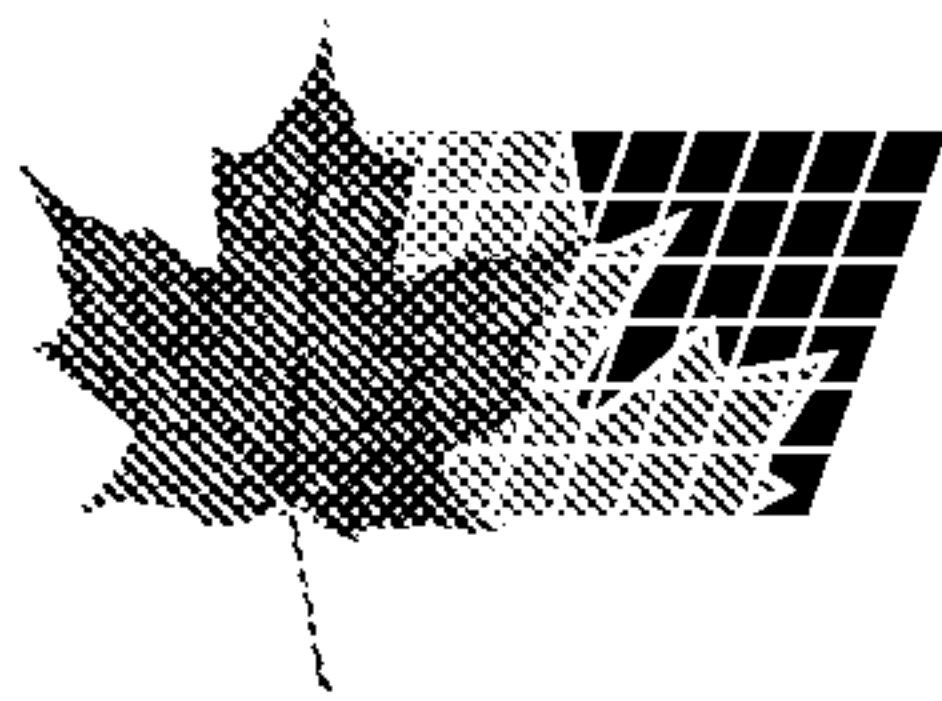




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(54) **DISPOSITIF DE DISTRIBUTION D'EAU CHAUDE POUR
CAMIONS, VEHICULES ARTICULES, ET SIMILAIRES**

(54) **HOT WATER DELIVERY DEVICE FOR APPLICATION TO
TRUCKS, TRACTOR-TRAILER VEHICLES AND THE LIKE**

(57) L'invention concerne un dispositif de distribution d'eau chaude (20), destiné à être utilisé dans des camions, des véhicules articulés, et similaires. Ce dispositif, qui comprend une citerne à eau (1), peut être logé dans une enveloppe rigide (10) située sous la plate-forme du véhicule. Cette invention concerne en particulier un chauffe-eau (6) à énergie électrique conçu pour le dispositif susmentionné, la taille de ce chauffe-eau lui permettant d'être logé à l'intérieur de ladite enveloppe.

(57) The invention relates to a hot water delivery device (20), for application to trucks, tractor-trailer vehicles and the like, including a water tank (1) and which can be housed in a casing (10) rigid with the platform of the vehicle. The main feature of the invention is that the device further comprises an electric power supplied boiler (6), having a size adapted to allow the boiler to be housed in said casing (10).

