

(12) UK Patent Application (19) GB (11) 2491838 (13) A

(43) Date of A Publication 19.12.2012

(21) Application No: 1109862.1
(22) Date of Filing: 13.06.2011

(71) Applicant(s):
Robert MacKenzie
59 Gardiner Road, Blackhall, EDINBURGH, EH4 3RL,
United Kingdom

(72) Inventor(s):
Robert MacKenzie

(74) Agent and/or Address for Service:
Robert MacKenzie
59 Gardiner Road, Blackhall, EDINBURGH, EH4 3RL,
United Kingdom

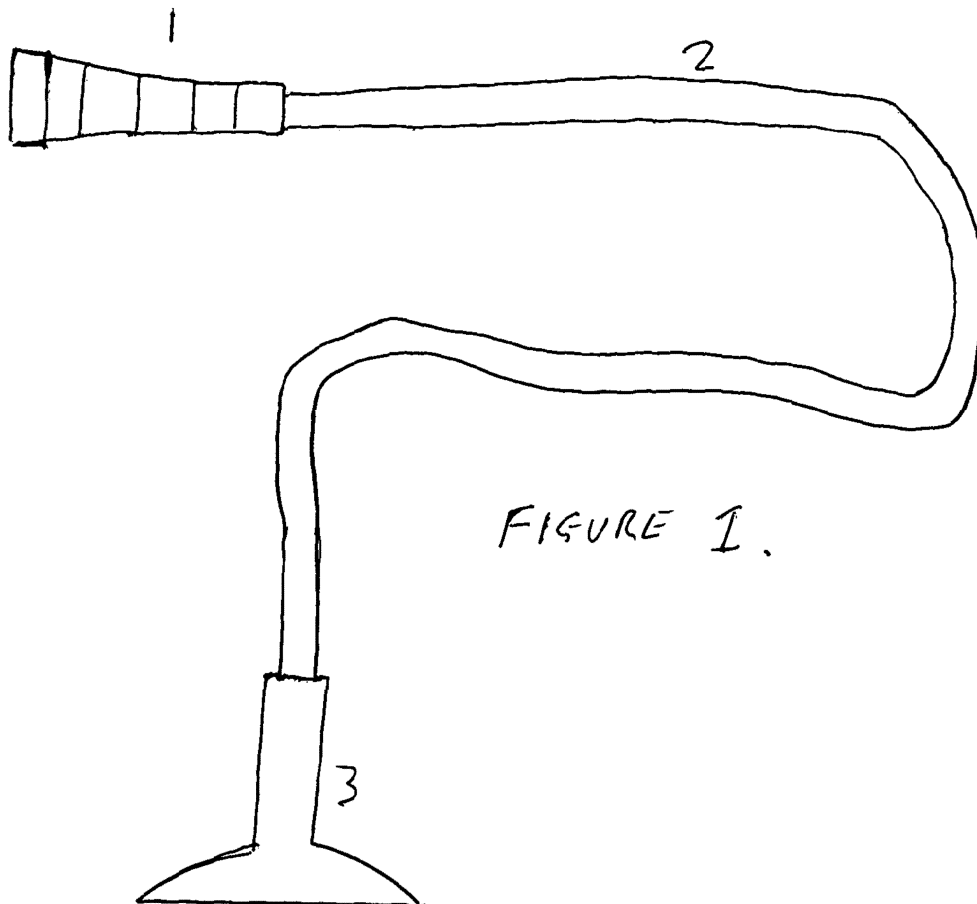
(51) INT CL:
E03C 1/306 (2006.01)

(56) Documents Cited:
WO 1999/058776 A1 CN 101676496 A
DE 029712103 U DE 029603048 U
DE 002444571 A1 US 5261128 A
US 4768237 A US 4756480 A
US 3770204 A US 3672380 A
US 2086149 A

(58) Field of Search:
INT CL *E03C*
Other: *EPODOC, WPI*

(54) Title of the Invention: **Hydro clear**
Abstract Title: **Device for clearing blockages and cleaning pipe work**

(57) The invention relates to a device for clearing blockages and cleaning pipe work by means of water pressure. The device comprises a conduit 2 connected to a water source i.e. a tap at one end and a hand held sealing means 3 at the other end which is held over a drain plug until the blockage is cleared. A valve may be fitted at the sealing means end to control the flow of water.



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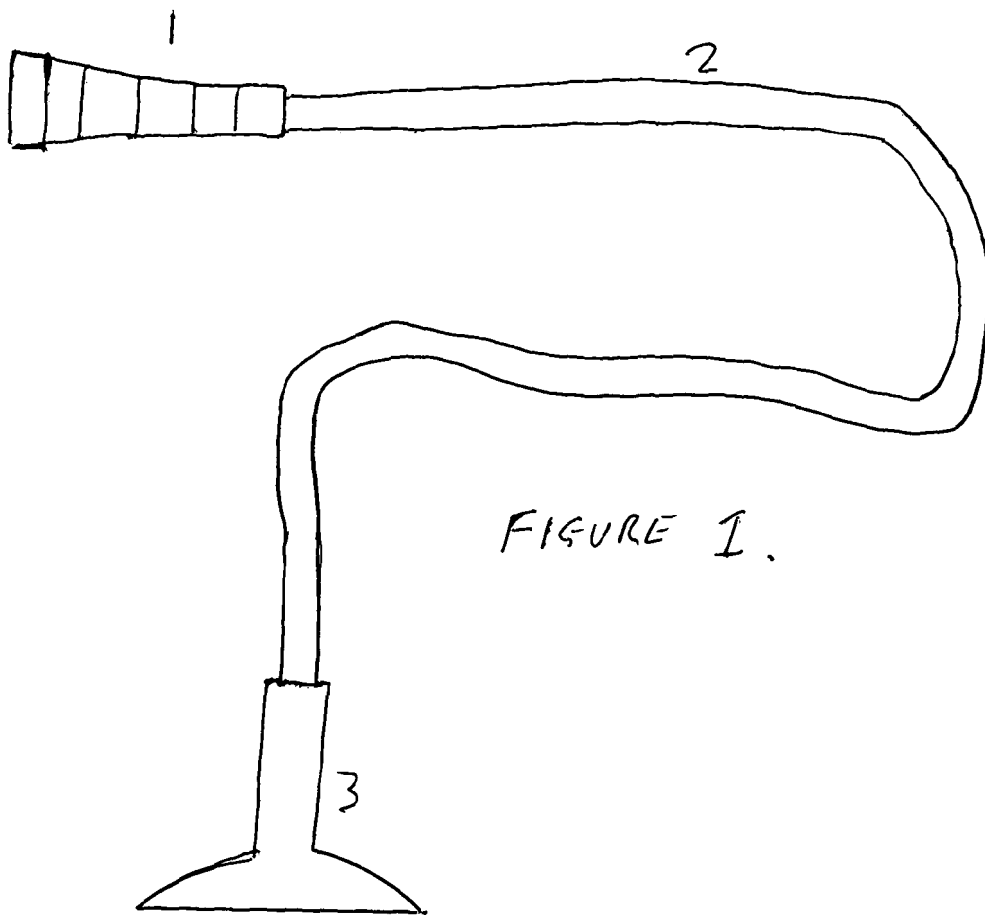


FIGURE 1.

