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(54) Titre : POSTE DE RECHARGE D'APPAREILS PORTATIFS AVEC PANNEAU RECLAME
(54) Title: PORTABLE DEVICE CHARGING STATION WITH ADVERTISING DISPLAY

(57) Abrégé/Abstract:
A battery charging station for at least one personal electronic device, which incorporates an advertising display. The charging station would allow people to obtain a quick charge on their device, and they would be shown various advertising while the charge was taking place. The device lends itself particularly well to use in airports etc. Chargers for various types and voltages of personal electronic devices could be provided. Where the advertising display was a computer monitor, either static or moving advertising media could be shown.

PORTABLE DEVICE CHARGING STATION WITH ADVERTISING DISPLAY

Maharaj

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PORTABLE DEVICE CHARGING STATION WITH ADVERTISING DISPLAY

This invention is in the field of personal electronic devices and their use and battery charging by users in transit. More specifically it deals with a public battery charging terminal for at least one such device, which incorporates an advertising display.

Background:

Many types of portable electronic devices are widely used in the marketplace today. These portable electronic devices (PEDs) include cell phones, MP3 players, personal digital assistants such as Blackberry(TM) devices or the like, and even video or digital still cameras are used for messaging and information storage and exchange and retrieval.

These devices are all typically battery driven, and as the battery is drained it is necessary to recharge the battery on

the device to maintain its functionality. In fact, portable electronic device [for example a PDA] may indicate "low battery" at a time when its user is in the location where the device would be most needed, such as an airport waiting to board a flight which departure time has been changed etc. In this situation, user would be denied the use of their device, such as a cell phone or the like, unless there is a readily available charger or charging station to recharge the battery.

Particularly in the case of business travelers, people who have forgotten or lost the charger for their PDA or who are quickly charging their device by plugging into electrical outlets in an airport terminal or the like are a regular sight. One of the problems or limitations however with the use of these devices is simply that, the fact that carrying the charger during travel can either at the least result in the need to transport an extra cable or device which makes packing more difficult, and on many occasions either on departure on a business trip or upon return the user will find that they have either at their home before departure forgotten to bring along the charger, or have even left the charger that they brought with them behind in their hotel room or the like.

If it was possible to provide some type of a compact and low-cost charging device or alternatively to provide a publicly available charging station by which an individual could charge their device without the need to even carry along the charger of any kind is believed that this would be a popular item or approach.

The present invention deals with a combination of to present day problems or scenarios sought to be solved by various business people. In addition to the market for a publicly available device charging station, as a part of the business model for provision of these devices is believed that this could be combined as a new method of advertising. Generally speaking, advertising screens or billboards are located at various corners and points in public places such as highways, bus stops, elevators, shopping malls, train stations and airports etc. It is believed that the addition of a battery charging station for PEDs to the base of a billboard or advertising display would allow not only for the repurpose an of otherwise unused space that could also result in the assembly of a captive audience to view the advertising display of these devices, insofar as a consumer who was awaiting the charging of their PED would be standing there in front of the display or sitting there in front

of the display and would thus be an audience for whatever advertising was being shown.

Increased viewing traffic created by the use of a charging station or method as outlined herein could also assist in the rectification of current economic problems experienced by billboard users and owners who are experiencing lower viewing traffic. An increase in the competitiveness of billboard or display advertising as well as a rise in the revenue generated from the sale of products or services advertised through these displays could aid in the more rapid market adoption of the proposed invention.

Summary:

The charging station of the present invention could be provided for free public use, or the station could be modified to require deposit coins or credit cards for the power charging aspect of the device. It is explicitly contemplated that to maximize

advertising revenue generation the actual charging station power outputs might be provided to the public for free.