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(21) International Application Number: PCT/IT98/00307 (22) International Filing Date: 2 November 1998 (02.11.98) (30) Priority Data: MI97U000786 4 November 1997 (04.11.97) IT (71) Applicant (for all designated States except US): TECNOLOGIE PAC DI CARLA NICOLI & C. S.A.S. [IT/IT]; Via Vincenzo Monti, 47, I-20123 Milano (IT). (72) Inventor; and (75) Inventor/Applicant (for US only): DAMIANI, Pasquale [IT/IT]; Vicolo Lazzaretto, 23/D, I-26020 Cremona (IT). (74) Agent: CICOGNA, Franco; Ufficio Internazionale Brevetti Dott.Prof. Franco Cicogna, Via Visconti di Modrone, 14/A, I-20122 Milano (IT).		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i>
(54) Title: HOT WATER DELIVERY DEVICE FOR APPLICATION TO TRUCKS, TRACTOR-TRAILER VEHICLES AND THE LIKE (57) Abstract The invention relates to a hot water delivery device (20), for application to trucks, tractor-trailer vehicles and the like, including a water tank (1) and which can be housed in a casing (10) rigid with the platform of the vehicle. The main feature of the invention is that the device further comprises an electric power supplied boiler (6), having a size adapted to allow the boiler to be housed in said casing (10).		

Description

**HOT WATER DELIVERY DEVICE FOR APPLICATION TO TRUCKS,
TRACTOR-TRAILER VEHICLES AND THE LIKE****BACKGROUND OF THE INVENTION**

The present invention relates to a hot water delivery device for application to trucks, tractor-trailer vehicles and the like.

As is known, truck and tractor-trailer drivers usually drives their vehicles through long distances in performing their product transportation jobs.

Thus, it would be advantageously for the driver to have available hot water for example for hand washing purposes, as required after servicing operations to the vehicle or in parking places or the like.

The availability of hot water would be very advantageous, in particular, in winter and night periods.

In fact, frequently a truck driver, as one of the above mentioned events occurs, cannot easily access hot water delivery stations on roads or highways; moreover, prior trucks or tractor-trailers do not include heating means for heating a possibly transported water amount.

Thus, as stated, it would be very advantageous to provide a hot water delivery device, to be easily applied to the above vehicles, and which allows to overcome or greatly reduce the above mentioned problems.

The document DE-A-24 24 216 2 discloses a hot water delivering device substantially according to the preamble of Claim 1.

SUMMARY OF THE INVENTION

Accordingly, the aim of the present invention is to provide such a hot water delivery
 5 device allowing the drivers of the above mentioned vehicles to have available a suitable hot water amount for meeting all of their contingent requirements.

Within the scope of the above mentioned aim, a main object of the present invention is to
 10 provide such a hot water delivery device, for application to trucks and the like, which can be used even in particularly rigid environmental conditions.

According to the present invention, the above mentioned aim and object, as well as yet other
 15 objects, which will become more apparent hereinafter, are achieved by a device for delivering hot water, for application to trucks, tractor-trailer vehicles and the like, ^{according to claim 1.} ~~of the type including a water tank and which~~
 can be housed in a casing rigid with the platform of
 20 said vehicle, characterized in that said device further comprises, in said casing, heating means for heating water supplied by said water tank, as well as temperature adjusting means for adjusting the
~~temperature of the delivered water.~~

25 According to a preferred embodiment of the invention, said heating means comprise a water boiler.

The boilers herein preferably used are electrically supplied, and have a comparatively small size, to be easily transported.

30 In particular, by way of a not limitative example, for a water tank holding 20 liters of water, it would be possible to use a boiler power supplied at 24 V, and having an electric power of 400 Watts.

AMENDED SHEET

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In order to adjust the delivered water temperature, according to the user requirements, a mixing faucet is arranged between the water tank and boiler.

5 In said casing holding said device according to the invention, it is also possible to provide an electric resistance, for preventing water in said tank from freezing, in a case of a comparatively low outer temperature.

10

BRIEF DESCRIPTION OF THE DRAWINGS

Further characteristics and advantages of the present invention will become more apparent
15 hereinafter from the following detailed disclosure, given by way of an illustrative but not limitative example, with reference to the accompanying drawings, where:

Figure 1 is a front view of the hot water
20 delivery device for application to trucks and the like, according to the invention;

Figure 2 is a side view of the device according to the invention; and

Figure 3 is a further side view of the
25 device according to the invention, in which is furthermore shown an anti-freezing electric resistance.

