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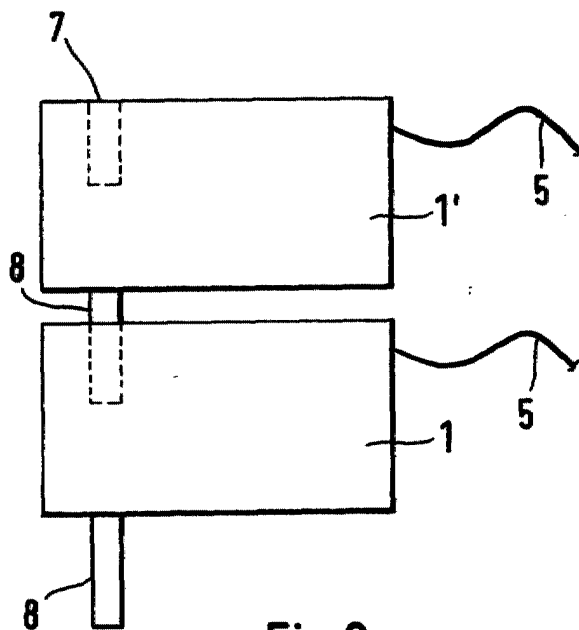
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(54) **A device for establishing an electric connection**

(57) The invention relates to a device for establishing an electric connection between a current source and a plurality of electric consumers, wherein each consumer can be connected via an adapter, in particular an AC/DC transformer (1, 1'), to the current source, in particular an AC 230 V current source (2). Such a device, which is distinguished by a compact construction and the ca-

pability of extension by an arbitrary number of further consumers, is characterised in that at least one adapter is provided which has an electric input which can be connected to an electric output, in particular a power socket, of the current source and which itself has an electric output (7), connected to the input, for the connection of a further adapter.



**Fig.2**

## Description

**[0001]** The invention relates to a device for establishing an electric connection between a current source and a plurality of electric consumers according to the preamble of Claim 1.

**[0002]** Plug connector strips are known which are connected to the current source and have a plurality of electric outlets for the connection of different consumers. Increasingly however, consumers must be connected via an adapter, in particular an AC/DC transformer. This applies for example to telephones, answering machines and fax machines. The size and structural shape of the adapter often prevent the occupation of neighbouring electric outlets of the plug connector strip. This can lead to the unsatisfactory situation in which n consumers cannot be connected to a plug connector strip with n outlets.

**[0003]** The object of the invention is to provide a device of the type defined in the introduction which, in a simple and cost-efficient manner, permits an arbitrary number of adapters to be connected to one single current source, in particular an AC 230 V current source.

**[0004]** In accordance with the invention, this object is achieved by the characterising features of Claim 1. Due to the special form of the adapter, a plurality of adapters can be quasi lined-up, the primary voltage being conducted through the adapter for the connection of the next adapter. Such an adapter arrangement is substantially more compact, space-saving and extendible than the conventional plug connector strip.

**[0005]** Claim 2 characterises an advantageous embodiment of the adapters. In this way an adapter tower is formed, from whose side surfaces the connection lines lead to the relevant consumers. The inputs and outputs of the substantially planar lower and upper surfaces of the cubic adapters can be designed such that the adapters can be interlockingly fitted into one another with side surfaces which substantially remain continuously flat. Due to the orientation of the connecting elements of the inputs and outputs, it can be provided that the connection lines to the consumers extend from the adapters substantially in parallel to one another.

**[0006]** In the following the invention will be explained in detail making reference to the Figures wherein:

Figure 1 is a circuit diagram of an adapter,

Figure 2 shows two interlocking adapters,

Figure 3a is a side view of an adapter and

Figure 3b is a plan view of the adapter according to Figure 3a.