Description of the Drawings:

While the invention is claimed in the concluding portions hereof, preferred embodiments are provided in the accompanying detailed description which may be best understood in conjunction with the accompanying diagrams where like parts in each of the several diagrams are labeled with like numbers, and where:

Figure 1 is a perspective view of the front of one embodiment of a freestanding charger station in accordance with the present invention;

Figure 2 is a rear view of the device and embodiment of Figure 1;

Figure 3 is a flow chart demonstrating one basic embodiment of the method of the present invention;

Figure 4 is a flow chart demonstrating an alternate embodiment of the method of the present invention in which advertising content which is displayed is adjusted based upon detection of the type of personal electronic device or devices connected to the charging station;

figure 5 is a perspective view of another embodiment of a charging station in accordance with the present invention, for use as a retrofit device in association with a pre-existing display unit.

Detailed Description of the Illustrated Embodiments:

As outlined above, the invention comprises a method and apparatus for a public charging station for personal electronic devices with an integrated or associated advertising display. We will now review in further detail the conception of the invention and its anticipated scope.

The device of the present invention comprises a charging station, which would be publicly available and would allow for the charging of the batteries in at least one personal electronic device.

Concurrent charging of multiple devices:

Any type of the portable device which requires battery charging is a device within the concept of personal electronic devices contemplated for charging or use in Association with the charging station of the present invention.

One of the key aspects of the present invention in terms of increasing its desirability or availability for device charging purposes in a public environment is to increase the number of devices which could be concurrently charged. While we speak specifically of the charging station of the present invention being capable of charging at least one personal electronic device it will be understood that additional power charging outputs could be provided on the device which would allow for

the concurrent charging of more than one personal electronic device at the same time and that a charging station which charges one or more personal electronic devices concurrently is contemplated to all be within the scope of the present invention.

General device overview:

Referring to Figures 1 and 2, there are shown front and rear perspective views of one embodiment of the charging station 1 of the present invention.

The charging station 1 consists in this case generally speaking of an enclosure 3 on top of which there is a display unit 2 mounted, at the rear, and on the top surface of which there are a plurality of power charging cords 4 displaced into which passersby could connect their personal electronic devices 5. There is actually shown in dotted relief the interior of the enclosure, in Figure 1, which demonstrates the power transformer equipment 6 which is used to interface the power charging cords

4 with the local power source at the location of the charging station 1.

As outlined elsewhere herein, the number of power cords 4 could be one or more, dependent upon the number of personal electronic devices 5 that it was desired to be able to concurrently charged at the charging station 1 at the same time. A single transformer 6 is shown in the interior relief portion of these Figures -- it will be understood that a single type of the transformer leading to one or more power charging cords 4 could allow for the charging of multiple similar devices at the same time, or alternatively it could also be the case that multiple transformers 6 each of which terminated in one or more power charging cords 4 could be used an interface to the same local power source so that for example different transformer outputs, plug-ins or voltages could be provided so that multiple types of personal electronic devices 5 could be charged at the charging station 1.

The display unit 2 which is shown at the top rear of the device 1 would be a display which could show advertising material during the charging of personal electronic devices 5 and which

could rotate the material as was determined to be appropriate. The display unit 2 itself could be a contained display and could be as simple as a pre-manufactured digital photo frame or similar device, or something more customized could be used which could allow for a network connection, a more elaborate type of streaming media display or the like. The specific nature of the display unit 2 is not so important here as the demonstration of the general concept that a display unit 2 would be incorporated into the remainder of the charging station 1.

It can also be contemplated that in certain circumstances the display unit 2 might even include a touchscreen or other interactive elements which would allow for the user of the charging station 1 to actually interact or browse advertising material contained on or accessible to the device. It might also be the case that the unit could include a printer or something similar so that if in a interactive context the user wanted to copy of a coupon or an advertisement or something that could be printed out by the machine. These would be non-essential alterations to the general concept of the unit.

Referring quickly to Figure 2, the rear of the charging station of Figure 1 is shown. The dotted relief in this case shows the display unit 2 to the front of the device as well as again internally the transformer or transformers 6 which would be involved in converting local power source to the necessary power outputs for the charging of the personal electronic devices. Finally indirectly shown in the rear of the device is a power cord 7 which would basically be connect to whatever the local power source was for the purpose of providing power to the remainder of the charging station 1.

