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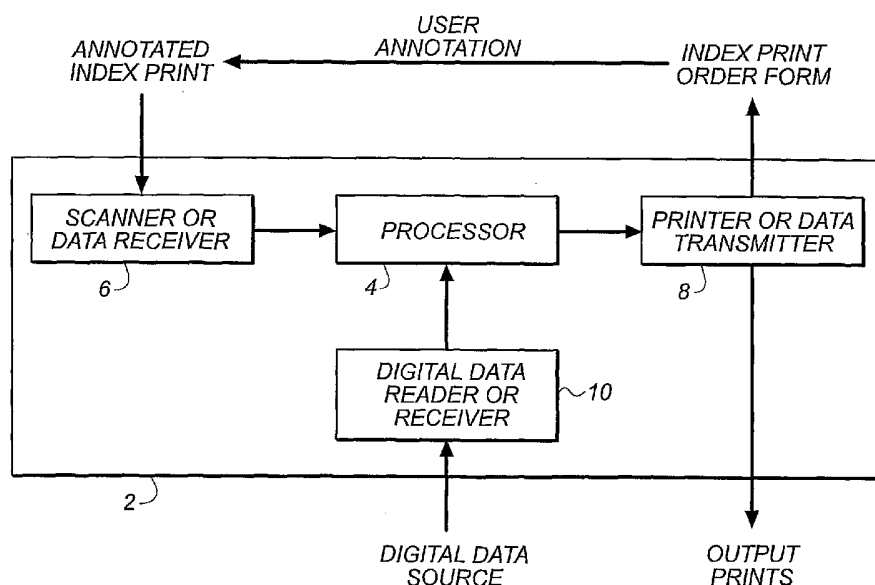
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(54) Title: A METHOD OF PROCESSING A CUSTOMER IMAGE ORDER



(57) Abstract: A method of processing a customer image order at an image order station is provided. The method comprises the steps of receiving one or more digital image files and processing the one or more digital image files to create a customer image order form. The customer image order form contains a plurality of image regions, each image region having an image therein and one or more indicia relating to the image therein to enable a user to select parameters of the image for printing. Finally, the customer image order form is printed or displayed on a remote gesture aware electronic display so that the customer can then select desired images remotely from the order station.



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

A METHOD OF PROCESSING
A CUSTOMER IMAGE ORDER

FIELD OF THE INVENTION

5 The present invention relates to a method of processing a customer image order. In particular, the invention relates to a method of processing a customer image order that enables increased efficiency of image order stations. The invention also relates to an image order station that enables such a method of processing to be achieved.

10

BACKGROUND OF THE INVENTION

 With the increase in popularity of digital cameras and other such digital image capture devices, a need has developed for improved methods and systems for generating hard copy output. Typically, to obtain a hard copy output e.g. a photograph from a digital file captured by a digital image capture device a user
15 has a number of options. These include:

1. Downloading the image onto a home computer and from there printing the photograph using a printer such as an ink jet printer.
2. Attaching a digital camera directly to a printer.
- 20 3. Uploading the images to an internet site from which hard copy can be ordered e.g. ofoto.com.

 As a further alternative, order stations can be used such as the 'Kodak PictureMaker G3 Order Station'. To obtain photographs or other hard copy output from such order stations, a customer supplies the digital files from some
25 suitable digital source e.g. MultiMedia/SD™, CompactFlash, SmartMedia, Memory Stick, mobile phone with camera, a Kodak Picture CD or a Data CD. The order station includes a display screen which is used to enable a customer to review their pictures on the screen to compile their order.

 This can be time consuming and ties up the image order station with the
30 customer. Whilst any individual customer is using the order station, no one else can, so that delays are introduced for other users. A method of processing a customer image order is required that enables use of such order stations without

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unduly delaying other customers. An image order station is also required that enables such a method of processing to be achieved.

SUMMARY OF THE INVENTION

5 According to a first aspect of the present invention, there is provided a method of processing a customer image order, comprising the step of processing one or more received digital image files to create a customer image order form. The customer image order form contains a plurality of image regions, each image region having an image therein and one or more indicia relating to the image
10 therein to enable a user to select one or more parameters of the image for printing.

 The customer image order form is then produced e.g. a hard copy is printed so that the customer can then select desired images remotely from the order station. In other words a user is provided with a printed order form containing images e.g. thumbnail images, together with indicia such as selection
15 boxes for marking so that subsequently the user's preference in relation to the desired format of output for each image can be determined.

 Preferably, the method further comprises the steps of either:

 Receiving an annotated customer image order form, annotated with information indicative of a customer order, and scanning the customer image
20 order form to obtain the information indicative of the customer order. This can then be used by the order station to prepare the final image order or alternatively the information can be conveyed to a different processing system to prepare the customer image order.

