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OCTROOIBUREAU ARNOLD & SIEDSMA
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NL-2517 GK Den Haag (NL)(54) **Rubbish collecting container.**

(57) The present invention provides a container for collecting rubbish, comprising;

- a number of posts (1-4) and there between securable mounted sidewalls (8) which make up part of a frame;
- a lower wall (9) mounted at the bottom of the frame;
- an upper wall at the top of the frame and

provided with one or more disposal openings (18,19) for the disposal of rubbish;

- engaging means (10) for allowing engaging of a robot arm, said engaging means being mounted on one wallpart and;
- one or more ancillary panels (20-23) for placing in front of the securable sidewalls thereof.

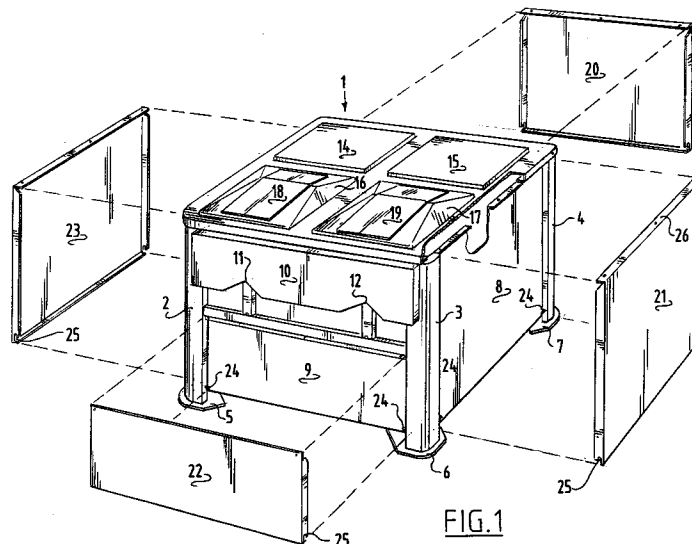


FIG.1

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In many places in Holland and abroad, domestic rubbish is still placed in plastic rubbish bags onto the street at set times so that the rubbish collectors can deposit these into a rubbish truck by hand. This method of rubbish collection makes difficult the separation into fractions thereof and yields an undesirable street appearance. The more so when not everybody puts their plastic rubbish bags onto the street at the same time. Due to the heavy loads involved in their work, very few rubbish collectors achieve their pension. A driver fore- in and a man collecting rubbish at the rear of the rubbish truck are needed.

In certain areas in Holland, wheeled containers, often of synthetic material, are provided for residents, wherein the domestic rubbish can be collected. These containers are then wheeled to the street at set times, so that they can be emptied by means of a robotarm on the rubbish truck.

In order to separate the domestic rubbish into fractions, different containers are put at the disposal of the users. In addition this method is not practicable in heavily populated city areas wherein, in one building, a number of households live on differing floors.

At the moment in a number of heavily populated city areas, it is being considered to place containers on the street, these being preferably provided with different compartments for collecting different sorts of rubbish, for instance vegetables, fruit and garden rubbish, glass, paper etc. so that these can be emptied at set times by means of a rubbish truck with a robot arm whilst the residents can continuously deposit their rubbish in the correct compartments of the container and so that dirtying of the street is obviated.

The present invention has for its object to further improve the known container and provides a container for collecting rubbish comprising:

- a number of posts and there between securably mounted sidewalls which make up part of a frame;
- a lower wall mounted at the bottom of the frame;
- an upper wall at the top of the frame and provided with one or more disposal openings for the disposal of rubbish;
- engaging means for allowing engaging of a robot arm, said engaging means being mounted on one wallpart and;
- one or more ancillary panels for placing in front of the securable sidewalls thereof.

By means of the ancillary panels it is possible to commence from a standard design for the container whilst according to wishes, an eyesore is not created on the street by means of giving these ancillary panels for the container an attractive appearance.

A further aspect of the present invention concerns the way in which the ancillary panels are secured, so that this securing requires little physical labour and or the ancillary panels are easily replaced when damaged.

According to a further aspect of the present invention a container is provided with such a locking mechanism for the upper wall thereof that on lifting up of the container by a robot arm of a rubbish truck, the locking mechanism automatically releases the upperwall or the lid.