Types of charging or power outputs:

In addition to the fact that the device of the present invention is explicitly contemplated to be capable of charging more than one personal electronic device 5 concurrently, it will also be understood that by providing variable power outputs or various types of charger cords or connections on the device, more than one personal electronic device of more than one kind could be concurrently charged on the charging station of the present invention at the same time and again it is explicitly

contemplated that the provision of variable power outputs or various power connections for charging of different types of personal electronic devices on the charging station of the present invention is within the scope hereof, and that the provision of whatever additional types of power transformer equipment or the like are necessary in the charging station to provide these variable power outputs will be understood to one skilled in the art and will again also be contemplated and understood to be within the scope of the invention as outlined herein.

As a brief extension of the discussion around the types of power transformation or charging equipment which would be provided in the charging station of the present invention, it will be understood that probably the ideal embodiment of the present invention would have transformer or charger equipment which would allow for quick or rapid charging of batteries, rather than slower deep charging equipment. It will be understood that while the concept of the present invention would accommodate both, in the context of the anticipated use of the charging station of the present invention the provision of "quick charge" equipment, versus deep charging equipment which would take a

longer time to charge a battery of a device, is likely the preferred embodiment on that front.

Revenue recovery:

While the primary means of revenue generation of the method and apparatus of the present invention is anticipated to be fees generated from advertisers interested in displaying their advertising material on the display of one or more of the charging stations of the present invention, it will also be understood that the apparatus could be quickly modified based upon whether or not it was desired to provide the actual charging service for batteries with the device for free, or whether it was desired to charge people to use the charging station of the present invention.

It may in fact be the case that to provide use of the device for free would enhance the advertising revenue model, since with free use likely more people would try to use the charging station of the present invention and would generate more

eyeballs or add views for which advertisers may be prepared to pay more money. It will be understood that to add a coin or credit card operation to the device would be simply done and is contemplated within the scope of the present invention.

Nature of the advertising display:

Different types of advertising displays could be used in the context of that aspect of the present invention. It is specifically contemplated that a fairly simple electronic advertising display might be incorporated into the charging station of the present device which would comprise the visual display such as an LCD panel or the like connected either to a computer or even to some streamlined kernel-based controller which could display either in a static or rotating fashion advertising material from a flash card or other memory device.

The advertising media which could be displayed might be simple on animated advertising screens which could either be rotated on a predetermined frequency basis or could stay the same for a

longer period of time, or given that the display module is explicitly contemplated to comprise a display and a PC of some sort, with the installation of the necessary or appropriate software on the PC which drives the display the advertising media which is displayed could also be streaming video or audio or the like.

In an embodiment of the charging station of the present invention which was being constructed with commercially available components that did not require significant custom design, a digital photo frame might actually be used as the display module of the charging station of the present invention.

The display module could actually be connected to a computer network, via the Internet or otherwise, either for the purpose of providing a completely active or dynamic rotation of advertising material or the very least for the provision of a simple download mechanism by which revised or new advertising material could be downloaded to the display module from time to time. It will be understood that this type of a networked device, or a standalone device for which the memory would need to be updated by way of a physical visit to the site of the

charging station by an operator or attendant are both contemplated within the scope of the present invention.

In a further elaborate embodiment of the charging station of the present invention, the display module could alter the types of advertising which was being displayed based upon the types of personal electronic devices which were detected to be attached for charging. This could be accomplished either by requiring a person who wished to use the charging station to specify the type of device in order to activate the proper charger, or it may even be possible to provide a more elaborate electronic embodiment for the automatic sensing of the type of device, and all such embodiments of the charging station of the present invention, wherein the advertising displayed on the advertising display itself by the display module was modified based upon the number or type of devices connected to the charging station at that particular time are contemplated within the scope of the present invention.

It will also be understood that there could be nonelectronic display modules used although beyond the retrofit context this may not be the norm in terms of the rendering of units in

accordance with the present invention. It is conceivable however that the electric charging aspect of the charging station of the present invention could be combined with an older traditional moving paper billboard or the like which could also comprise the display module in accordance with the display requirements of the present invention and would be contemplated within the scope hereof as well.

