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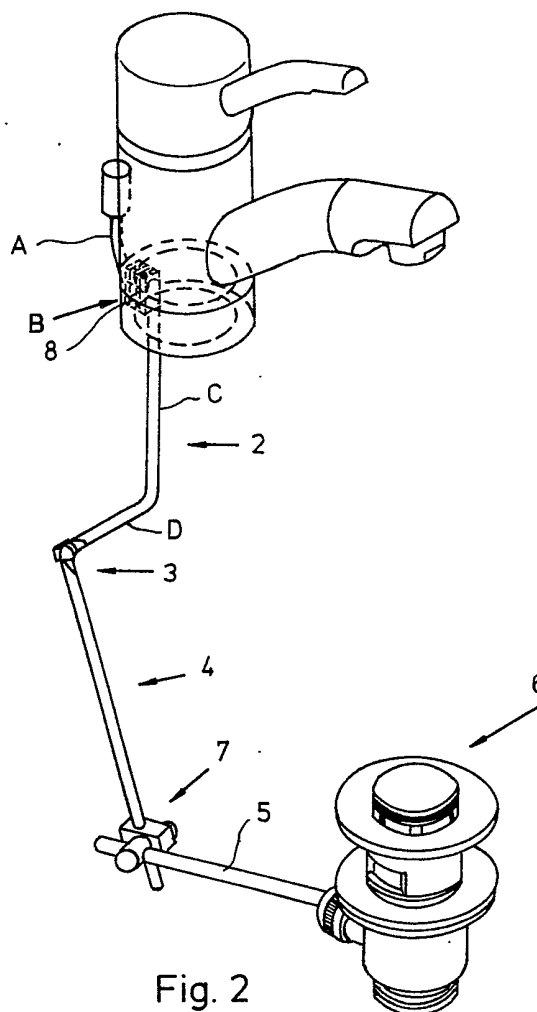
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(54) A mixer tap and outlet valve

(57) A mixer tap for one-hole mounting on a substantially horizontal work-surface or sanitary unit includes unit for a remote valve (6). The control unit comprises an upper part (2) pivotally located in an aperture in the mixer tap, preferably an aperture with a substantially horizontal axis, and a second part connecting the first pivotal part (2) to a control arm (5) for the valve (6). The control arm (5) is movable in substantially only vertical direction.