DESCRIPTION OF THE PREFERRED EMBODIMENT

30

In the following disclosure, reference will be made to a preferred embodiment of the invention, which is illustrated, by way of a not limitative

example of a lot of possible variations of the invention.

The hot water delivery device, for application to trucks and the like vehicles, according to the present invention, and which has been generally indicated by the reference number 20, can be housed inside a casing 10, rigid with the vehicle, and being preferably applied under the vehicle platform.

In said casing 10, a tank 1 holding therein water to be heated and controllably supplied is arranged.

The water held in said water tank 1 is supplied from said water tank to a boiler 6, electrically power-supplied, by a submersed pump 2.

The boiler 6 is preferably provided with a thermostat or temperature switch 7 for adjusting the operating temperature thereof.

The water is supplied to a water delivery element 8, which can be actuated by the user, depending on the requirements.

The delivered water temperature can be adjusted by a water mixing faucet 5, arranged between the water tank 1 and boiler 6, depending on the user requirements.

The device according to the invention further comprises an electric resistance 3, for preventing water held in said water tank 1 from freezing.

In order to rationally arranging the electric wirings affecting the submersed pump 2, electric resistance 3 and boiler 6, a junction box 4 for said electric connections, is also arranged in said casing 10.

Preferably, the device according to the invention comprises moreover a soap metering assembly 9, suitably arranged on the door 15, to be easily accessed by the user.

5 In particular, and by way of an indicative example, for a water tank 1 holding therein 20 liters of water, it would be possible to use a boiler 6 supplied at 24 V and having an electric power of 400 Watts.

10 However, it should be apparent that it would be also possible to use a gas-fired boiler, alternately to an electrically powered boiler.

Thus, owing to the provision of the above disclosed device, the driver and possible passengers
15 of a truck will have available a sufficient hot water amount, for personal use, to meet any requirements.

In fact, for accessing the hot water delivery device, it will be sufficient, upon stopping the vehicle, to open the door 15 of the casing 10 and
20 operate the mixing faucet 5 in order to deliver hot water having a set desired temperature, said hot water being conveyed to the parts to be washed by the hot water delivery assembly 8.

Moreover, it is also possible to easily use
25 the soap as supplied by the soap metering assembly 9.

In this connection it should be pointed out that the water tank 1 can be easily water re-supplied in order to recover the water amount therein.

CLAIMS

1. A hot water delivery device (20), for application to trucks, tractor-trailers and the like vehicles, including a water tank (1) holding herein
5 water to be heated, water heating means (6) for heating water supplied from said water tank (1) by an electrically power supplied submersed pump (2) held in said water tank (1), temperature adjusting means (5)
10 for adjusting a temperature of the delivered water, characterized in that said water tank (1), water heating means (6) and temperature adjusting means (5) are arranged in a casing (10) rigidly coupled with a platform of said vehicle, said casing (10) having an openable door (15), that said temperature adjusting
15 means (5) comprise a manually adjustable mixing faucet (5) arranged between said water tank (1) and water heating means (6) and accessible for an user through said door (15) of said casing (10), that electric resistance means (3) are moreover provided for
20 preventing water in said water tank (1) from freezing, and that in said casing (1), a junction box (4) is moreover included for providing an ordered electrical connection means for said water heating means (6), electric resistance means (3) and submersed pump (2).

25 2. A hot water delivery device, according to Claim 1, characterized in that said device comprises a soap metering assembly (9) coupled to said door (15) of said casing.

30 3. A hot water delivery device, according to Claim 1, characterized in that water heating means comprise an electric power supplied boiler.

4. A hot water delivery device, according to Claim 1, characterized in that said water heating means comprise a gas boiler.