Retrofit:

It is primarily contemplated that the charging station of the present invention would be a purpose built device including both the display module and necessary display components for the advertising display which is contemplated, as well as the necessary electrical components for the charging of at least one personal electronic device incorporated therein. It is contemplated however that there could be the development of a retrofit charging module for use in association with pre-existing advertising displays that would also provide for the ability to practice the same method of the present invention,

which is to provide for charging of personal electronic devices within visual proximity of an associated advertising display.

In the case of a retrofit module basically it is understood that the charging station in that particular case would not contain a standalone display module or display hardware but would rather contain the necessary hardware for device charging and could be basically mounted alongside of a pre-existing advertising display so that an advertising display with rotating display content could be visibly associated with the charging station even if the advertising aspect of the unit was a pre-existing device. Development of a retrofit charging station such as this which could be used in Association with a pre-existing display module to provide in combination the functionality of the present invention is contemplated within the scope of the present invention.

Figure 5 shows a retrofit charging station which could be used in association with a pre-existing display device to accomplish the practice of the present invention.

Method:

In addition to the charging station outlined herein, the invention also comprises the method of providing for the charging of batteries in personal electronic devices in visible proximity or association with a rotating advertising display. The method comprises the steps of providing a charging station with the ability to charge the battery at least one personal electronic device in association with a rotating advertising display so that during the use of the charging station the user of the charging station being theoretically the owner or operator of the personal electronic device or devices in question will be shown one or more advertisements during the time that they are plugged into the charging station.

Figure 3 demonstrates in a simple flowchart the basic method of the present invention. The apparatus which would be used in the conduct of the method of Figure 3 could either be the freestanding public charging station discussed above, or it could also be the retrofit a charging station attached in proximity to a pre-existing advertising display as also discussed herein.

In any event the first step of the method of the present invention is the consumer's connection of their personal electronic device to the charging station, shown at step 3-1. Upon application of the power of the charging station to the personal electronic device, charging would start on the battery on the PED, and as discussed elsewhere above this could either be automatic and free of charge or could be operated by some type of a payment device as well. In any event, the charging of the PED is shown at step 3-2, which also at the same time references the display of advertising on the charging station display or associated display. Advertising would continue to be displayed in could be rotated throughout the timeframe that the personal entertainment device was connected to the charging station. At 3-3, the PED is disconnected and the consumer is finished with the device but has been shown one or more pieces of advertising material during the charging up their personal entertainment device. Provision of the charging station in associated visible or visual proximity with the advertising display, and displaying advertising material throughout the timeframe that the personal entertainment devices being charged, is at the heart of the method of the present invention.

The method could also accommodate different users or different personal electronic devices by adjusting the advertising content which is displayed based upon the type of devices which are connected to the charging station. Figure 4 is another flowchart of an alternate method embodiment which is intended to briefly illustrate this possibility. Connection of the personal entertainment device by the consumer to the charging station shown at 4-1. Either by way of some type of user input or by some type of electronic detection, Step 4-2 demonstrates the detection or identification of the type of a user device which has been connected to the charging station so that the advertising material which is displayed can be tailored to a profile of the type of user who might have that device. For example if an MP3 player is connected to be charged, the advertising material which is displayed might be more in the vein of music or media and entertainment, whereas if it was determined that one or more business type e-mail devices were attached for charging, business channel advertising may be substituted. In any event the charging of those device or devices and the associated display of advertising material is shown at Step 4-3, and upon completion of charging as shown at 4-4 the personal electronic device would be disconnected and the method completed.

In this type of a case where the display advertising was being modified based upon the type of device which was connected, if the charging station or device was actually actively connected to a computer network such as the Internet for the streaming or download from time to time or on a real-time basis of the advertising material in question, streaming of appropriate content could be even more surgically accurate based upon the access through the network connection to a wider storage repository than that which might be on board in the charging station itself.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous changes and modifications will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly, all such suitable changes or modifications in structure or operation which may be resorted to are intended to fall within the scope of the claimed invention.