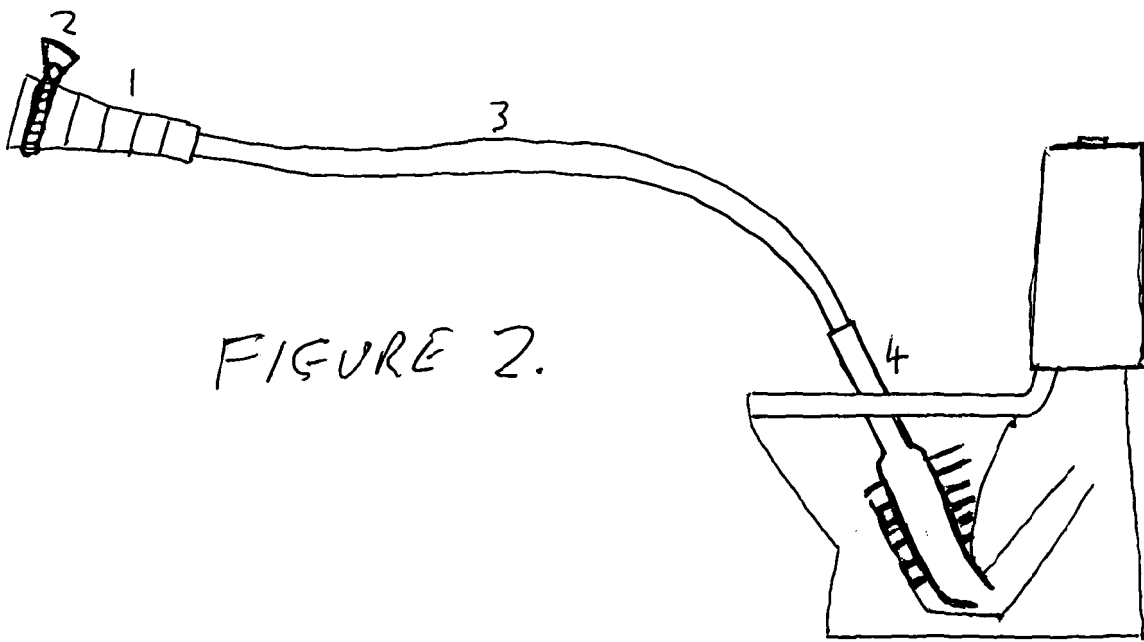


FIGURE 2.

Description

Hydro Clear

This invention relates to a device for clearing blockages and cleaning pipe work.

Blocked drains are a common problem experienced by most people on the planet with indoor plumbing, blockages occur in kitchen sinks, bathroom sinks, shower trays & baths to name but a few, or the problem could be a slow draining pipe work with a partial blockage.

There are a number of recognised ways to clear these blockage's, during my years owning a Corgi registered business I used all or most of the usual methods with varying success rates. The pipes under a sink, shower or bath can be manually disconnected and cleaned, but this can prove difficult for the homeowner or a diy person without appropriate technical skill, especially if some of the pipe work has been boxed in and is inaccessible. Hand held plungers can be used but these often fail to clear blockages effectively in my experience and only apply pressure to a blockage momentarily. Suction pump plungers use a similar method to traditional plungers but with a hand pumped action, they are not particularly effective in my experience. Draining rods/wires, in particular some of the thin metal rotational type are used for domestic sinks but often cannot turn sharp corners that are experienced in some pipe work layouts found in domestic situations. Chemicals can be used but they are polluting, cannot be re used once they are down the drain, and have the potential to cause burn injuries, also they take some time to work, they are often more effective when left overnight.

While trying to clear a stubborn blockage in a bathroom sink that didn't respond to any plunger or chemical means of unblocking, and also had boxed in pipe work with tight bends proving impossible to get access to disconnect or use rods, I developed my own tool which I have described as Hydro Clear, this proved faster & more effective in clearing the aforementioned blockage than any previous means I have seen available to purchase on the UK market or anything I had seen available to buy Worldwide over the internet.

The Hydro Clear comprises of an attachment to a source of water, a length of conduit to convey the water from the water source to a sealing piece that is manually held onto the start of the pipe work. For example, the attachment to water source can be in the form of a rubber tap connector to connect a length of conduit or clear hose pipe to a manually held sealing piece, the hand held sealing piece is held on top of the blocked sink grill, the tap is then turned on and the water from the tap flows through the pipe work, the water supply with sustained pressure and agitation from the flow volume of water quickly and effectively erodes away any blockages till clear.

Unlike different forms of plungers that apply pressure momentarily, the Hydro Clear hand held sealing piece can be comfortably held over any sink grill, shower or bath trap for several minutes, applying constant pressure with little or no physical exertion. It is not limited like rod/wire cleaners by sharp degree bends as water can flow around any series of sharp bends easily. It has no polluting effect unlike chemical cleaners and doesn't need to be left overnight for maximum effect, it also has the advantage of being re usable. Hydro Clear can be used with a different sealing piece on the end of the flexible conduit pipe to clear blocked WC's with the same method.

On the accompanying diagram Figure 1. show's a Hydro Clear device suitable for domestic kitchen & bathroom sinks, shower tray grills/traps and baths. On figure 1, part no.1 is a tap connector, part no.2 a length of clear flexible hose pipe, part no.3 a sealing piece designed to give an effective temporary seal when held manually by hand over a sink grill, shower trap or bath outlet.

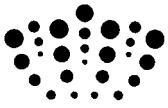
Figure 2. Shows a Hydro Clear device suitable for clearing blockages in a WC. On figure 2 part no.1 represents the tap connector, part no.2 a tightening device to seal the tap connector to appropriate tap or end of shower hose, part no.3 a length of flexible conduit, part no.4 is a sealing piece designed to give an effective temporary seal in a WC, in order to flush through a blockage.

Similar concepts to the Hydro Clear are the 'Drain Clear Power Drain Cleaner by Trademark Home™', but this concept differs in the fact that the end piece uses a water jet pushed down a sink grill to clear a blockage and not a sealing piece held on top of a grill like the Hydro Clear concept, in practice the 'Drain Clear Power Drain Cleaner by Trademark Home™' would allow water to flow back up into the sink if it met a large blockage as it does not create a seal at the grill or start of pipe work, the Hydro Clear is fundamentally different in design as it creates a seal & relies on sustained water pressure with flow of water eroding blockages, as opposed to small jet of water striking a blockage with the 'Drain Clear Power Drain Cleaner by Trademark Home™'.

Also a product called 'Drain King' uses a piece that is attached to a garden hose using regular click lock fittings, the Drain King fitting clears pipe work by use of water but the fitting must be pushed inside a piece of pipe, which means disconnecting the pipe work, pushing the Drain King fitting inside, waiting for the rubber sealing piece to expand before water flows down the pipe. The Hydro Clear concept has the advantage of not requiring a separate garden hose pipe and fittings, and not having to disconnect your pipe work to clear a blockage. The sealing piece is simply held over the offending grill or trap.

Claims

1. A device to clear blockages and clean pipework using water, comprising of an attachment to a source of water, a length of conduit to convey the water from the water source to a sealing piece that is manually held onto the start of the pipework.
2. A device to clear blockages that contains a valve to control water flow at the sealing piece end where the pipework starts if a distance from the primary water source control.
3. A device to clear blockages in pipework using water, that incorporates a manually hand held sealing piece to cover kitchen & bathroom sink grills, shower & bath traps.
4. A device to clear blockages in pipework using water, that incorporates a manually hand held sealing piece to create a seal in a WC.



Application No: GB1109862.1

Examiner: Mr Haydn Gupwell

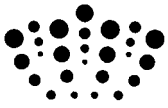
Claims searched: 1-4

Date of search: 27 June 2011

Patents Act 1977: Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
X	1-4	US5261128 A (DAVENPORT CLYDE F) see whole document especially the figures conduits 8, 11, valve 7 and sealing piece 3.
X	1-4	US4756480 A (FISH MICHAEL W) see whole document especially the figures noting conduit 16, valve 14 and sealing piece 13.
X	1-4	DE29603048 U (GIESEKE HERBERT) see abstract and especially the figures noting conduit 4, valve 3 and sealing piece 8.
X	1-4	DE2444571 A1 (BRUNS HORST) see abstract and figures noting conduit 4 & 8, valve 11 and sealing pieces 6 & 9.
X	1-4	US3672380 A (FRANK SCHUSTER) see whole document especially the figures noting conduit 30, valve 20 and sealing piece 10.
X	1-4	US2086149 A (ALLEN DRAPCR C) see whole document especially the figures noting conduit 22, valve 21 and sealing piece 5.
X	1-4	CN101676496 A (YALING ZHENG) see abstract and figures noting conduit 3, valve 4 and sealing piece 1.
X	1-4	WO99/58776 A1 (AQUAPLUMBER SYSTEMS INC) see whole document especially the figures noting conduit 14, valve 12 and lower sealing piece 40.
X	1-4	DE29712103 U (FASBENDER JOSEF) see abstract and figures noting conduit 1, valve 5 and sealing piece 3.
X	1-4	US4768237 A (TORTI EMANUEL) see whole document especially the figures noting conduit 10, 16, valve 56 and sealing piece 12.
X	1-4	US3770204 A (SCHUSTER F) see whole document especially the figures noting conduit 130, valve 120 and sealing piece 112.



Categories:

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC^X :

Worldwide search of patent documents classified in the following areas of the IPC

E03C

The following online and other databases have been used in the preparation of this search report

EPODOC, WPI

International Classification:

Subclass	Subgroup	Valid From
E03C	0001/306	01/01/2006