**[0007]** Figure 1 is a schematic representation of the basic electric components of an adapter. Shown here is an AC/DC transformer 1,1' which can be connected to an AC 230 V current source 2 and comprises primary and secondary current transformer elements 3 and 4, the secondary side of which is connected by an electric

connection line 5 to a consumer which has not been shown. From the primary side, connection leads 6 additionally branch off to an electric output 7 in the form of a socket. This additional output 7 is provided for the connection of a further adapter.

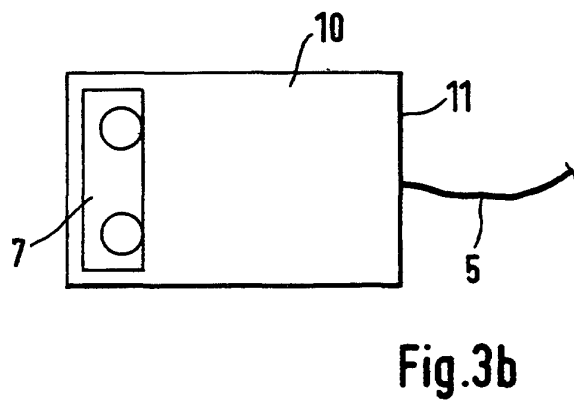
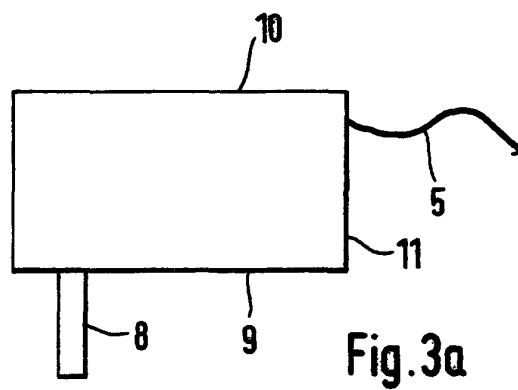
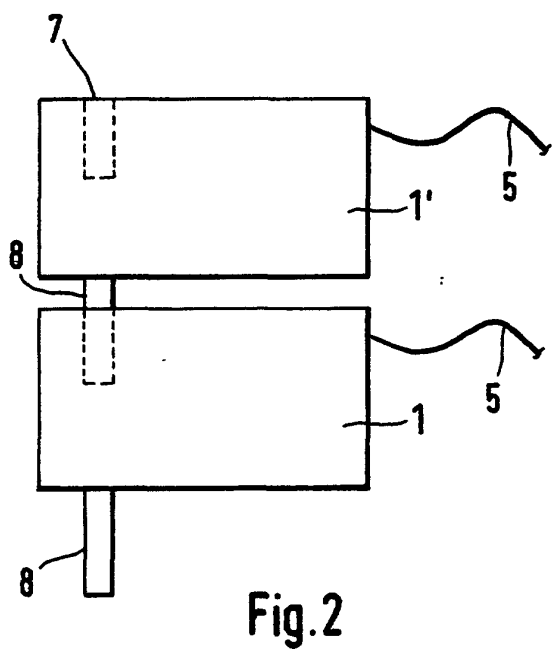
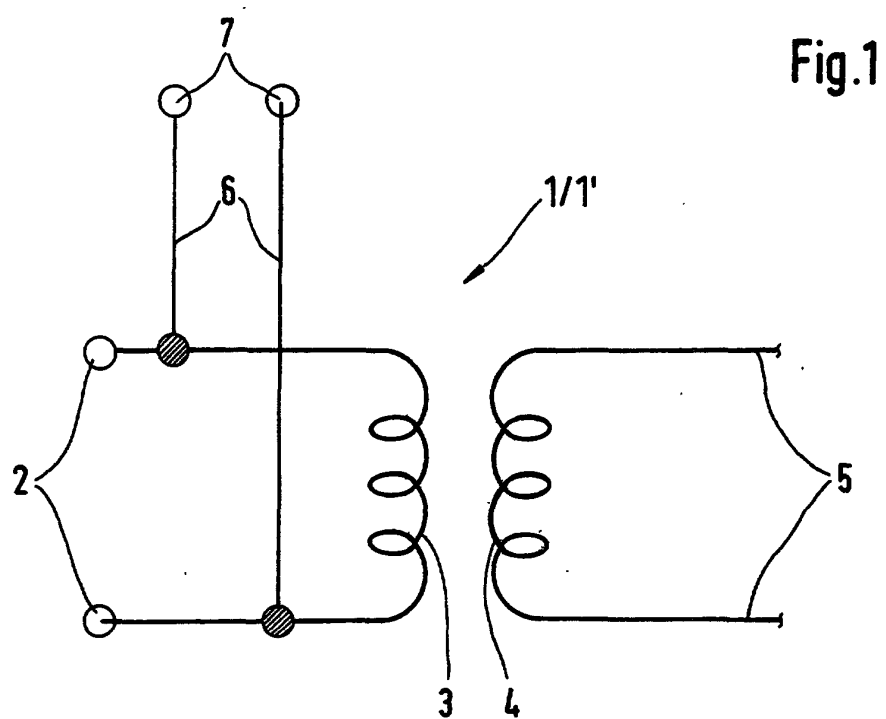
**[0008]** The circuit is embodied by an adapter configuration schematically illustrated in Figure 2. It can be seen that two AC/DC transformers 1 and 1' fit into one another in the form of a tower. This is achieved by plug-in lugs 8 which can be inserted both into a socket normally provided for the current supply, and into the terminal elements of the electric output 7 on the upper side of an AC/DC transformer 1,1'. In this way a fundamentally arbitrary number of consumers and adapters can be connected to one single power socket. Plug connector strips for branching the primary current are unnecessary.