Application number/numéro de demande: 2,662,201

Figures: 3,4

Pages:

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FIGURE 1:

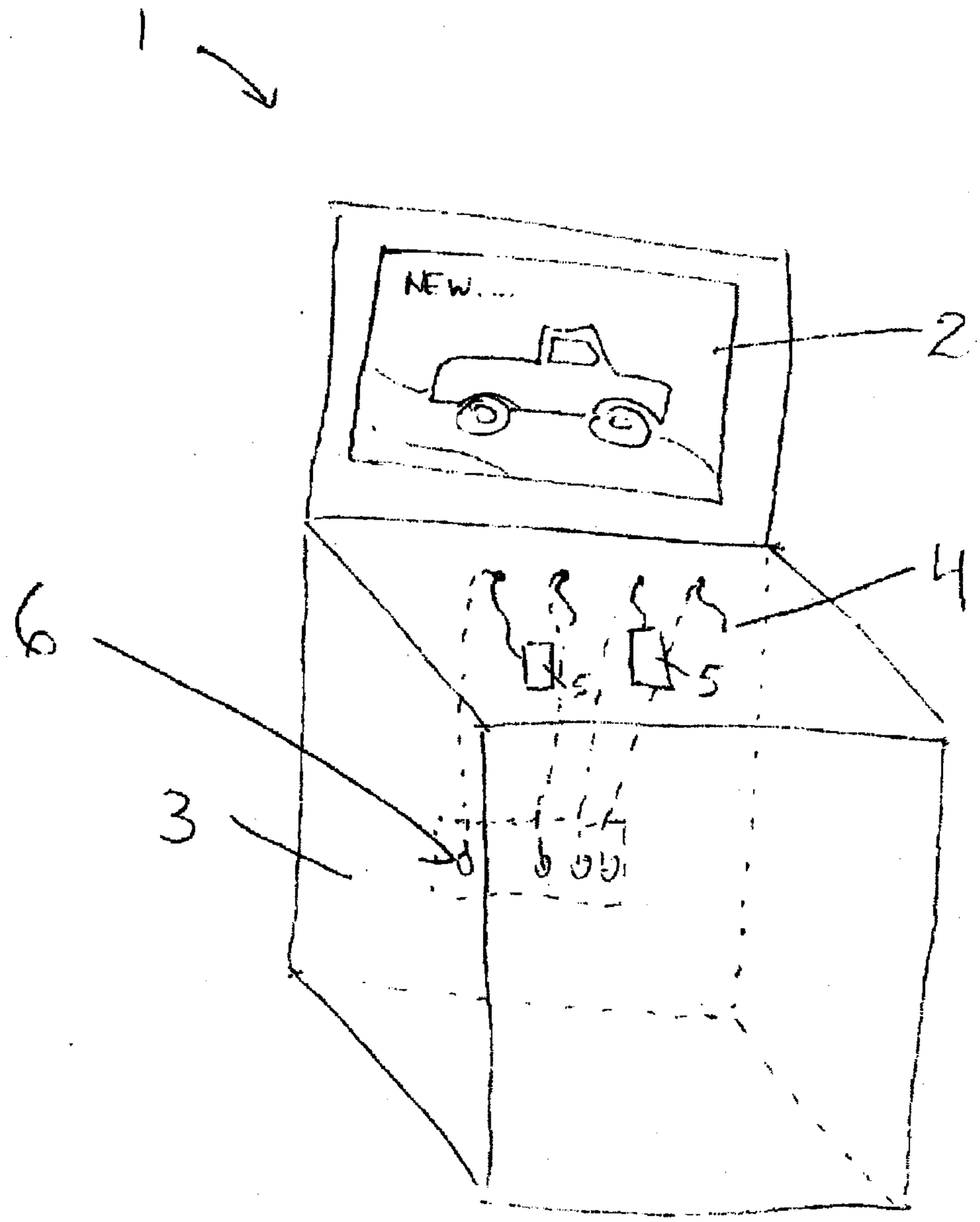


FIGURE 2:

