

(21) Application No 9909044.1

(22) Date of Filing 20.04.1999

(71) Applicant(s)
Lyka Limited
(Incorporated in the United Kingdom)
20 Coombe Rise, Findon Valley, WORTHING,
West Sussex, BN14 0ED, United Kingdom

(72) Inventor(s)
Patrick John Arthur-Worsop
Ivor John West

(74) Agent and/or Address for Service
A J Bridge-Butler
G F Redfern & Co, 7 Staple Inn, Holborn, LONDON,
WC1V 7QE, United Kingdom

(51) INT CL⁷
E03B 9/06

(52) UK CL (Edition S)
E2A AARX

(56) Documents Cited
US 5033501 A US 4484595 A

(58) Field of Search
UK CL (Edition R) E2A AAF AARX AEE , F1X X2
INT CL⁷ E03B 9/02 9/06
Online: EPODOC, WPI, PAJ

(54) Abstract Title
Control valve outlet fastening

(57) A protection device for the outlet of a control valve comprising a screw threaded protection cover adapted to engage a screw thread on part of said outlet and provided with a shaped engagement feature 5,6, and a member 10 for rotating the cover, adapted to co-operate at 12 with the engagement feature and which is also provided with means 15 to accept a standard or particular operating key.

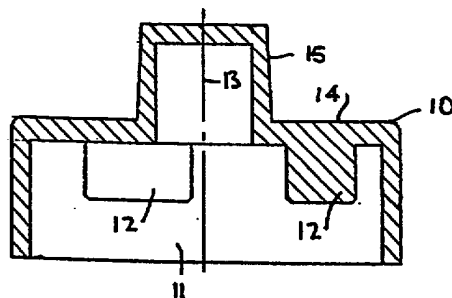
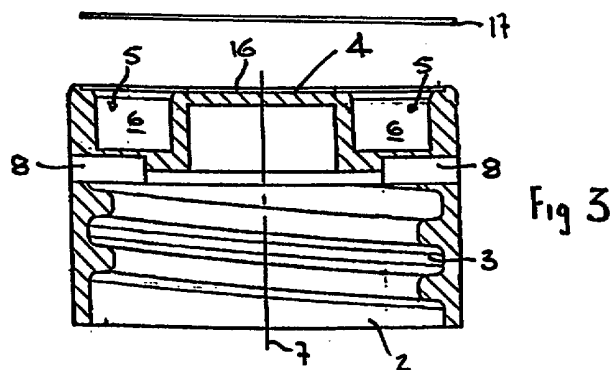