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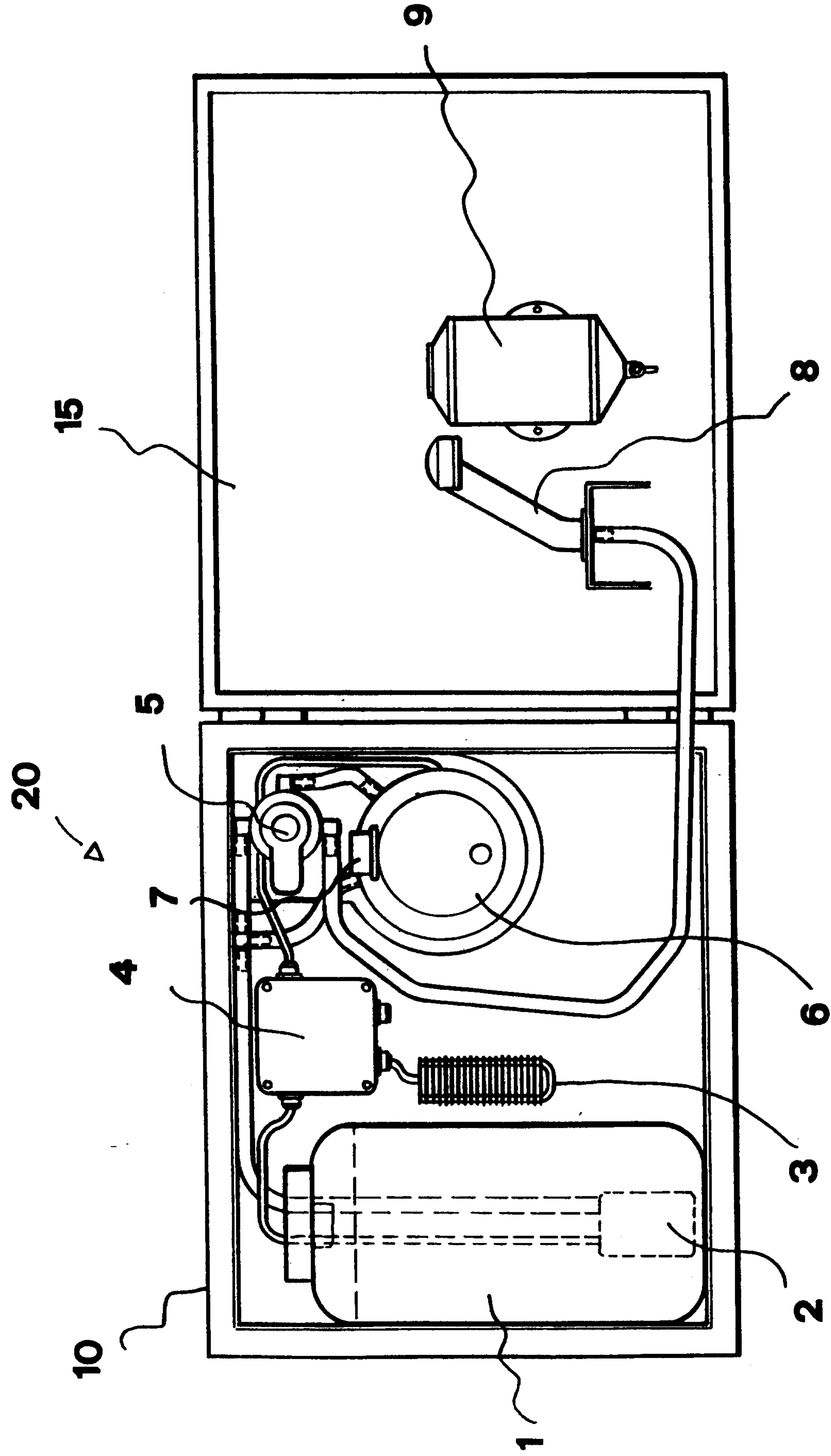


FIG. 1

20 2/2

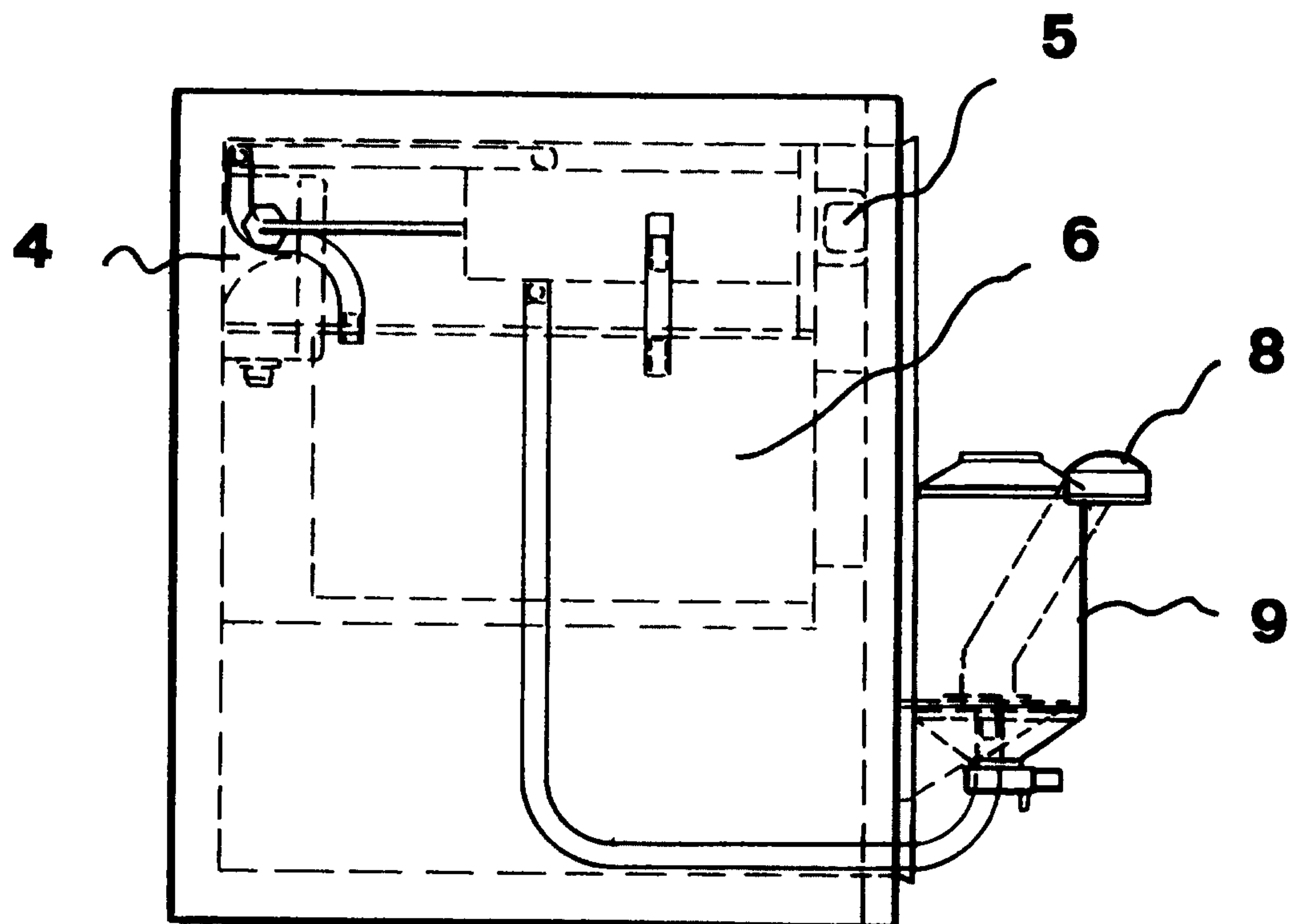


FIG. 2

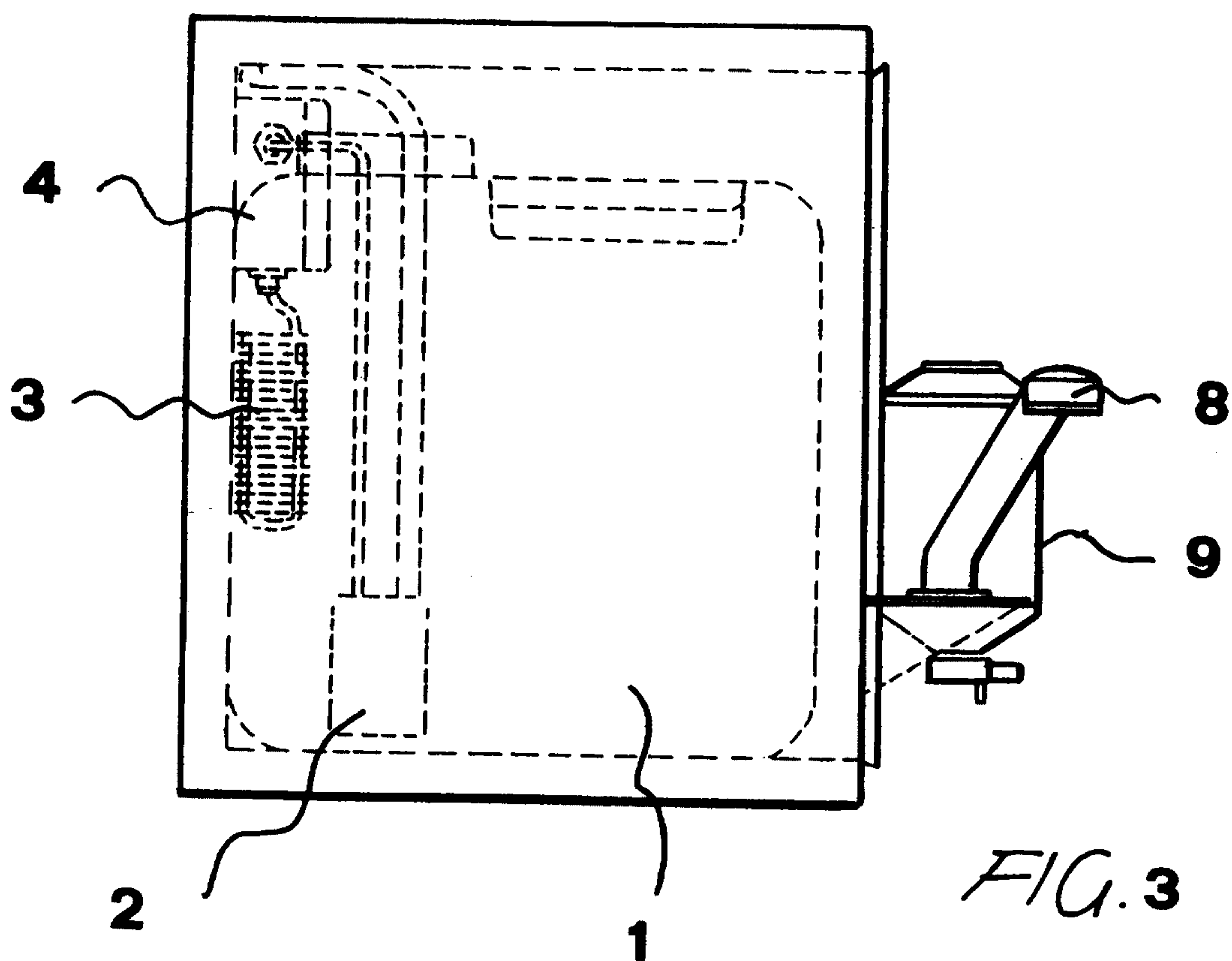


FIG. 3