**[0009]** Figures 3a and 3b illustrate the cubic basic shape of the AC/DC transformer 1, 1'. The underside 9 of the transformer 1, 1' is provided with the plug-in lugs 8, while the upper side 10 comprises the electric output 7 which mates with the plug-in lugs 8. The connection line 5 extending from the secondary side of the AC/DC transformer 1,1' to the relevant consumer is arranged on a specific side wall 11 of the transformer 1, 1'.

**[0010]** The invention is not limited to the exemplary embodiment described in the foregoing. Rather, a number of variants which utilize the features of the invention in a basically different type of embodiment are also conceivable.

## Claims

1. A device for establishing an electric connection between a current source and a plurality of electric consumers, wherein each consumer can be connected via an adapter, in particular an AC/DC transformer (1, 1'), to the current source, in particular an AC 230 V current source (2), **characterised in that** at least one adapter is provided which has an electric input which can be connected to an electric output, in particular a power socket of the current source, and which itself has an electric output, connected to the input, for the connection of a further adapter.
2. A device according to Claim 1, **characterised in that** the adapter has a substantially cubic shape, the input and output (7) being arranged on mutually opposed surfaces and an electric connection line (5) extending to the consumer from a surface perpendicular to said surfaces.





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# EUROPEAN SEARCH REPORT

Application Number  
EP 00 44 0088

| DOCUMENTS CONSIDERED TO BE RELEVANT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                               |                                                        |                                                     |
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| Place of search<br><b>THE HAGUE</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                               | Date of completion of the search<br><b>2 June 2000</b> | Examiner<br><b>Waern, G</b>                         |
| <b>CATEGORY OF CITED DOCUMENTS</b><br>X : particularly relevant if taken alone<br>Y : particularly relevant if combined with another document of the same category<br>A : technological background<br>O : non-written disclosure<br>P : intermediate document<br>T : theory or principle underlying the invention<br>E : earlier patent document, but published on, or after the filing date<br>D : document cited in the application<br>L : document cited for other reasons<br>& : member of the same patent family, corresponding document |                                                                                                                               |                                                        |                                                     |

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**ANNEX TO THE EUROPEAN SEARCH REPORT  
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