

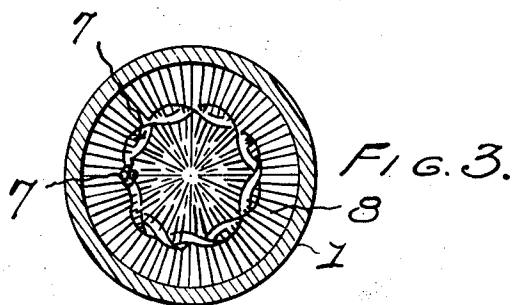
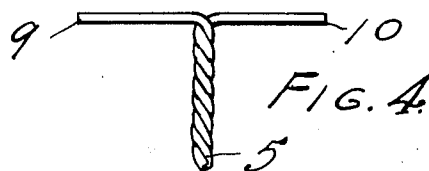
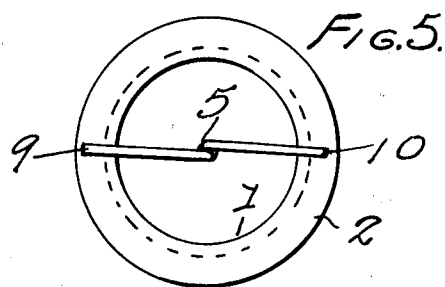
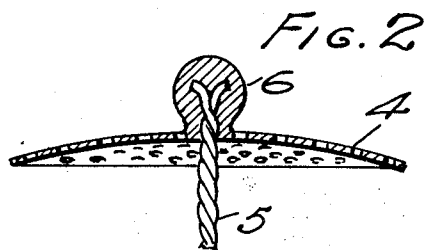
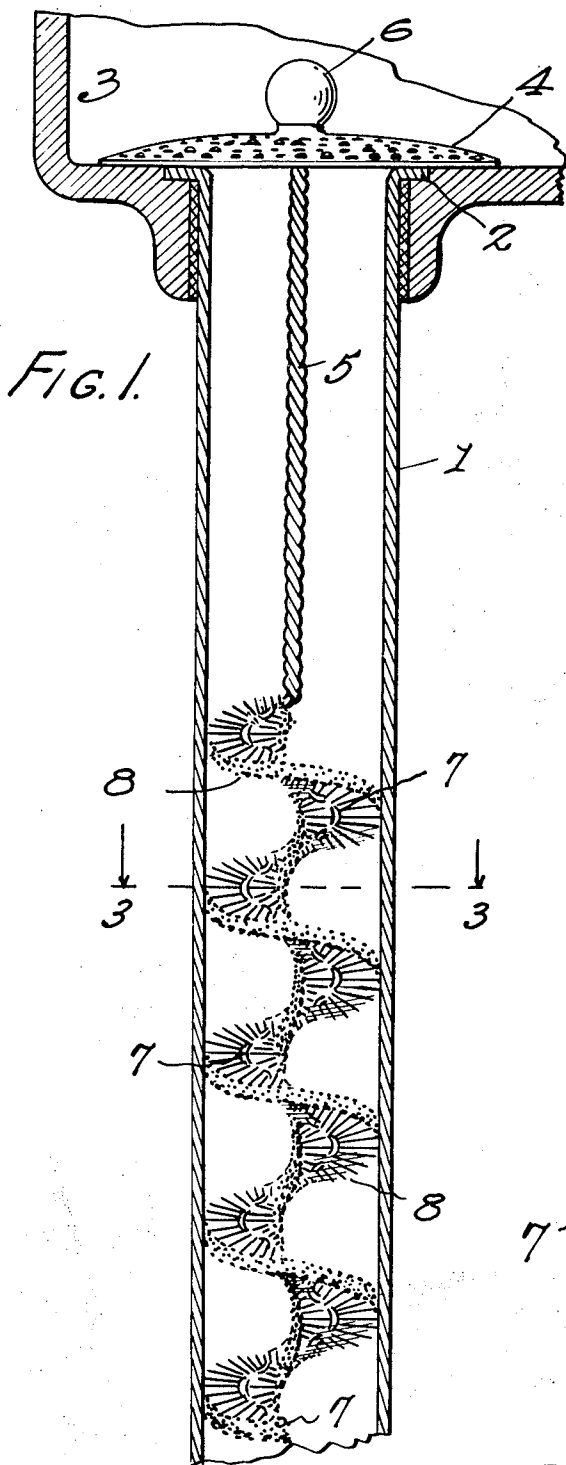
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A. PULLMAN

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STRAINER TRAP

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STRAINER TRAP

Albertine Pullman, Alexandria, Va.

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3 Claims. (Cl. 4—286)

My present invention relates to improvements in strainer-traps for use in drain pipes or waste pipes of kitchen sinks, washstands, wash bowls, and similar fixtures, and especially designed for use in barber shops, beauty shops, hair dressing parlors or salons, and other tonsorial establishments where the waste or drain pipes are likely to receive hairs among the debris or refuse that may flow from the wash stand down through the waste pipe.

As is well known, in tonsorial parlors especially, particles of solid refuse or debris containing greases of various natures, and hairs, frequently foul and clog up the waste pipe through which they are expected to flow, causing annoyance, unsanitary conditions, and expense for plumber's bills on account of repairs. To overcome these objectionable features I have invented a removable strainer-trap, or trap device, which will readily permit the passage or flow of liquid refuse through the waste pipe, but which is effective in trapping, collecting, or gathering all hairs and grease contained in the debris or refuse that may be emptied into the waste pipe.

The trap device may readily be removed at regular intervals, cleansed of the accumulated hair and debris, and then replaced, as required, thereby eliminating unsanitary conditions, and preventing clogging or stopping up of the waste pipes.

The invention consists in certain novel combinations and arrangements of parts as will hereinafter be more fully set forth and claimed. In the accompanying drawing I have illustrated one complete example of the physical embodiment of my invention and a slight modification thereof, wherein the parts are combined and arranged according to one mode I have thus far devised for the practical application of the principles of my invention.

Figure 1 is a sectional view showing a portion of a sink or washbowl with a drain pipe or waste pipe, and with my strainer-trap suspended or supported in position for performing its functions.

Figure 2 is a sectional detail view showing the manner of rigidly securing the strainer to the trap, for supporting or suspending the trap in the waste pipe.

Figure 3 is an enlarged transverse sectional view, as at line 3—3 of Figure 1 showing the bristles of the trap occupying substantially the entire cross area of the pipe.

Figure 4 is a detail sectional view at the upper

end of the trap showing a modified form of supporting or suspending means for the trap.

Figure 5 is a plan view showing the relation of the cross-wires or suspending means of Figure 4, to the mouth of the waste pipe.

In order that the utility and general arrangement of parts of the invention may readily be understood I have shown in Figure 1 a conventional waste pipe or drain pipe 1, which may have a supporting or suspending annular flange 2 that is seated as usual in the drain opening of a vessel 3, which, as before stated, may be a kitchen sink, wash stand, wash bowl, or other similar fixture.

While the strainer trap of my invention may be adapted for various uses in collecting, gathering, or trapping debris or refuse to prevent its passage through the waste pipe, the strainer-trap is especially effective in trapping hairs and grease that may flow with water as the water is passing off through the pipe.

In one form of my invention I provide the trap device with a perforated strainer-plate 4, of concavo-convex shape, and of well known type; and the stem 5 of the trap is fashioned of twisted wires which pass through a central hole in the strainer-plate. The stem and plate are rigidly secured together in any suitable manner, as for instance by forming a head or knob 6 on the convex or upper face of the plate, and welding or soldering the head, stem and plate together. The knob may be used as a handle when inserting the trap in the waste pipe, or when withdrawing the trap from the pipe, and the strainer-plate, which forms a perforated cover for the opening or mouth of the waste pipe, also performs the function of a support or suspending means for the trap when in position in the pipe.