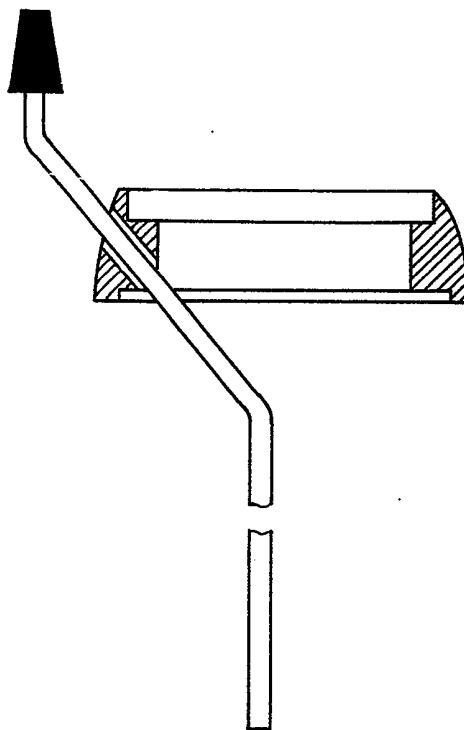


Fig. 1

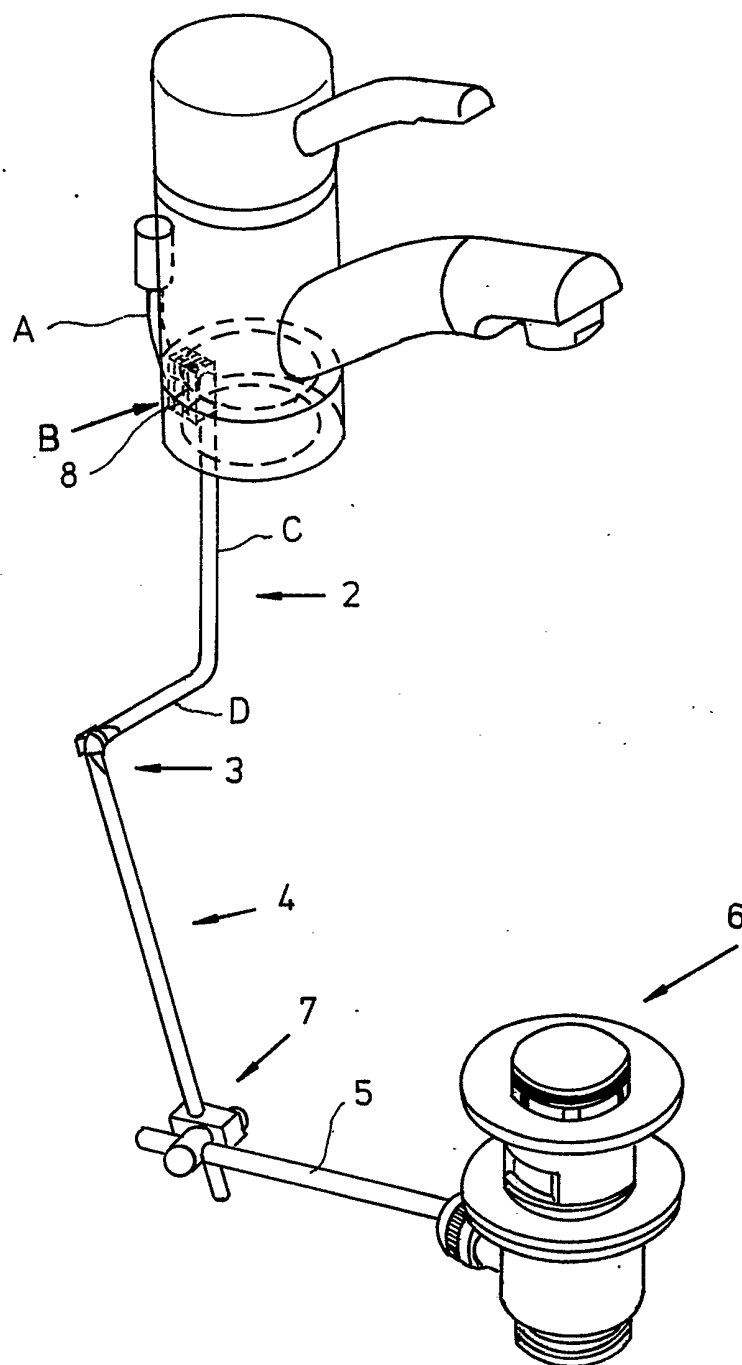


Fig. 2

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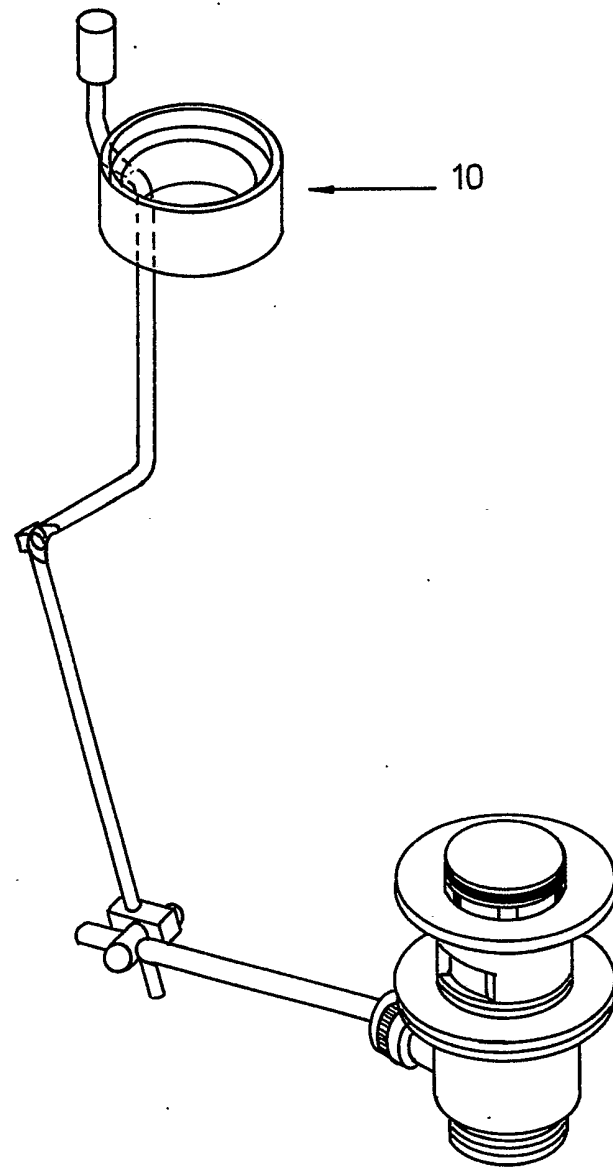


Fig. 3

SPECIFICATION

A Mixer Tap

The present invention relates to a mixer tap for one-hole mounting to be fitted on a substantially horizontal work-surface or sanitary unit, preferably an upright mixer tap, and having a control unit for a bottom valve.

The body of modern mixer taps for mounting on horizontal work-surface or sanitary units is commonly upright. The assembly of a control unit for a bottom valve on such faucets usually makes it very difficult to achieve a good function, as the through-hole intended for the lifting rod in the body of the mixer tap will usually form an angle (45—60°) with the vertical axis of the mixer tap, and the lifting rod will have to be bent to allow it to catch the horizontal arm of the bottom valve at the right point.

Such lifting rod is very often difficult to fit, and usually there are problems with achieving sufficient space in the lead-in hold in the sanitary unit to permit the movement of the lifting rod.

Mixer taps with swivel spout often cause even greater problems, as the lead-in hole for the lifting rod cannot be positioned in the faucet body because of the swivel spout. Instead a separate rosette, on which the mixer tap with swivel spout can be fitted, is often used. The lead-in hole for the lifting rod can be provided in such separate rosette, but here, too, it will usually be a hole forming an angle of 45—60° with the vertical axis due to the limited height of the rosette.

When using an oblique hole for a lifting rod as stated above it is difficult to achieve sufficient space for the control knob of the lifting rod between wall and mixer tap above the sanitary unit, and the control knob may hit the wall.

The control function of the well-known lifting rod therefore calls for very exact adjustment.

In accordance with the invention there is provided a tap for mounting in a single hole formed in a surface and including control means for operating a valve remote from the tap, the control means including a first part pivotally located in an aperture in the tap and a second part coupling the first part to a control arm of the valve; the control arm being constrained to move only in a plane substantially perpendicular to the surface so that pivoting movement of the first part of the control means causes movement of the control arm in the said plane to operate the valve. The invention may, thus, provide an arrangement in which the control unit for a remote valve requires no adjustment.

An embodiment of the invention will be described more detailed below, by way of example, with reference to the accompanying drawing, in which

Figure 1 illustrates a known lifting rod in connection with a one-handle mixer tap,

Figure 2 illustrates a mixer tap according to the invention, in which the lifting rod has been replaced by a pivotal articulated rod device, and

Figure 3 illustrates the articulated rod device in connection with a separate rosette.

The vertical mixer tap for one-hole mounting illustrated in Figure 2 is fitted on a substantially

horizontal work surface or sanitary unit. A control unit for a bottom valve 6 is provided in connection with the sanitary unit. The control unit comprises according to the invention an upper part 2 pivotally embedded in an aperture in the mixer tap, preferably in an aperture with a substantially horizontal axis. The upper pivotal part 2 is connected to a second part 4 which communicates with a control arm 5 for the bottom valve 6 by means of a pivotal joint 7. The control arm can only be moved in a vertical slot, i.e. the control arm can substantially only be moved in vertical direction. The upper part 2 consists of a rod bent at least three times so that the four sections A, B, C, and D of the rod are located in two intersecting planes. A pivotal movement around the substantially horizontal axis will consequently be translated into an up- and downward movement of the outer end 4 of the part 2. The up- and downward movement is used for controlling the bottom valve 6 by means of the articulated rods 4 and 5. The parts can be dimensioned so as to avoid adjustment during mounting.

In a specific embodiment of the invention section C of the upper part 2 has a length of approximately 60 mm, and section B a length of at least 36 mm. The outer part A of the pivotal control rod is bent $2 \times 45^\circ$ (instead of $1 \times 90^\circ$) to minimize clearance in axial direction and simultaneously to achieve appropriate distance from the mixer tap. The pivotal handle is not necessarily placed in the rear of the mixer tap, but may also be placed in the side, optionally in a separate rosette—cf. Figure 3. Furthermore, the pivotal rod may be located in a special bearing part 8 preferably made of plastics, such as teflon. The bearing part 8 may be detachable to allow the mixer tap to be delivered with the lifting rod device and without. It will be possible to deliver the lifting rod device for a great number of existing mixer taps.

The invention thus illustrates how to move the requirement as to space away from the mixer tap, thus avoiding the special adjustments during mounting.

The parts 2 and 4 may be connected by means of a rivet or a screw such as a self-cutting screw.

In addition Figure 2 illustrates the mixer tap with spout and handle lever. The handle lever communicates with an adjusting pin for cold and hot water, respectively, and may e.g. be fastened to the adjusting pin by means of a tightening screw in the handle lever. A hood has been established in connection with the handle lever.

CLAIMS

1. A tap for mounting in a single hole formed in a surface and including control means for operating a valve remote from the tap, the controls means including a first part pivotally located in an aperture in the tap and a second part coupling the first part to a control arm of the valve; the control arm being constrained to move only in a plane substantially perpendicular to the surface so that pivoting movement of the first part of the control means causes movement of the control arm in the said plane to operate the valve.

2. Apparatus according to claim 1 in which the axis of the aperture in the tap extends generally parallel to the surface on which the tap is mounted.
3. Apparatus according to claim 1 or 2 in which the first part of the control means extends through the aperture in the tap to form an operating lever accessible from the exterior of the tap.
4. Apparatus according to claim 1, 2 or 3 in which the first part of the control means comprises a rod shaped to form at least four sections, the pair of adjacent sections at each end of the rod defining a plane which intersects the plane defined by the pair of adjacent sections at the other end of the rod.
5. Apparatus according to claim 4 in which a section at one end of the first part of the control means forms the operating lever, the first part being mounted so as to be pivotable about the next adjacent section so as to permit movement of the section at the end of the rod remote from the operating lever in a direction substantially perpendicular to the surface on which the tap is mounted.
6. Apparatus according to any preceding claim in which the first part of the control means is coupled to the second part by means of a pivotal link.
7. Apparatus according to claim 6 in which the pivotal link is formed by means of a self-tapping screw.
8. Apparatus according to claim 4 in which the length of the section of the control means furthest from the operating lever is at least 60% of the length of the next adjacent section.
9. Apparatus according to claim 8 in which the length of the said next adjacent section is at least 60 mm.
10. Apparatus according to any preceding claim in which the aperture in which the control means locates is formed in a separate rosette forming the base of the tap.
11. Apparatus according to any preceding claim in which the aperture is formed in a bearing member locatable in an opening in the tap or in the rosette.
12. Apparatus according to claim 11 in which the bearing member is of friction-reducing material.
13. Apparatus according to claim 12 in which the friction-reducing material is polytetrafluoroethylene.
14. A tap mounting in a single hole formed in a surface and including control means for operating a valve remote from the tap, the tap being substantially as hereinbefore described with reference to Figures 2 and 3 of the drawings.