Further advantages, characteristics and details of the present invention will become clear in the light of the following description of a preferred embodiment thereof with reference to the accompanying drawings which show:

- fig. 1, an exploded perspective view of a preferred embodiment of a container according to the present invention;
- fig. 2, a partly cut away and opened side perspective view of a detail of the container from fig. 1;
- fig. 3, a partly broken away perspective view of a second detail of the container from fig. 1; and
- fig. 4, a partly broken and exploded perspective view of a third detail of the container from fig. 1.

In fig. 1 the posts 2, 3, 4 of a container 1 are provided with feet 5, 6, 7 (being visible), as well as there-between mounted sidewalls 8, 9 respectively, which form a frame or chassis. The feet 5, 6 and 7 preferably keep the bottom wall (not visible in fig. 1), at a distance from the ground B whereon the feet are placed so that the ground beneath the container can be easily cleaned. A reinforced plate part 10 provided with recesses 11 and 12 respectively, where behind a robot arm of a rubbish truck can engage, is secured to the side wall 9. In the present embodiment example an upper wall 13 of the container is provided with four disposal openings of which two are closed off by plate parts 14, 15 respectively and two are provided with cap elements 16, 17 respectively which are provided with hingeable canopies 18, 19 respectively for the disposal of rubbish.

In a manner not shown, openings in the upper wall 13 are also provided for the disposal of glass and/or old paper. It is also possible to place a number of the containers 1 next to each other, each with different compartments for the disposal of different types of rubbish.

In a container for the collection of glass the non-visible bottom wall of the container will be, in a manner not shown, hingeably secured to the frame. Such glass containers are often emptied by special vehicles.

In a manner not shown it is also possible to turn the hingeable canopies and/or disposable openings for glass and/or old paper through 90° to

each of the four positions so that in accordance with wishes, for instance near a street corner, accessibility to the container is always guaranteed.

When the container, in contrast to the aligned arrangement in fig. 1 is accessible from two opposite directions an optimal filling degree of the container can be achieved.

To obtain an attractive appearance of the container, of which a post and sidewalls are preferably made of galvanized steel, ancillary panels 20, 21, 22 and 23 respectively are secured to the container whereby due to the presence of engaging means 10 the ancillary panel 22 is not made so high as the panels 20, 21 and 23. The colour and finish of the ancillary panels can be adapted to the sort of building in the area where these are to be placed, for instance bright colours in a relatively new area and less incongruous colours in an area with older houses.

The container is preferably provided on the underside thereof with pins 24 on the post for placing of the panels 20-23 with little effort and the ancillary panels on the underside are provided with complementary grooves 25, see also fig. 2. On placing of the panels 20-23, each of the two grooves 25 on a panel are placed over two corresponding pins 24 between two posts and thereafter swung upwards to an upright position until a turned-over edge 27 of the sidewall slots into position whereafter the edges are joined to each other, preferably by means of the nail 28 which, in so doing, does not yield any disturbance to the tight, smooth appearance of the container.

The panels of the sidewalls of the container can easily be exchanged, when damaged and/or stained with e.g. 'graffity', so that the appearance of the containers can be maintained clean.

The panel 22 (fig. 3) fits under a lying profile part 29 and is secured by means of nail 31 to an extra profile part 30.

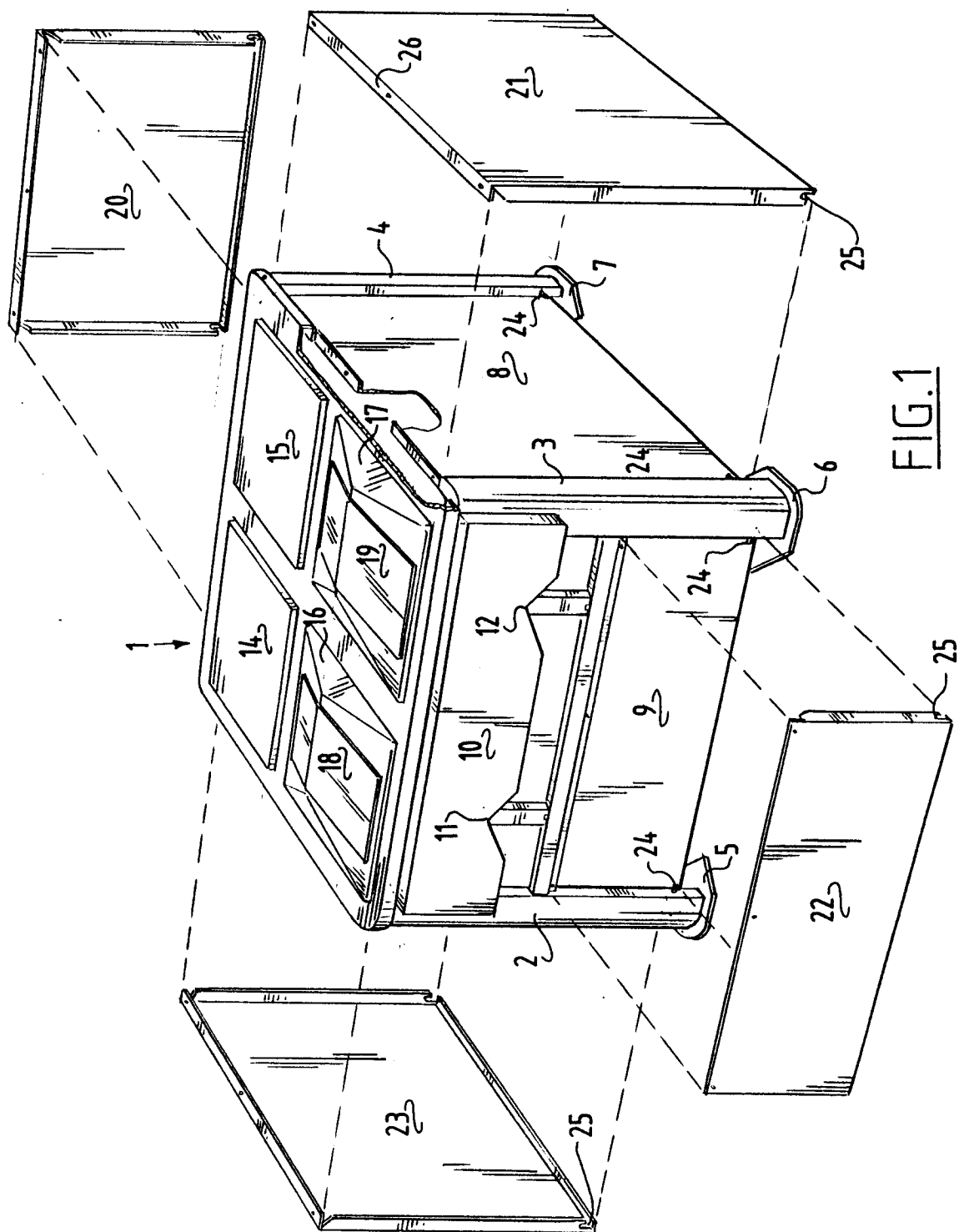
On emptying of the container, this is engaged at the plate part 10 and lifted up in its entirety by means of a not shown robot arm. In its tipped-over state, this is then emptied into a reservoir or tank of the rubbish truck, for which purpose the upper wall 13 (fig. 4) opens. To achieve this, a locking mechanism is mounted in post 2 (and also preferably in post 3) for the upper wall 13, said upper wall being hingeably secured to the frame at its rear side. This locking mechanism 40 comprises a hingeably secured locking hook 41 which grips behind an element 42 which is in turn joined to the upper wall 13. The locking hook 41 is rotatable about a pin 43 and, in the shown position in fig. 4, is forced by means of a screw spring 44. A joist 45 extends through the post which on lifting up of the container, forces under its own weight, the locking hook 41 according to arrow C, from the locking position

shown in fig. 4 against the resistance of the screw spring 44 until it moves to an open position, so that on tipping of the container this, via the then opened upper wall, can be emptied.

The present invention is not limited to the shown and described preferred embodiment thereof. The rights are rather determined in the first instance by the following claims.

