

Description

Technical Field of the Invention

[0001] The present invention relates to a column and a column arrangement for handling a hose for a fuel pump unit.

Background Art

[0002] A fuel pump typically comprises a pump part standing on the ground, a display part positioned above the pump part and showing the chosen type of petrol, cash readout, volume readout etc, and a column to which one or more petrol hoses are connected.

When the tank of a vehicle is to be filled up, the driver parks the vehicle beside the petrol pump and opens the cover or cap of the vehicle's petrol tank. Then the driver selects the desired type of petrol and places the pump nozzle mounted at the end of the hose in the inlet of the vehicle's petrol tank and puts in the desired volume of petrol.

In some types of payment procedures, it is necessary to pay before filling-up can be started. For instance, charge card payment must in most cases be initiated by means of a card and code in an associated terminal before the pump is activated.

[0003] A difficulty that may arise in connection with filling-up is that the hose does not reach to the vehicle if parked a distance from the petrol pump. The reason why the vehicle has not been parked sufficiently close to the pump may be difficulty in manoeuvring owing to a limited space round the petrol pump. It may also happen that the vehicle is first parked at a terminal for charge card payment and that the driver then realises that he cannot pay with a card. In such cases the hose is usually not long enough and the driver must move the vehicle once more, which is time-consuming, so that it stands close to the petrol pump. To allow the hose to reach to the vehicle, it is usually necessary for the driver to park his vehicle so that the side of the vehicle where the filler cap is positioned faces the petrol pump. It is not always known to a driver of an unfamiliar vehicle whether the filler cap is positioned on the left or right side. This may result in the driver by mistake parking the vehicle on the wrong side of the pump and thus not being able to fill up the tank without moving the vehicle to the other side of the petrol pump since the hose does not reach all the way round the vehicle.

[0004] One way of facilitating access to the petrol pump is to provide it with a longer hose. This may, however, cause problems since a longer hose may tend to land on the ground when not used and thus get stuck in or be damaged by passing cars or other vehicles. To prevent this, the column may be provided with some kind of returning mechanism for the hose.

[0005] A fuel pump with a returning mechanism for the hose is disclosed in Australian Patent 505071. In said

patent, the hose is fixed to a vertically arranged flexible spring which is arranged vertically from the top side of the fuel pump. The hose extends from the fuel pump up to the mounting in the vertically arranged flexible spring and then to the nozzle with which the tank of the vehicle is filled with fuel. Such a returning mechanism prevents the hose from landing on the ground.

[0006] However, the extra hose length that can be used is limited to the outward bending of the spring. Moreover there is a risk that something may get stuck in the hose hanging from the fuel pump up to the mounting in the spring. Besides it is difficult to arrange several hoses adjacent to each other since they will get tangled. Nowadays the most common solution is to arrange the hose in a column in which the hose can be stored when not in use.

[0007] Another prior art fuel dispensing device having a column and a returning mechanism for the hose is described in applicant's European patent application EP-1 331 200.

[0008] Even though this known fuel dispensing device is well-functioning, there is still room for improvement as regards arrangements where a number of hoses are arranged hanging from respective columns in close proximity to each other. The risk for hoses getting tangled still remains, which can be a nuisance for a customer using the fuel dispensing device.

Summary of the Invention

[0009] The purpose of the present invention is to provide an improved column for a fuel dispensing device, which provides a more flexible positioning of the hose when hanging from the column in a rest position, such that a number of columns can be placed side by side and the risk of hoses getting tangled is minimised. This purpose is achieved by a column according to claim 1 and by an arrangement of columns according to claim 6. Preferred embodiments can be found in the dependent claims 2-5 and 7-8, respectively.

[0010] The column according to the invention comprises a column for a fuel pump unit, said column comprising a top part, a rear part, a front part and two sides extending between the rear part and the front part, wherein a hose is attached to the top part, which hose at least partly is stored in the column in a rest position for the hose

wherein the front part has an opening, through which a portion of the hose is arranged to hang, from the top part of the column, in a rest position of the hose, and through which it is possible to pull out more of the hose from the column when the hose is moved from the rest position to a use position,

wherein the sides has side portions next to the opening, wherein at least one cut out portion is provided in at least one of the side portions, said cut out portion allowing the hose, in the rest position, to hang from the top part of the

column, such that at least part of the hose, comprised in said portion of the hose, extends slightly towards and outside the side of the column.

[0011] This has the advantage of providing more options when arranging columns next to each other, since there is a larger flexibility as regards the location of the hoses when in an unused state. The side portions still guides the hose, but allows a certain movement of the hoses to the side or sides of the column being provided with cut out portions in the side portions.

[0012] Preferably, one cut out portion is provided in one of the side portions. This means that the hose is guided so that it can protrude from the outer side dimensions of the column at only one side, thus keeping it separate from any items placed on the other side next to the column.

[0013] Preferably, the column comprises an automatic hose returning means which is adapted to return the hose to the hose storage space. This has the advantage of making it possible to provide the customer using the pump with the flexibility that a longer hose gives, and still maintain the security achieved by keeping the hoses stored away in the hose storage space when not in use, without having to rely on the customer to put the hose back in its correct rest position.

[0014] Preferably, the hose returning means comprises a sleeve which is arranged to at least partly enclose at least a portion of the hose, said sleeve being connected to a biasing means for biasing the hose towards the top part. The biasing means can be an elastic cord which is fixed to the top part.

[0015] A column arrangement according to the invention comprises at least two previously described columns. Preferably, in such an arrangement with two columns, the side portions of each column on the side remote from the other column are provided with said cut out portions.

[0016] This has the advantage that the hoses can be easily separated and do not get tangled when hanging from the top part of the column in a position where they are not used. This means easier access for a customer.

[0017] As an alternative, a column arrangement comprises a first and a second column, wherein the side portion of the first column on the side remote to the second column is essentially rectangular and is arranged to guide the hose of the first column so that the hose remains vertically inside this side, and the side portion of the second column on the side remote to the first column has a cut out portion which is arranged to allow the hose of the second column to protrude outside the side remote to the first column.

[0018] This arrangement is advantageous in a situation where the columns are placed next to a fuel pump part and it is important, for security reasons, that the hoses only protrude outside the column towards the fuel pump part and not outside the columns in the other side direction, where a passing vehicle could damage the hose. This column arrangement also gives a separation

of the hoses.

Brief Description of the Drawings

[0019] The present invention will now be described in more detail by way of an embodiment, reference being made to the accompanying drawings, in which:

Fig. 1 is a front view of a fuel dispensing device having a column arrangement according to the invention.

Fig. 2 is a perspective view of a fuel dispensing device having on one side an inventive column arrangement, and on the other side a prior art column arrangement.

Fig. 3 shows a column in a sectional view with the hose in a position where it is not being used.

Fig. 4 shows the column according to Fig. 3 in a sectional view and in a position where the hose is pulled out from the hose storage space.

Fig. 5 is a sectional view from above of a column arrangement according to the invention.

Detailed Description of Preferred Embodiments of the Invention

[0020] A fuel dispensing device 1 according to Fig. 1 comprises a fuel pump part 2, a display part 3, and a number of columns 4. A column 4 comprises a front part 5, a rear part 14, a top part 13 and sides 11 which together define a hose storage space. The hose 6 is pulled out from the hose storage space through an opening 7.

[0021] Further, the hose 6 is attached to the top part 13 of the column 4 by a sleeve 8 which is fixed to the top part 13 by a spring element, such as an elastic cord 9. The elastic cord could be substituted for a cord which is attached to a wheel and to the sleeve, which wheel is spring biased to hold the sleeve with the hose 6 up towards the top part 13.

[0022] The column 4 has two essentially rectangular side portions 10 which are part of the sides 11 of the column 4. The side portions are arranged on each side of the opening 7 and are arranged to guide the hose hanging from the top part. In Fig. 2, the leftmost and the rightmost side portion of the left column arrangement each has a cut out portion 12. Between the two columns 4 in the column arrangement, a side portion 10 is arranged which in contrast does not have a cut out portion. This side portion 10 is common to the two columns arranged next to each other.

