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Remarks:

Amended claims in accordance with Rule 137(2) EPC.

(54) **Equipment for carrying out multiple operations on laundry articles**

(57) Equipment for carrying out multiple operations on articles of laundry comprising an integrated structure (1) comprising at least one laundry washing machine (2), one laundry drying machine (3) together with a connecting top (22) located above the said machines, the said top (22) comprising at least one area (24) for the ironing

of items of laundry. The equipment also includes an additional compartment (4) for drying delicate articles of laundry located alongside the said laundry drying machine (3), the said compartment (4), being connected to the duct (5) conveying the flow of cooling air from the condensation exchanger (6) of the laundry drying machine (3).

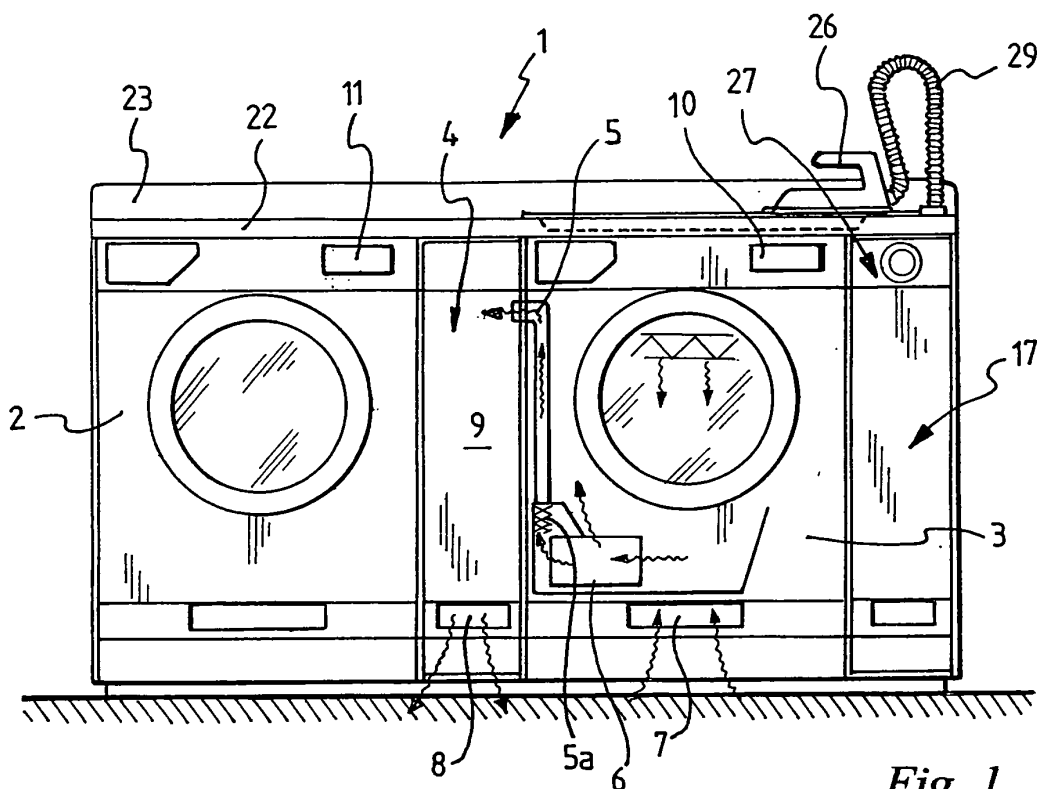


Fig. 1

Description

[0001] This invention relates to equipment for carrying out multiple operations on laundry articles, including at least washing, drying and ironing.

[0002] According to the known art, the operation of washing laundry articles is carried out in an appropriate washing machine having a separate structure, as is the operation of drying when the latter operation is not carried out immediately by hanging the articles on suitable washing lines. In particular, the ironing operation is only performed using suitable ironing boards, mainly of the folding type, which therefore require assembly before the ironing operation can begin.

[0003] The various separate machines and items of equipment in the known art have the disadvantage that they require appropriate individual spaces, appropriate connections for electrical power and connections for the water supply and drainage required for their separate installation, which are not always available in dwelling houses or in the places used as laundries.

[0004] The purpose of this invention is therefore to overcome the abovementioned disadvantages in relation to the known art by providing combined equipment capable of carrying out at least the operations of washing, drying and ironing articles of laundry.

[0005] Another object of this invention is also that of providing the user with equipment in a single unit which is capable of providing separate drying for delicate or very delicate articles of laundry.

[0006] Yet another object of this invention is to provide the user with equipment in a single unit which is also provided with cupboard compartments for articles of laundry requiring washing or ironing, or to hold those already washed and ironed.

[0007] This and other objects which will be more apparent from the following description are accomplished through the equipment according to claim 1.

[0008] Features and advantages of this invention will be more apparent from the following detailed description of an embodiment illustrated by way of a non-restrictive example in the appended drawings, in which:

- Figure 1 shows in diagrammatical form a front view of the integrated item of equipment according to the invention,
- Figure 2 shows a view from above of the integrated item of equipment in Figure 1 with the separate drying compartment for delicate articles and the compartment for housing articles requiring washing and/or ironing and/or ironed articles, both in the open position,
- Figure 3 shows a view in partial cross-section of the integrated item of equipment according to the invention along the line III-III in Figure 2,
- Figure 4 shows a view in partial cross-section of the integrated item of equipment according to the invention along the line IV-IV in Figure 2.

With reference to the above figures, 1 indicates the integrated item of equipment according to the invention as a whole. This comprises a washing machine, indicated as a whole by 2, and at least one laundry drier, indicated as a whole by 3.

[0009] The equipment also comprises an additional drying compartment, indicated by 4, located alongside laundry drying machine 3. This additional compartment 4 is fed with warm air originating from the ventilation and cooling system of the condensation exchanger, indicated by 6, of laundry drying machine 3, via duct 5. The flow of warm air is taken from the environment surrounding the machine through opening 7 provided on the front wall of the laundry drying machine, and is again discharged to the environment through opening 8, the latter being provided in the front wall 9 which closes off and opens additional compartment 4.

[0010] Additional compartment 4 is therefore intended for drying delicate or very delicate articles of laundry which do not receive satisfactory treatment in main drying machine 3.

[0011] The flow of air directed to additional compartment 4 may be heated through an electric heater 5a located in duct 5 controlled by a control unit 10 which is designed to control all the other functions and programmes of drying machine 3 in a conventional way.

[0012] A corresponding control unit indicated by 11 is provided to control washing machine 2 in a conventional way.

[0013] Additional drying compartment 4 comprises a trolley structure 12, which can be removed from the space of compartment 4, provided with a base 13 to which front vertical wall 9 closing off and opening compartment 4 is attached. A vertical structure 14, at the summit of which is located a transverse bar 15, is attached to base 13.

[0014] Hangers 16 (Figure 3), on which the delicate articles of laundry requiring drying, particularly those for which no special ironing operations are required, are placed, are hung upon the latter.

[0015] Furthermore, a cupboard compartment 17 in which an extractable structure 18 of the trolley type comprising a base 19 and a vertical front wall 20 is housed is located alongside the drying machine, on the right hand side thereof in the example illustrated. A structure 21 comprising shelves or drawers intended to contain articles of laundry requiring washing or ironing, or already washed and ironed articles ready for use, is associated with base 19.

[0016] According to one aspect of the invention, integrated item of equipment 1 comprises a top 22 with a raised portion 23 which is located above washing machine 2, drying machine 3, additional drying compartment 4 and cupboard compartment 17, connecting them together in such a way as to form a single unit.

[0017] An ironing board 24, and a support 25 for an iron 26 are provided on top 22, which can therefore act as a worktop.

[0018] If iron 26 is of the steam iron type, the integrated

item of equipment according to the invention comprises a space 27 beneath top 22 in which a boiler 28 for generating steam which is delivered to iron 26 through a conventional flexible tube 29 may be housed.

[0019] From what has been described and illustrated above it will be seen that the single unit item of equipment according to the invention comprises various items of equipment and devices for multiple operations on articles of laundry providing the user with a complete centre for washing, drying, which is also separate for delicate articles, and ironing which would otherwise require the use of several separate machines and items of equipment with a greater usage of space and with a need for separate electricity supplies and water supplies and drains which would have to be provided a different points.

[0020] It remains understood that embodiments other than those described and illustrated may be implemented by a person skilled in the art without thereby going beyond the scope of this invention as claimed below.

Claims

1. Equipment for carrying out multiple operations on items of laundry **characterised in that** it comprises a monoblock structure (1) comprising at least one laundry washing machine (2), one laundry drying machine (3) together with a connecting top (22) located above the said machines, the said top (22) comprising at least one area (24) for the ironing of items of laundry.
2. Equipment according to claim 1, **characterised in that** it includes an additional compartment (4) for drying delicate articles of laundry located alongside the said laundry drying machine (3), the said compartment (4) being connected to the duct (5) conveying the flow of cooling air from the condensation exchanger (6) of the laundry drying machine (3).
3. Equipment according to claims 1 and 2, **characterised in that** the said additional compartment (4) comprises a removable trolley structure (12) with a vertical front wall (9) capable of opening and closing off the said additional compartment (4) and with a supporting structure (14, 15, 16) for articles of laundry requiring drying.
4. Equipment according to claims 1 to 3, **characterised in that** it includes a covered compartment (17) which comprises a removable trolley structure (18), the said trolley structure (18) being provided with a vertical front wall (20) intended to open and close off the said covered compartment (17) together with a plurality of shelves and/or drawers (21) to hold the articles of laundry.
5. Equipment according to claims 1 to 4, **characterised**

in that the said connecting top (22) comprises a support (25) for an iron (26).

6. Equipment according to claim 5, **characterised in that** the said connecting top (22) includes a space (27) to house a boiler (28) generating steam for the steam iron.

Amended claims in accordance with Rule 137(2) EPC.

1. Equipment for carrying out multiple operations on items of laundry comprising in a monoblock structure (1), at least one laundry washing machine (2), one laundry drying machine (3), a connecting top (22) located above the said machines, said laundry drying machine (3) being provided with a condensation exchanger and with an air ventilation system for cooling that exchanger, **characterized in that** the said top (22) comprises at least one work top area (24) for the ironing of items of laundry and said means block structure includes an additional compartment (4) for drying delicate articles of laundry located alongside the said laundry drying machine (3), the said compartment (4) being connected to the duct (5) conveying the flow of cooling air from the condensation exchanger (6) of the laundry drying machine (3).

2. Equipment according to claim 1, **characterised in that** the said additional compartment (4) comprises a removable trolley structure (12) with a vertical front wall (9) capable of opening and closing off the said additional compartment (4) and with a supporting structure (14, 15, 16) for articles of laundry requiring drying.

3. Equipment according to claim 1, **characterised in that** it includes a covered compartment (17) which comprises a removable trolley structure (18), the said trolley structure (18) being provided with a vertical front wall (20) intended to open and close off the said covered compartment (17) together with a plurality of shelves and/or drawers (21) to hold the articles of laundry.

4. Equipment according to claim 1, **characterised in that** the said connecting top (22) comprises a support (25) for an iron (26).

5. Equipment according to claim 4, **characterised in that** the said connecting top (22) includes a space (27) to house a boiler (28) generating steam for the steam iron.

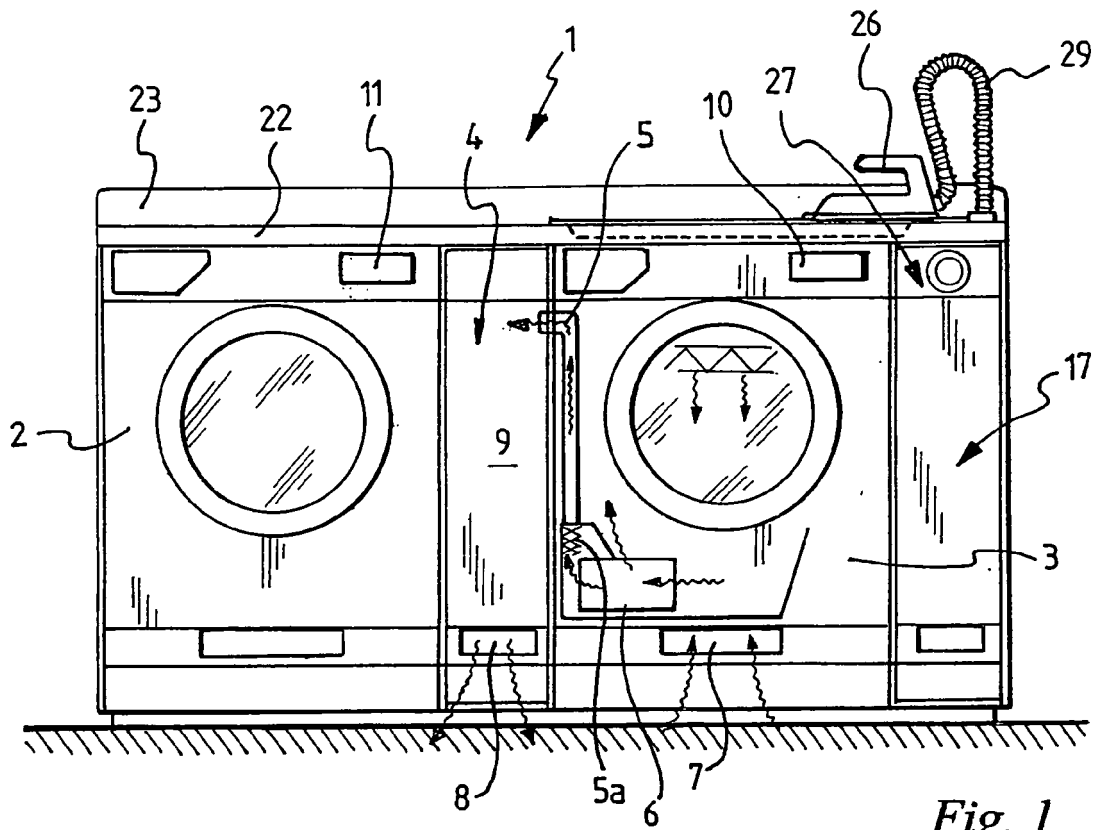


Fig. 1

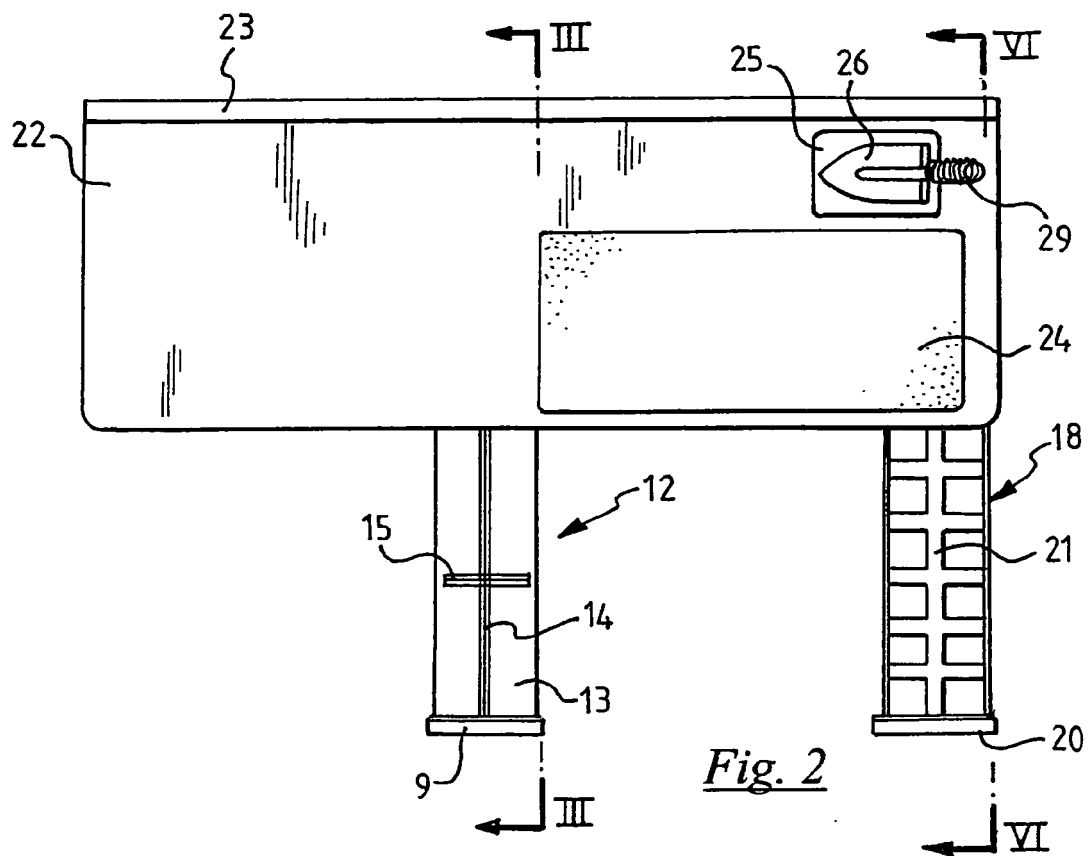


Fig. 2

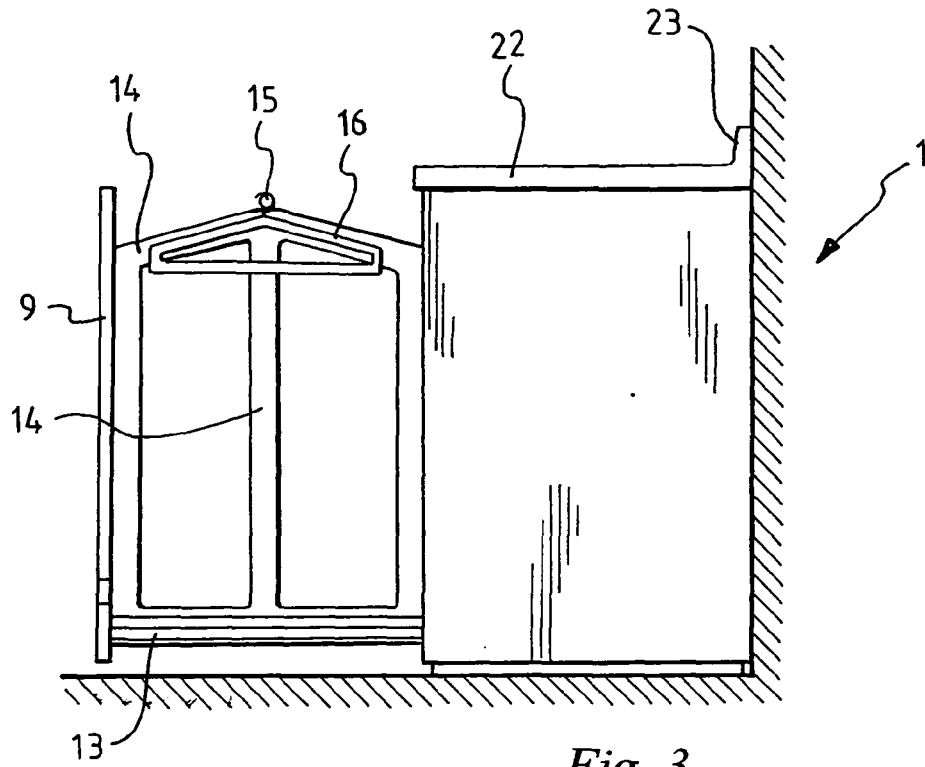


Fig. 3

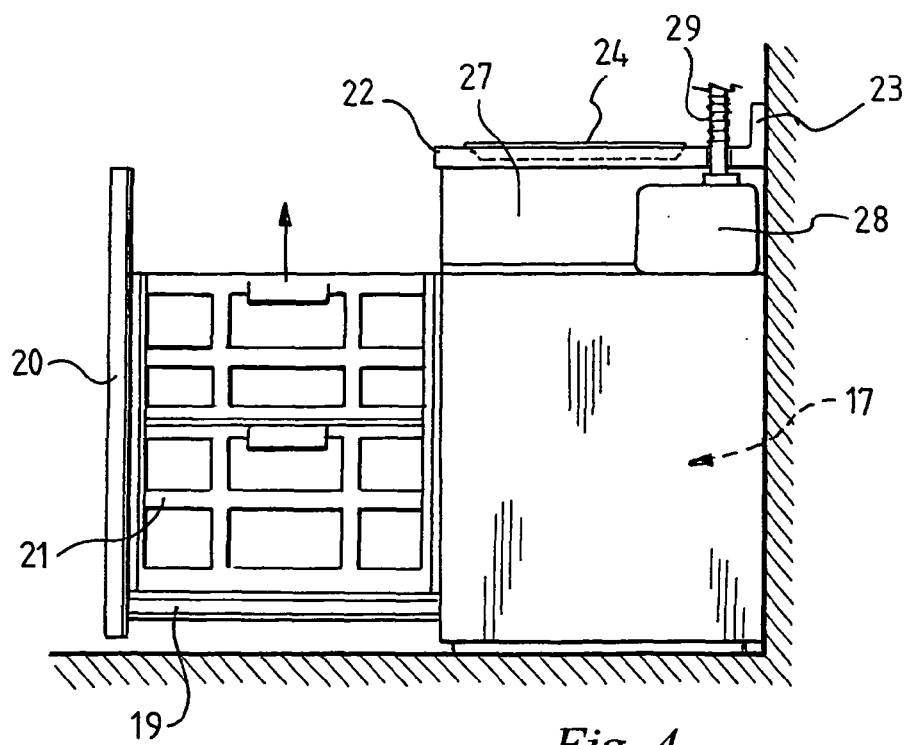


Fig. 4



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 06 42 5797

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A	paragraphs 29,35; claims 1,4; abstract; figures 10,11	2-6	
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A	US 190 409 A (BOVEY GEORGE C.) 8 May 1877 (1877-05-08) * the whole document *	1-6	
A	DE 10 2005 058932 A1 (LG ELECTRONICS INC [KR]) 29 June 2006 (2006-06-29) * the whole document *	1-6	TECHNICAL FIELDS SEARCHED (IPC)
			D06F
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 4 May 2007	Examiner Clivio, Eugenio
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			

3

EPO FORM 1503 03/82 (P04C01)

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

EP 06 42 5797

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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