

(19)



Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number:

0 224 293
A1

(12)

EUROPEAN PATENT APPLICATION

(21) Application number: 86201949.4

(51) Int. Cl.4: **B67D 1/04**, **B67D 1/06**,
B67D 1/08

(22) Date of filing: 07.11.86

(30) Priority: 08.11.85 NL 8503067

(43) Date of publication of application:
03.06.87 Bulletin 87/23

(84) Designated Contracting States:
CH DE ES FR GB GR IT LI NL

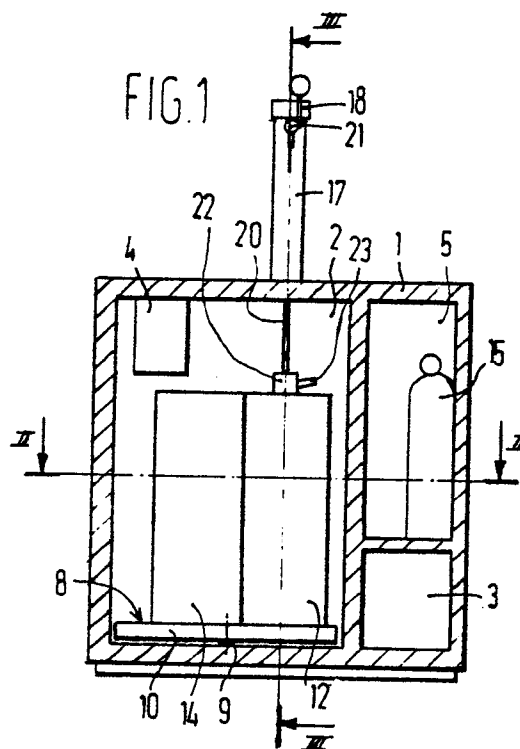
(71) Applicant: **Heineken Technisch Beheer B.V.**
2e Weteringplantsoen 21
NL-1017 ZD Amsterdam(NL)

(72) Inventor: **Dijkstra, Jacobus**
Vossenschanslaan 80
NL-3445 ED Woerden(NL)
Inventor: **Slootweg, Gijbert**
Nassaulaan 104
NL-2382 GP Zoeterwoude(NL)

(74) Representative: **Smulders, Theodorus A.H.J.**
et al
Vereenigde Octrooibureaux Nieuwe Parklaan
107
NL-2587 BP 's-Gravenhage(NL)

(54) **A beer tapping installation.**

(57) A beer tapping installation comprising a refrigerator having a cask cooling installation space (2) including a revolving platform (8) on which casks - (12,13,14) can be placed and with a space for accommodating a CO₂ cylinder (15), as well as a tap - (21), a beer line (20) from the cask installation space to the tap, a hollow support (17) for enveloping the beer line from the refrigerator to the tap, a cask coupling (22) on the beer line and a CO₂ supply line from the CO₂ container to the cask coupling. The hollow support is in open communication with the cask cooling and installation space and the beer line, together with the cask coupling and the tap, is movable longitudinally of the hollow support.



EP 0 224 293 A1

A beer tapping installation

The present invention relates to a beer tapping installation comprising a tap, a beer line from a cask installation space to the tap, a hollow support for enveloping the beer line adjacent the tap, a cask coupling to the beer line, a cask cooling arrangement adjacent the cask installation space, a carbon dioxide supply line and an installation space of a carbon dioxide container. In such beer tapping installations used in the catering industry, the casks and the carbon dioxide containers are arranged in an other space than the tap. That other space is mostly a cellar or similar cooler space. Such an installation, to which always casks of 50 l are connected, is destined for establishments having such beer sales that a coupled cask is empty within three days and is to be replaced. When a cask is connected to the system for a longer period, a loss of quality will result, after which the beer may even "go flat". The beer still present in the cask is then no longer fit for sale, which means a loss. Establishments having minor or strongly varying beer sales have therefore been using beer in bottles up till now. This has the drawback that many additional and often heavy operations have to be carried out with bottles and crates, in addition to the fact, naturally, that the clients cannot be offered draught beer. Moreover, the installation in question with its various provisions is too unattractive economically both from a cost and a space viewpoint for establishments, institutions or clubs having the above mentioned minor or strongly varying beer sales.

It is an object of the present invention to provide a beer tapping installation for commercial use which has a relatively simple design, a small size, is relatively inexpensive and simple in operation and hence is particularly suitable for smaller sales.

Accordingly to the present invention, this is achieved with a beer tapping installation of the above described type by using a refrigerator having a cask cooling and installation space, including a revolving platform on which at least two casks can be placed and having a space for accommodating a CO₂ container, with the hollow support being mounted on the top surface of the refrigerator and being in open communication at that location with the cask cooling and installation space, while the beer line, together with the cask coupling and the tap, is movable longitudinally of said hollow support. These features allow to obtain a complete beer tapping installation which, when smaller casks of e.g. 20 l capacity are used, enable to use a refrigerator having a depth dimension in the order of magnitude of a conventional tap. An empty cask can be removed in a simpler manner because cask

coupling, beer line and tap can be lifted jointly, after which the empty cask can be brought into the optimum removal position by rotation of the revolving platform. Preferably, the casks are arranged on said platform in such a manner that this rotation brings full cask in the coupling position with the beer line. A particularly effective arrangement can be obtained when, in accordance with a preferred embodiment of the present invention, the revolving platform is adapted for the arrangement of three casks in rotational symmetry. A new full cask to be coupled is at the proper temperature due to its being stored in the cooling space, so that beer tapping can be continued virtually without loss of time. The empty cask is removed and replaced by a full one, which is brought at the desired consumption temperature by placement in the cooling space. Thus, the revolving platform provides not only a simple method of replacement for an empty cask, but also ensures that the full cask longest present in the cooling space is tapped. The placement of full casks in the cooling space gives the additional advantage that the storage of casks in stock does not require special cooling measures, since the cooling space contains a sufficiently large cooled stock. The cooling space also ensures a constant low temperature, which means that CO₂ consumption is minimal, while a one-off adjustment of the CO₂ pressure is sufficient. Moreover, the presence of an installation space for a CO₂ container in the refrigerator ensures a convenient method of inspection and replacement of said container. The application of the refrigerator has the additional advantage that the beer line can be cooled up to the tap in a simple manner, namely, through the open communication between the hollow support and the cooling space. This means that beer having remained in the beer line for some time has not been warmed up but has been maintained at the desired tapping temperature and need not be discarded, so that the loss of beer is reduced.

By means of the features according to the present invention, there is thus obtained a relatively simple, compact and, if desired, movable beer tapping installation occupying little space, which is simple and convenient in use and is excellently suitable for operation with smaller casks than conventional, so that a tapped cask is empty more quickly which, with given beer sales, mean less loss of beer and a constant good quality of the beer.

When, in accordance with a further embodiment of the present invention, the cask coupling is mounted for rotation relative to the beer line, beer line and tap need be movable vertically only for the purpose of uncoupling a cask. A vertical displacement of the tap relative to the hollow support can then be realized in a simple manner when, in accordance with still another embodiment of the present invention, the hollow support is provided with a longitudinal slot through which extends the tap attached to the beer line. After uncoupling an empty cask, the cask coupling, for the purpose of replacing the cask, can be maintained at a higher level in a simple manner when, in accordance with still another embodiment of the present invention, the hollow support is closed at its top with a removable cover. After removing the cover and lifting the tap out of the longitudinal slot, the tap can be rotated and, supported on the top of the hollow support, be positioned so that the beer line and the cask coupling attached thereto continue to hang in a lifted position, in which they do not hinder the replacement of the cask.

When, in accordance with a still further embodiment of the present invention, the cask coupling is attached releasably to the beer line, there is further provided a possibility of washing out the beer line in a rapid and simple manner. After loosening the cask coupling, the beer line with tap can be pulled out of the hollow support and be coupled to a source of hot water for being flushed. This can be done by the user himself, so that no specialized company need be employed, which is a further cost-saving factor.

The beer in a cask placed in the cooling space can be cooled within 12 hours from ambient temperature to the ideal temperature of 5°C when, according to a still further embodiment of the present invention, the refrigerator is provided with a forced cooling element.

One embodiment of the beer tapping installation according to the present invention will now be described, by way of example, with reference to the accompanying drawings, in which:

Fig. 1 is a cross-sectional view of a beer tapping installation on the line I-I of Fig. 2;

Fig. 2 is a cross-sectional view on the line II-II of Fig. 1; and

Fig. 3 is a cross-sectional view on the line III-III of Fig. 1.

The beer tapping installation shown in Figs. 1-3 comprises a refrigerator 1 having a cooling space 2, a cooling element 3, a forced cooling element 4 and a storage space 5.

The cooling space 2 is accessible by means of a door 6, the storage space 5 by means of a door 7. In cooling space 2 is arranged a revolving platform 8, whose possibility of rotation is shown dia-

grammatically by an axis 9. By means of an upright peripheral edge 10 and ribs 11 platform 8 is divided into three surfaces, each for receiving a cask 12, 13, 14. The storage space 5 contains provisions installing and connecting a CO₂ cylinder 15.