Fig 5

Fig 1

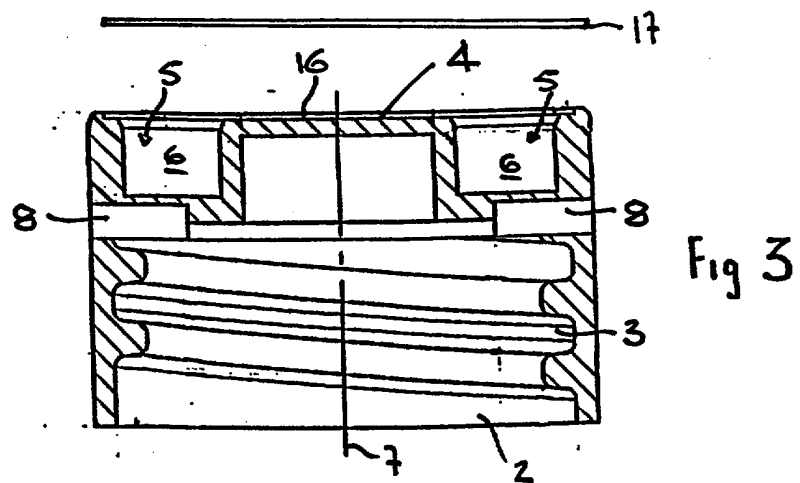
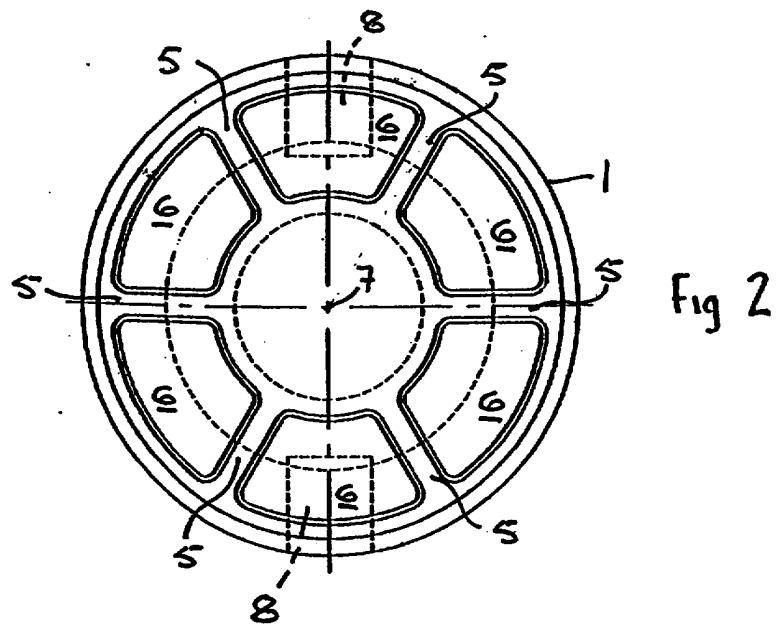
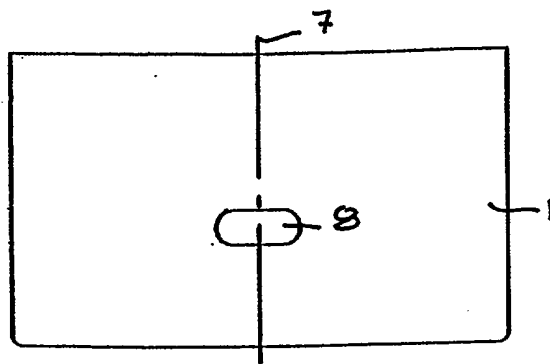


Fig 4

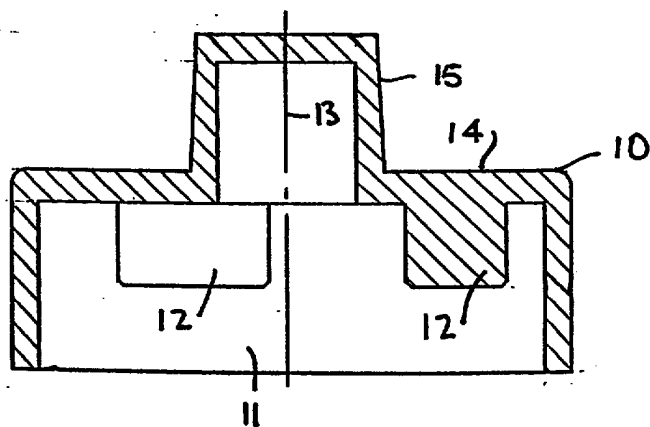
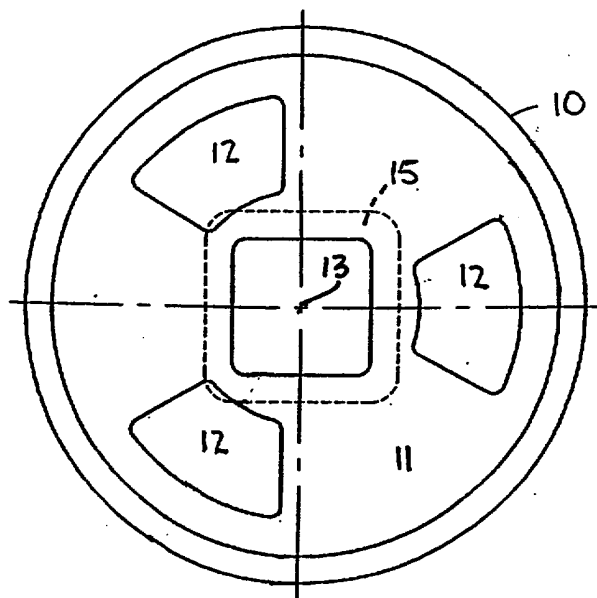


Fig 5

PROTECTION DEVICE FOR OUTLET OF A CONTROL VALVE

The outlets of control valves, for example on fire hydrants, are usually provided with a cover which is often fitted with means to accept a standard operating key of the kind provided with a shaft and cross handle. It is therefore quite easy to remove such a cover to allow access to a water supply and water supplies at the present time are becoming significantly demanding on fire authority funds.

The present invention is intended to provide a protective device to overcome the current lack of control due to the availability of the general public to access stand pipe keys and bar.

According to the present invention a protection device for the outlet of a control valve comprises a screw threaded protection cover adapted to engage a screw thread on part of the outlet and provided with a shaped engagement feature, and a spanner for rotating the cover adapted to co-operate with the engagement feature and which is also provided with means to accept a standard or particular operating key.

Thus, legitimate users can be issued with a key for use on, for example, nominated hydrants on receipt of a deposit and/or nominal charge.

Preferably means are included to cover the engagement feature when the spanner is removed. Thus, after use, the fire service can inspect the hydrant before replacing the cover or, if found to be damaged, repair will be the responsibility of the spanner holder.

As litigation is becoming more commonplace, by reducing an authorised use, current testing regimes and by informing the operator if hydrants have been tampered with become available because the means to cover the engagement feature have been removed. Thus the operator, for example the fire authority, has done everything practical regarding the safer operating of the fire hydrant.

Utilising the present invention reduces the possibility of tragic consequences caused by the delay of sourcing adequate fire fighting media due to damaged hydrants.

In a preferred arrangement the means to cover the engagement feature when the spanner is removed is in the form of a removable sticker and this can carry indicia, for example, to the effect "FIRE BRIGADE USE ONLY". This will ensure that a clear statement of intent will have been served to the unauthorised user and a plea of ignorance will not be viable.

In a preferred embodiment the shaped engagement feature may comprise two or more abutments which are circumferentially spaced apart about the axis of said screw thread and which are adapted to receive co-operating dogs on the spanner.

The abutments can be provided by the side walls of two or more recesses in an end wall of the cover.

Thus, six recesses can be provided on the cover and three dogs on the spanner.

The spanner can comprise a substantially disc shaped component one end face of which is provided with said co-operating dogs and the other end face of which carries a projecting boss to receive the standard or particular operating key.

The invention can be performed in various ways but one embodiment will now be described by way of example and with reference to the accompanying drawings in which :

Figure 1 is a side view of the screw threaded cover;

Figure 2 is a plan view from above of the cover shown in Figure 1;

Figure 3 is a cross-sectional side elevation on the line III-III of Figure 2;

Figure 4 is a plan view from below of an operating spanner for use in the invention; and,

Figure 5 is a cross-sectional side elevation on the line V-V shown in Figure 4.

As shown in the drawings the protection device is intended for use on the outlet of a fire hydrant control valve. Such outlets usually comprise a screw threaded pipe onto which a stand pipe can be attached by the user, usually the fire service or water authority.

The cover of the protection device according to the invention comprises a cylindrical cover 1 which has an open end 2 and the internal bore of which carries a coarse screw thread 3 adapted to engage the screw threaded portion of the outlet with which it is to be used. The closed end 4 of the cover is provided with six abutments 5 which extend between six recesses 6 which are circumferentially spaced apart about the axis 7 of the screw thread 3.

Two air vents 8 are provided in the side wall of the cover and lead into the interior thereof.

The recesses 6 and abutments 5 provided a shaped feature on the end of the cover.

A spanner 10 for rotating the cover in order to remove and apply it is shown in Figures 4 and 5 and is in the form of a substantial disc shape the lower face of which has a bore 11 in which are provided 3 dogs 12 which are spaced about the axis 13 of the cover and adapted to co-operate with the recesses 6 and abutments 5 on the cover. The other end face 14 of the spanner has a hollow projecting boss 15 which is of square cross-section to receive a standard operating key which can be of the type employing a shaft and crossbar.

In an alternative construction (not shown) the boss 15 could be of other cross-sectional shapes or the end face 14 could be provided with other features to receive a particular operating key which was especially designed to co-operate with it.

The use of a boss to receive a standard key however enables the user to utilise such an implement which can also be used on other parts of the fire hydrant or control valve but the special spanner enables it to be used on the cover of the present invention.

As will be seen from Figure 3 the upper end of the cover 1 has a circular recess 16 to receive a circular feature cover 17 which can, for example, be in the form of a thin sticker carrying indicia, for example, "FIRE BRIGADE USE ONLY". In order to use the spanner 1 it is necessary to remove the sticker 17 and it will immediately be apparent to, for example, the fire service that the sticker has been removed thus requiring inspection of the apparatus to see that all is in order. Alternatively the spanner could be used to puncture the sticker 17.

The effect of the sticker cover 17 is also to discourage unauthorised use.

In use therefore the protection device in the form of the screw threaded protection cover is first screwed into position using the spanner, the dogs 12 engaging the abutments 5 via the recesses 6, the spanner being operated by a standard key.

When the cover is firmly in place the spanner 10 is removed and the sticker is placed in position thus warning the public that the apparatus is for fire service use only.

When the fire hydrant in which the control valve is located is about to be used the cover 1 is removed by again utilising the spanner 10.

The cover and spanner can be made from a plastics material, for example polypropylene, and the spanner can thus easily be carried by the operator.

It will be appreciated that the cap is vented and this is a safety feature to provide a visual check for leaks. The use of polypropylene ensures that there is no corrosion and that it is robust. The unique spanner ensures that the cover is tamper resistant and can only be used by someone authorised to do so and possessing the spanner.

Being made from a synthetic resin material the cover can be made in various colours, for example red for fire hydrants, orange for high pressure and blue for washouts.

The stickers 17 provide a further deterrent and conceal the shaped feature which receives the spanner when in use. Moreover, the stickers as employed can be colour coded in line with annual hose testing and its removal or puncture immediately indicates that the hydrant has been tampered with.

Although the present invention has been described as a cover for use with the outlet of a fire hydrant it has many other applications in industry and is not restricted to fire hydrant use.

CLAIMS

1. A protection device for the outlet of a control valve comprising a screw threaded protection cover adapted to engage a screw thread on part of said outlet and provided with a shaped engagement feature, and a spanner for rotating the cover, adapted to co-operate with the engagement feature and which is also provided with means to accept a standard or particular operating key.
2. A protection device as claimed in claim 1 including means to cover the engagement feature when the spanner is removed.
3. A protection device as claimed in claim 2 in which the means to cover the engagement feature is in the form of a removable sticker.
4. A protection device as claimed in claim 3 in which said sticker carries indicia.
5. A protection device as claimed in claims 1 to 4 in which said shaped engagement feature comprises two or more abutments which are circumferentially spaced apart about the axis of said screw thread and which are adapted to receive co-operating dogs on the spanner.
6. A protection device as claimed in claim 5 in which said abutments are provided by the side walls of two or more recesses in an end wall of the cover.
7. A protection device as claimed in claim 6 in which six recesses are provided on said cover and three dogs on said spanner.
8. A protection device as claimed in claim 6 or claim 7 in which said spanner comprises a substantially disc shaped component one end face of which is provided with said co-operating dogs and the other end face of which carries a projecting boss to receive the standard or particular operating key.

9. A protection device substantially as described herein with reference to and as shown in the accompanying drawings.



INVESTOR IN PEOPLE

Application No: GB 9909044.1
Claims searched: 1-8

Examiner: Philip Silvie
Date of search: 23 October 2000

Patents Act 1977 Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.R): E2A (AAF, AARX, AEE); FIX (X2)

Int Cl (Ed.7): E03B (9/02, 9/06)

Other: Online: EPODOC, WPI, PAJ

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
A	US 5 033 501 A (HYDRA-SHIELD) see fig. 1	1
A	US 4 484 595 A (VANEK) see fig. 3	1

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.