Claims

1. Rubbish collecting container, comprising:
 - a number of posts and there between securably mounted sidewalls which make up part of a frame;
 - a lower wall mounted at the bottom of the frame;
 - an upper wall at the top of the frame and provided with one or more disposal openings for the disposal of rubbish;
 - engaging means for allowing engaging of a robot arm, said engaging means being mounted on one wallpart and;
 - one or more ancillary panels for placing in front of the securable sidewalls thereof.
2. Container according to claim 1 wherein the lower wall and the sidewalls are mounted onto the posts in such a way that it is held at a distance from the ground.
3. Container according to claims 1 or 2, wherein the ancillary panels on the lower side are provided with grooves for the placing thereof onto pins on the underside of the frame.
4. Container according to claims 1, 2 or 3, wherein the upper wall is hingeably mounted onto the frame and wherein the container is provided with locking means which lock the upper wall on placing of the container onto the ground.
5. Container according to claim 4, wherein the locking means comprise a locking hook which is joined with a joist which projects through a post and which in the locked position makes contact with the ground.



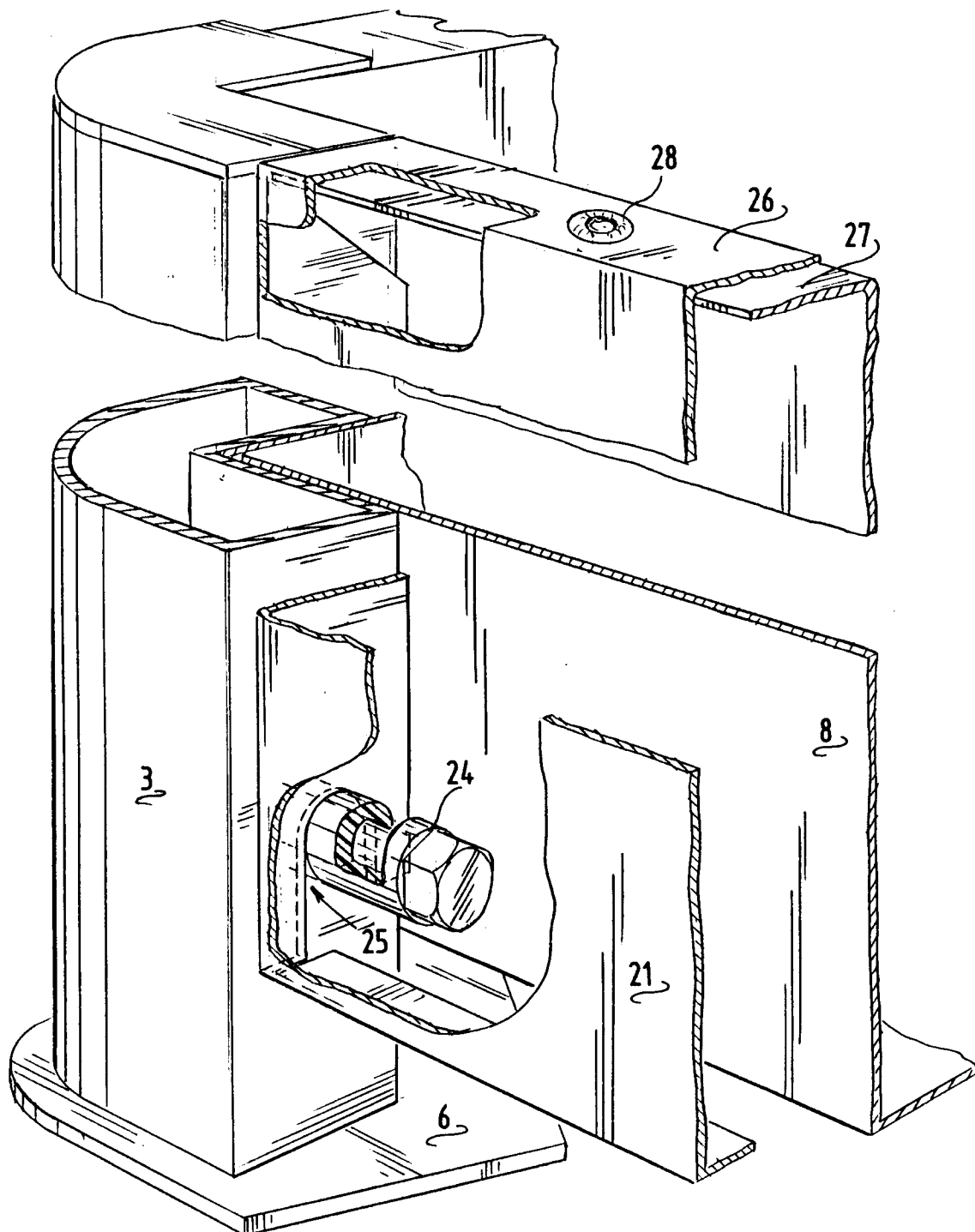
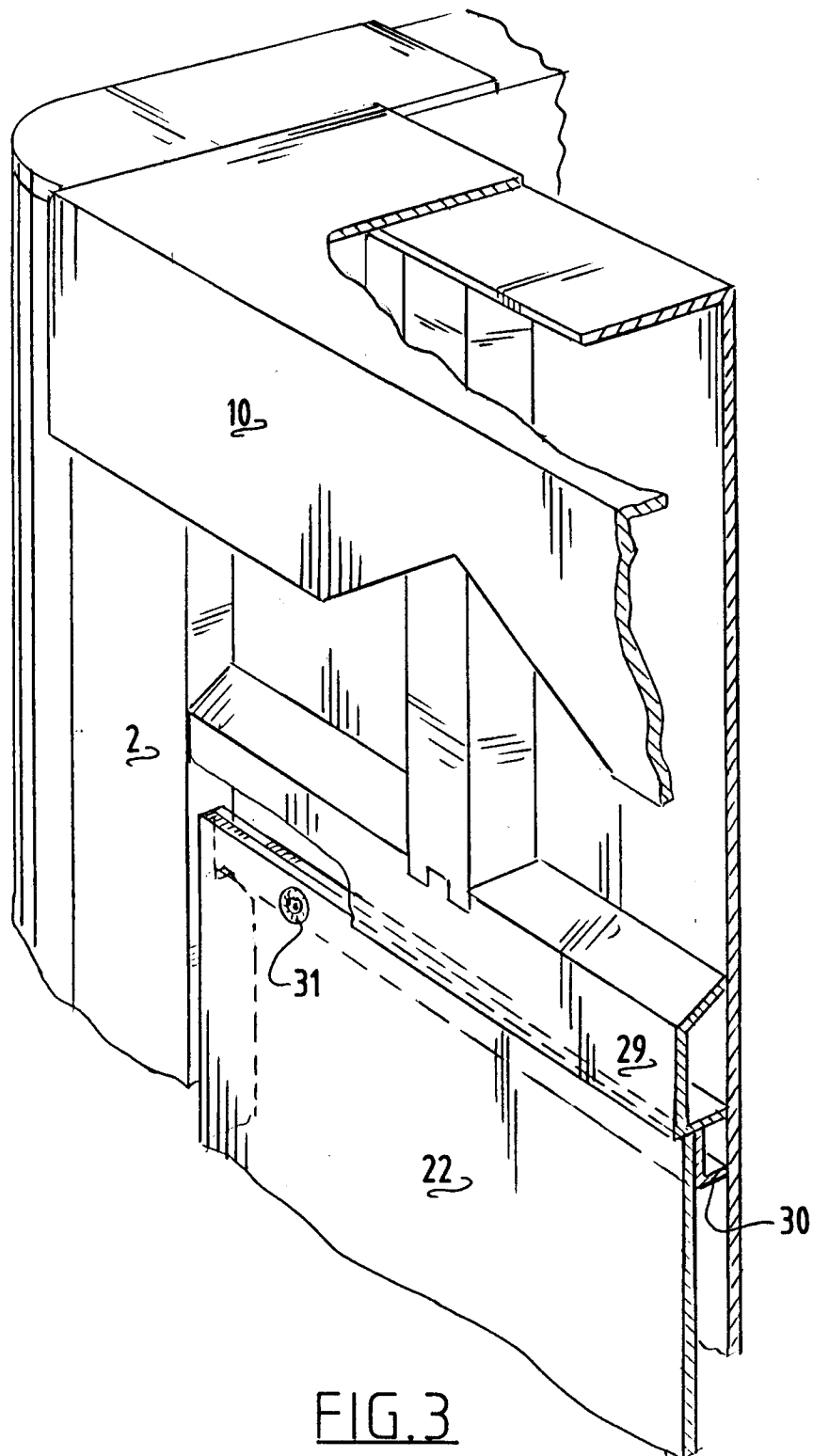