Formed in the upper wall of refrigerator 1 is a through opening 16 terminating in cooling space 5 and communicating with a hollow support 17 mounted on the upper wall of refrigerator 1. Hollow support 17 is closed at its top with a removable cover 18 and is provided with a slot 19 through which extends a beer line 20 with tap 21 mounted thereon. Beer line 20 extends through hollow support 17 and openi 16 downwardly and is provided at its lower end with a cask coupling 22 having a connecting socket 23 for a CO₂ line, not shown, to the CO₂ cylinder 15 in storage space 5.

Cask coupling 22 is coupled to the cask 12 by a screwing movement. To perform this screwing movement without rotation of the beer line 20, which rotation would be prevented by the beer line 20 with tap 21 extending through slot 19, cask coupling 22 is connected to the beer line 20 so as to be rotatable. Said rotary connection is also releasable, so that after removal of cover 18, the beer line 20 with tap 21 can be pulled upwardly out of the hollow support 17. As a result, beer line and tap can be cleaned separately and in a simple manner by connecting the cask coupling end of the beer line 20 to a source of hot water and, after opening tap 21, flushing the line 20 for the desired period of time.

The following procedure is followed for the replacement of a cask.

After shutting off the CO₂ supply from cylinder 15 and removing cover 18, the cask coupling 22 is loosened with a screwing movement, which is possible because the cask coupling 22 is rotatable relative to the beer line 20 and because the beer line 20 can be moved upwardly relative to the cask 12 and the hollow support 17, while the tap 21 is lifted in slot 19. After loosening cask coupling 22, this is pushed upwards together with the beer line 20 and the tap 21 to the extent that the tap 21 gets out of the slot 19, after which, through pivotal movement of the beer line 20 and through tap 21 bearing on the upper edge of the hollow support 17, the assembly 20-23 continues to hang in the lifted position. It is observed that the CO₂ line should be either uncoupled or be flexible.

Subsequently, platform 8 is rotated to the right, as viewed in Fig. 2, in such a manner that cask 12 comes to be in the position formerly occupied by cask 14, while simultaneously cask 13 comes to be in the position occupied earlier by cask 12. The empty cask 12 can now be removed from refrigerator 1 in a simple manner and be replaced by a new

cask, while cask 13 is then in the proper position for being connected to the beer line 20 by means of cask coupling 22, which is effected by performing the above uncoupling operations in the reverse order.

It appears from the above procedure that cask 13 was present in the cooling space already longer than cask 14, so that automatically the full cask that is longest present is connected. The newly placed cask in replacement of the cask 12 will be cooled, while the through-flow time of the installation (first, cask 13 and then cask 14 will have to be emptied) will generally be sufficient to bring said cask in an optimally cooled condition before it is connected.

It will also be clear from the above description that the CO₂ cylinder 15 in the storage space 5 is optimally accessible by means of door 7.

Naturally, many modifications and variants are possible without departing from the scope of the present invention. For instance, a number of casks other than three can be used with a corresponding adjustment of the revolving platform 8. Furthermore, the entire beer tapping installation can be placed on wheels when a mobile use is desired.

Claims

1. A beer tapping installation comprising a tap, a beer line from a cask installation space to the tap, a hollow support for enveloping the beer line adjacent the tap, a cask coupling on the beer line, a cask cooling device adjacent the cask installation space, a CO₂ supply line and an installation space for a CO₂ container, characterized by a refrigerator having a cask cooling and installation space including a revolving platform on which at least two casks can be placed, and with a space for accommodating a CO₂ container, said hollow support being mounted on the upper surface of the refrigerator and at that location being in open communication with the cask cooling and installation space, while the beer line, together with the cask coupling and the tap, is movable longitudinally of the hollow support.

2. A beer tapping installation according to claim 1, characterized in that the revolving platform is adapted for arrangement of three casks in rotational symmetry.

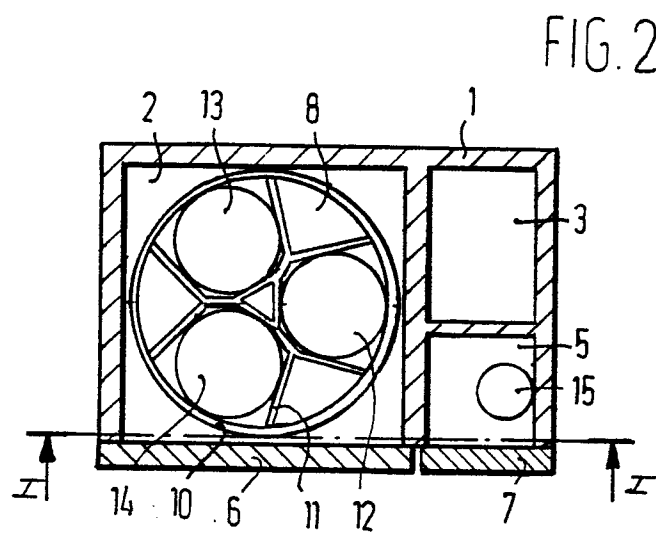
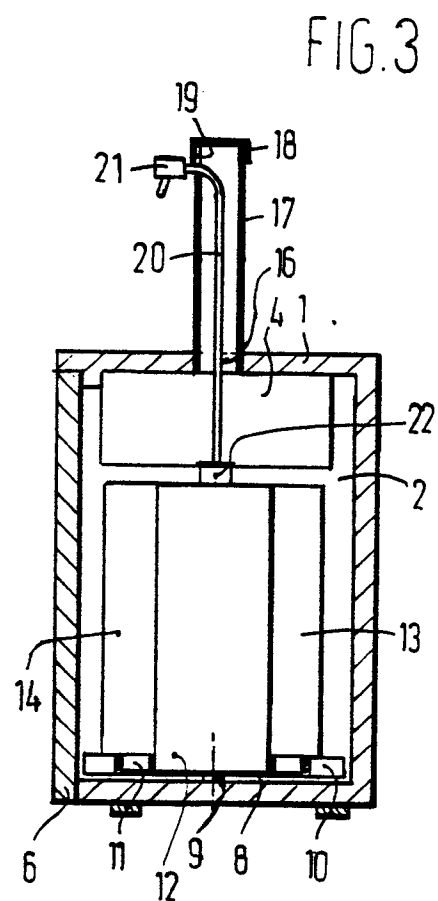
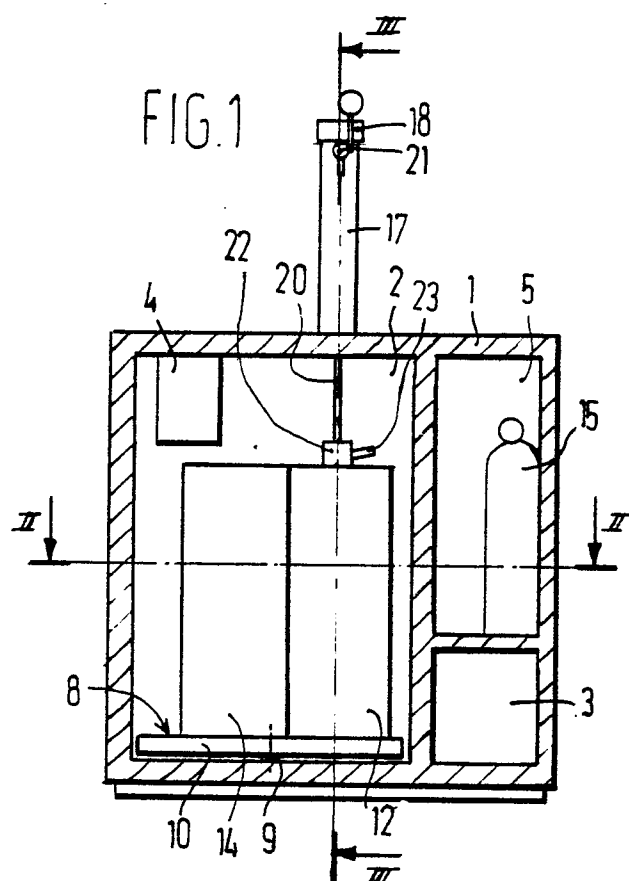
3. A beer tapping installation according to claim 1 or 2, characterized in that the cask coupling is mounted for rotation relative to the beer line.

4. A beer tapping installation according to claim 3, characterized in that the hollow support has a longitudinal slot therein through which extends the tap attached to the beer line.

5. A beer tapping installation according to claim 4, characterized in that the hollow support is closed at its top with a removable cover.

6. A beer tapping installation according to claim 5, characterized in that the cask coupling is attached releasably to the beer line.

7. A beer tapping installation according to any of the preceding claims, characterized in that the refrigerator includes a forced cooling element.





EP 86 20 1949

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.4)
Y	US-A-4 350 267 (NELSON) * Column 2, line 62 - column 4, line 59; figures 1-7 *	1,3,7	B 67 D 1/04 B 67 D 1/06 B 67 D 1/08
Y	--- DE-C- 888 058 (VENKER) * Page 2, lines 32-98; figures 1-3 *	1,3,7	
Y	--- US-A-2 199 718 (AYERS) * Page 2, column 1, line 71 - column 2, line 9; figure 1 *	3	
A	--- US-A-3 790 032 (GEORGE) -----		
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int. Cl.4) B 67 D F 25 D
Place of search THE HAGUE		Date of completion of the search 30-01-1987	Examiner VROMMAN L.E.S.
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	