Below the stem 5, the twisted wires are fashioned as a spiral core 7, the coils of which core may be of any suitable diameter, and of any appropriate length, but the spiral core coils around the axial center of the pipe and is spaced a suitable distance from the cylindrical walls of the pipe.

In the twists of the coils of the spiral core is secured a spiral ribbon 8, of bristle material similar to the material employed in brushes, and these bristles may be of hair, wire, or other suitable material for the purpose. As indicated in the drawing the spiral core is located intermediate the outer and inner edges of the spiral ribbon, and the bristles extend outwardly from the core to frictionally engage the inner wall of the pipe, and they also extend inwardly from the

spiral coil to, or across the center or axial line of the trap and of the pipe.

The bristles are so disposed that they occupy the entire cross area of the pipe, in order that the water may not carry any hairs past the trap, but the water is free to flow, not only in a spiral column through the trap, but directly through the bristles of the trap. The core is spaced from the axial line of the trap in order not to form an obstruction against passage of water directly through the center of the pipe, and the water is free to flow through the bristles that extend outwardly from the spiral core. The stem 5 is of sufficient length to permit the formation of a head of water above the trap that will insure a flow of water straight through the trap at all points except for the core, and any resistance offered to the flow of water by the bristles is compensated for by the spiral passage through the trap that permits flow of water. Thus it is practically impossible for a hair to pass through the trap without becoming entangled in the bristles at some point in the trap, and as the hairs are tangled and matted in the bristles they are twined and intertwined in such manner that they cannot be dislodged by the flow of water through the trap. Solid particles of grease, refuse, and other debris are also lodged in the trap and tangled in the bristles.

At regular intervals the trap is removed from the waste pipe and the hairs and accumulated debris are removed therefrom, after which the trap is again inserted in place.

The bristles and the spiral core, preferably, possess resiliency, thus permitting the exterior periphery of the spiral ribbon to be made larger in diameter than the bore or inner diameter of the pipe. Because of this resiliency, the trap may be inserted into the pipe in such manner as to scrape the inner face of the pipe, and some of the bristles may be bent out of the conventional shape shown in Figures 1 and 3 of the drawing. As the trap is shoved down in the pipe, some of the bristles that extend outwardly from the spiral core are caused to bend upwardly, and these upwardly bent bristles are instrumental in providing obstructions against which the hairs are likely to lodge and become entangled. When the trap is removed, the bent bristles, by their frictional contact with the wall of the pipe and

due to their resiliency, are returned to normal position, radiating directly from the spiral core. The insertion, and removal of the trap from the pipe, with the bristles in contact with the wall of the pipe, maintain the surface of the pipe free from debris and insure a sanitary condition within the interior of the pipe.

In Figures 4 and 5 I have illustrated a modified form of support or suspending means for the trap within the waste pipe. In these figures of the drawing, the two ends 9 and 10 of the twisted wires of the stem are straightened out, and they are of sufficient length to extend across the mouth or opening of the waste pipe. These bent ends thus form a cross-head which supports the trap and prevents excessive flow of water from packing the trap in the pipe, and at the same time the cross head is used as a handle when inserting and removing the trap.

While I have shown one exemplifying type of the trap, it will be understood that changes and alterations are contemplated, and may be made in the illustrated structures, within the scope of my claims, and without departing from the principles of my invention.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. A trap for the purpose described comprising a stem having at one end a suspending head, a spiral core formed as an extension of the other end of the stem, said spiral core fashioned of twisted wire, and bristles secured intermediate their ends in said core to form a spiral ribbon.

2. A trap for the purpose described comprising a stem, a perforated strainer plate secured at one end of the stem and a handle on said plate, a spiral core formed as an extension of the other end of the stem, said spiral core fashioned of resilient, twisted, wire, and bristles secured intermediate their ends in said core to form a spiral ribbon.

3. In a strainer trap for use in an outlet pipe, a spiral core of suitable material, means for supporting the core within the pipe, and a spiral ribbon of bristle-material mounted on the core to form an unobstructed spiral passage in the pipe.

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