FIG.2



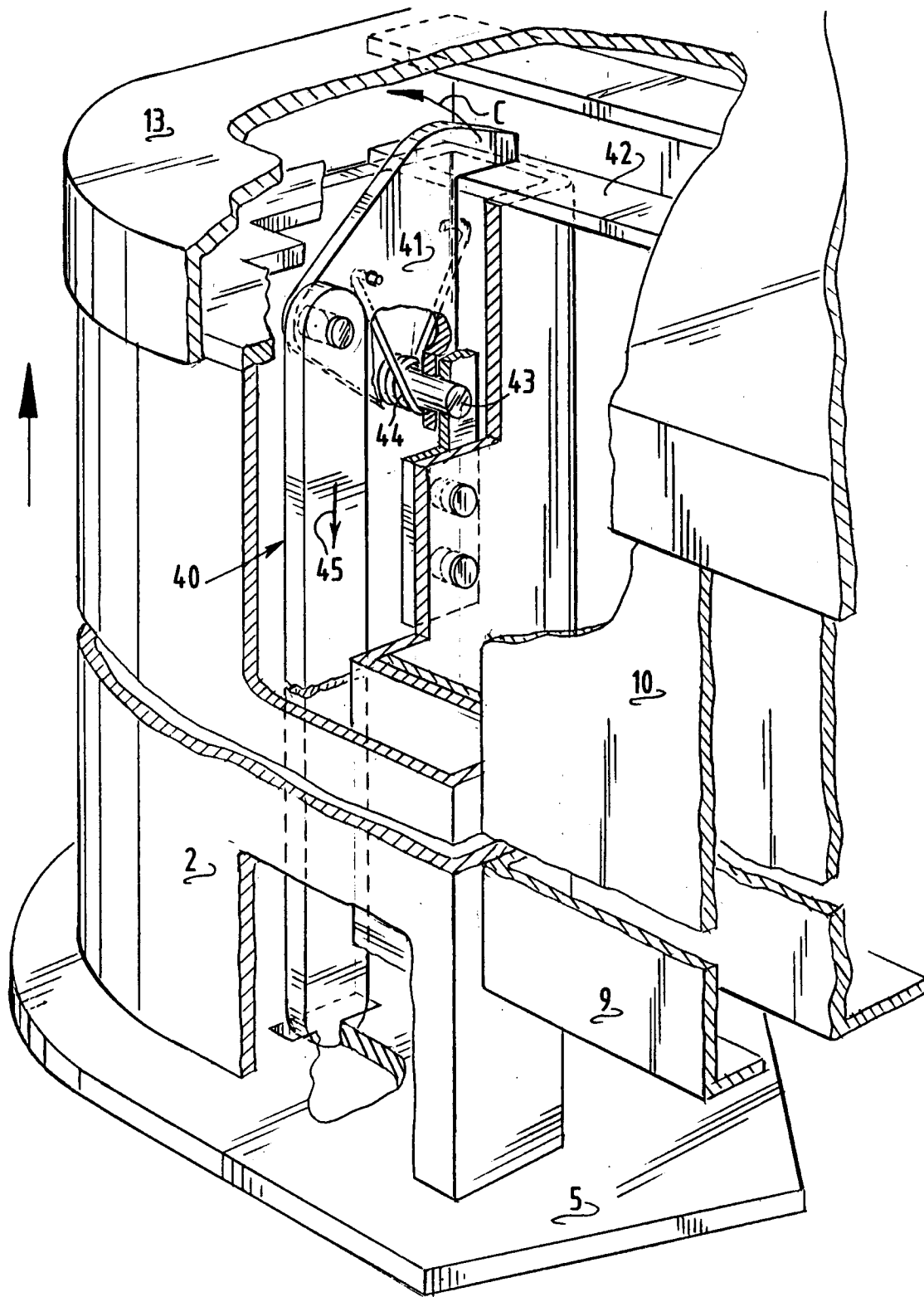


FIG. 4



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EUROPEAN SEARCH REPORT

Application Number
EP 94 20 3029

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.6)
X	US-A-1 424 519 (RICHARDSON) * column 1, line 44 - column 2, line 75; figures *	1-3	B65F1/02 B65F1/16
A	DE-U-92 08 013 (HÄFNER & KRULLMANN) * claim 1; figure 1 *	1	
A	US-A-1 934 220 (WILLSON)		
A	DE-A-22 35 010 (GOLDHAMMER)		
A	DE-A-17 56 789 (WENDELIN ET AL.)		
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			B65F
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 5 January 1995	Examiner Deutsch, J-P
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	