[0023] The cut out portion 12 allows the hose to hang from the top part 13 of the column 4 slightly towards and outside one side of the column, not just in front of the column as in the prior art columns shown in the right part of Fig. 2.

[0024] The hoses in the prior art column arrangement to the right in Fig. 2 easily get tangled as they hang from the top part of the column down the front of the column

in close proximity to each other. When a customer is going to fill up his or her vehicle, it might be difficult to identify which hose belongs to which column.

[0025] According to an alternative column arrangement shown from above in Fig. 5, two columns 4a and 4b are arranged next to each other and have respective hoses 6a and 6b. The hoses 6a and 6b are guided by side portions 10a-10c. The side portion 10 on the column 4a does not have a cut out portion and thus the hose 6a cannot move outside that side of the column 4a. The side portion 10c between the two columns has a cut out portion which allows the hose 6a to protrude somewhat towards the column 4b. The side portion 10c could also be without a cut out portion so that the hose 6a would remain inside both side boundaries of the column 4a. Finally the side portion 10b has a cut out portion which allows the hose 6b of the column 4b to hang outside that side of the column 4b.

[0026] This is an arrangement which can be used for instance when the fuel pump unit is provided with a pump part with a display part on top in the middle and a column arrangement with a pair of columns on each side of the pump part (this is also shown in Figs 1 and 2, but with different cut out portions). Then the hoses are protected from any damage caused by vehicles driving close to the outer side boundaries of the fuel pump unit.

[0027] The side portions 10 with their respective cut out portion/s 12 are easily customized to fit the location of the respective column in relation to adjacent columns when manufacturing the fuel pump unit 1. The cut out portion 12 can have any suitable shape, such as semi-circular, or, as shown in the figures, polygonal.

[0028] The hose returning mechanism employed in the column arrangement according to the invention consists of a sleeve 8 which is arranged to at least partly enclose a portion of the hose and keep it biased towards the top part 13 of the column 4. The sleeve 8 is attached to the top part 13 by an elastic cord 9. The sleeve 8 can be in the form of a ring or it can enclose the hose only partly, as long a secure attachment is ensured. The sleeve or ring might be provided with inner rollers which support the hose.

[0029] When a customer is to fill up his vehicle, he pulls the hose 6 out of the hose storage space 5 towards his vehicle and down from the top part 13 as the elastic cord 9 is stretched, as is shown in Fig. 4. When the filling up of the vehicle is completed, the customer puts back the hose and the hose is retracted into the hose storage space by the elastic cord 9.

Claims

1. A column (4) for a fuel pump unit (1), said column (4) comprising a top part (13), a rear part (14), a front part (5) and two sides (11) extending between the rear part (14) and the front part (5),

wherein a hose (6) is attached to the top part (13), which hose (6) at least partly is stored in the column (4) in a rest position for the hose

wherein the front part (5) has an opening (7), through which a portion of the hose (6) is arranged to hang, from the top part (5) of the column (4), in a rest position of the hose (6), and through which it is possible to pull out more of the hose (4) from the column (4) when the hose (6) is moved from the rest position to a use position, wherein the sides (11) has side portions (10) next to the opening (7),

characterised in that

at least one cut out portion (12) is provided in at least one of the side portions (10), said cut out portion (12) allowing the hose (4), in the rest position, to hang from the top part (13) of the column (4), such that at least part of the hose, comprised in said portion of the hose, extends slightly towards and outside the side of the column (4).

2. A column according to claim 1, wherein one cut out portion (12) is provided in one of the side portions (10).
3. A column according to claim 1 or 2, further comprising an automatic hose returning means (8,9) which is adapted to return the hose (6) to the rest position from the use position.
4. A column according to claim 3, wherein the hose returning means comprises a sleeve (8) which is arranged to at least partly enclose at least a portion of the hose (6), said sleeve (8) being connected to a biasing means (9) for biasing the hose (6) towards the top part (13) of the column.
5. A column according to claim 4, wherein the biasing means is a spring element (9), such as an elastic cord, which is fixed to the top part (13) of the column (4).
6. A column arrangement, comprising at least two columns (4) according to any of claims 1-5 arranged side by side in the same orientation.
7. A column arrangement according to claim 4, comprising two columns (4), wherein the side portions (10) of each column (4) on the side remote from the other column are provided with said cut out portions (12).
8. A column arrangement according to claim 6, comprising a first and a second column (4a, 4b), wherein the side portion (10a) of the first column (4a) on the side remote to the second column (4b) is essentially rectangular and is arranged to guide the hose (6a) of the first column (4a) so that the hose (4a) remains

vertically inside this side (10a), and the side portion (10b) of the second column (4b) on the side remote to the first column (4a) has a cut out portion (12b) which is arranged to allow the hose (6b) of the second column (4b) to protrude outside the side remote to the first column (4a). 5

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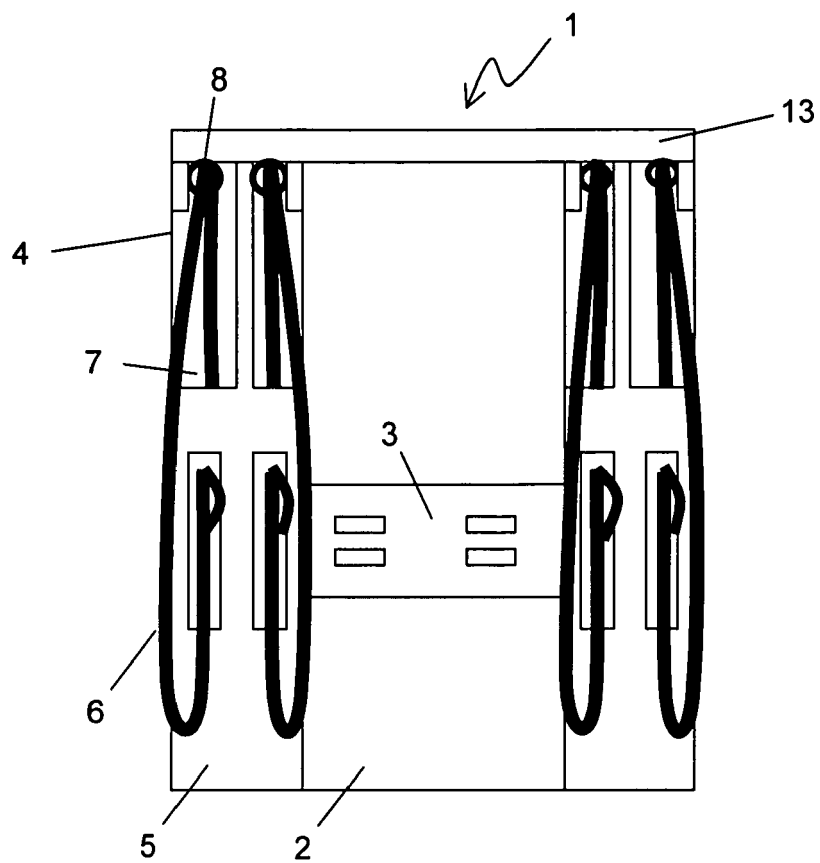


Fig 1

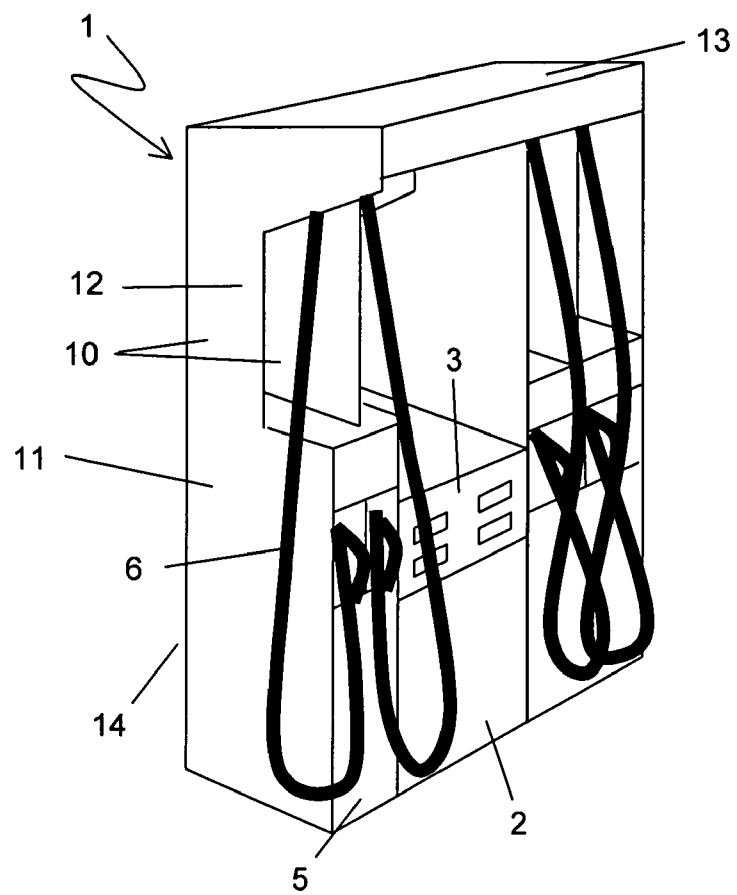


Fig 2

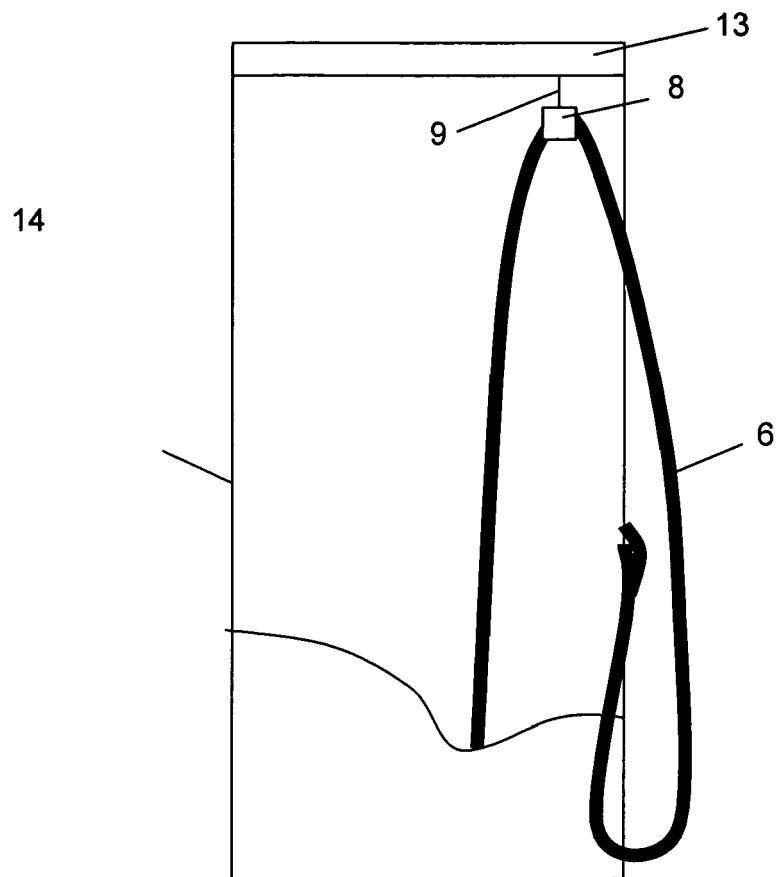


Fig 3

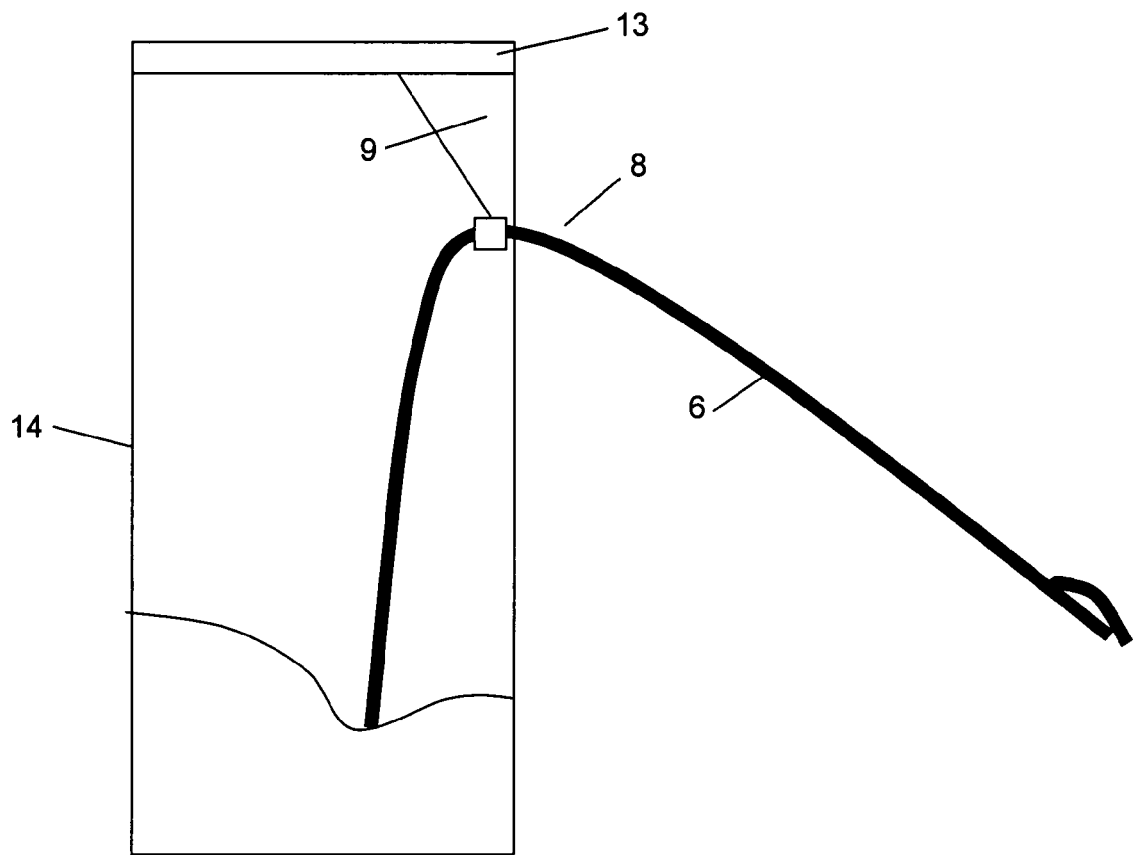


Fig 4

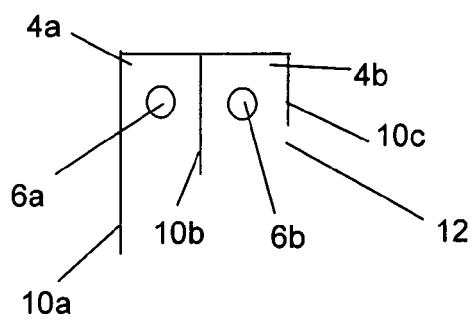


Fig 5



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	US 4 009 800 A (LOY ET AL) 1 March 1977 (1977-03-01) * column 3, line 44 - column 4, line 49; figures 1-3 *	1-3,6,7	B67D5/64 B60S5/02
Y	US 6 340 269 B1 (STANTON KELLY ET AL) 22 January 2002 (2002-01-22) * figure 1 *	1-3,6,7	
Y	US 2001/030199 A1 (DIROCCO JAMES DAVID) 18 October 2001 (2001-10-18) * paragraph [0010]; figure 1 *	1-3,6,7	
A	US 6 334 457 B1 (BAKER, IV FRANK A) 1 January 2002 (2002-01-01) * the whole document *	3	
A	DE 200 08 618 U1 (MARCONI COMMERCE SYSTEMS GMBH & CO. KG) 20 September 2001 (2001-09-20)		
A	US 5 651 478 A (TATSUNO ET AL) 29 July 1997 (1997-07-29)		
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			B67D B60S
Place of search		Date of completion of the search	Examiner
Munich		2 May 2005	Mueller, C
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 04 02 8543

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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02-05-2005

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