against the vertical end walls of said support, and bolts extending through said plate, bristles, and support for drawing the clamping plate downwardly to firmly clamp the bristles in said support.

IRA I. WILSON.