 Or:

25 By use of an order form with Anoto type patterning giving 'Anoto Functionality' and a digital pen with Anoto type functionality, the completed order information, read by the digital pen, is transmitted to the order station to prepare the final image order or alternatively the information can be transmitted to a different processing system to prepare the customer image order. Anoto
30 functionality relies on a printed grid pattern on a hard copy. A digital pen is used that includes an integral camera. When using the digital pen and hard copy, the integral camera registers the pen's movement across the grid surface on the hard

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copy and stores it as series of map coordinates. These coordinates correspond to the exact location of the hard copy which is being written on.

Or:

5 Use of remote gesture aware electronic displays to display and interact with the customer image order form. The customer annotates this soft copy and the annotated order is transmitted to the order station to prepare the final image order or alternatively the information can be transmitted to a different processing system to prepare the customer image order.

10 According to a second aspect of the present invention, there is provided an image order station. The image order station comprises a processor adapted to receive digital image data and create a customer image order form, the customer image order form containing a plurality of image regions. Each image region has an image therein and one or more indicia relating to the image therein to enable a
15 user to select parameters of the image for printing. Finally, the image order station may include a printer to print a hard copy of the customer image order form or additional remote gesture aware electronic displays to display a soft copy of the customer image order form (e.g. Tablet PC with touch-screen or Windows-Powered Smart Display with touch-screen) so that the customer can then create
20 their image order remotely from the order station.

In both cases the customer image order form is produced for interaction with a customer. When printed, a hard copy of the order form is produced and when communicated to the additional remote gesture aware electronic display, a soft copy of the order form is produced.

25 According to a further aspect of the present invention, there is provided an order form for use in creating an image order. The order form comprises a plurality of image regions, each image region having both an image and one or more indicia relating to the image therein to enable a user to select parameters of the image for printing.

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ADVANTAGEOUS EFFECT OF THE INVENTION

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The present invention provides a method of processing a customer image order using an image order station which releases the station for use by the next customer quicker than has been possible using known methods of processing customer image orders. This is achieved by a method including the step of
5 printing the customer image order form or displaying the order form on a remote gesture aware electronic display so that the customer can then create their image order remotely from the order station.

Furthermore, some people prefer creating their order on an image order form according to the present invention, since they find it easier than interacting
10 with a computer display on the order station. Accordingly customer satisfaction is increased.

By printing an order form for processing at a later time, an order can be created at the user's leisure. Furthermore, printing more than one copy of the order form enables friends of the user to place their own orders very easily.

15

BRIEF DESCRIPTION OF THE DRAWINGS

Examples of the present invention will now be described in detail with reference to the accompanying drawings, in which:

Figure 1 shows a schematic block diagram of a photographic processing
20 system according to one aspect of the present invention; and,

Figure 2 shows a schematic representation of an example of an order form for use in the present invention.

DETAILED DESCRIPTION OF THE INVENTION

25 Figure 1 shows a schematic block diagram of an image order station according to one aspect of the present invention. In this example, the station 2 has a processor 4 to which is coupled each of a scanner or data receiver 6, a printer or data transmitter 8 and a digital data reader/receiver 10. The system is configured to receive, via digital data reader/receiver 10, a digital data source such as
30 MultiMedia/SD™, CompactFlash, SmartMedia, Memory Stick, mobile phone with camera, a Kodak Picture CD, or a Data CD. The reader/receiver 10 reads one or more image files from the data source and transfers these image files to the

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processor 4, where they are stored in an associated memory (not shown). On selection of an "Order Form" option by the user (or alternatively automatically), the processor is then arranged to process the image files into the form of an index print or order form with suitable positions for user annotation, as will be explained
5 below with reference to Figure 2. An identifier is preferably printed on the index print or order form to identify it with the image files stored in the associated memory by the system.

This processed data is then transferred to the printer 8 so that a hard copy of the index print or order form can be printed. The printer 8 outputs the hard
10 copy index print or order form which is taken by the user. Alternatively, a soft copy of the order form is sent, via data transmitter 8, to a remote gesture aware electronic display. The user may then make any desired annotations on the order form to identify what output is desired. This will be explained below in detail with reference to Figure 2. Importantly, this annotation by the user can be done
15 remotely from the order station. The order station has the user's images stored and the identifier on the order form can be used to identify the correct images when required. Once a user has annotated the hard copy order form it is provided to the scanner 6. The scanner scans the annotated hard copy order form and provides order information to the processor 4 to enable the processor to prepare
20 the image files for printing the user's desired output. Alternatively, an Anoto type pen is used to convey the order information from the hard copy order form to the processor 4. The order form could alternatively be displayed on electronic paper which could be used in conjunction with an Anoto type pen. In the case of the soft copy the annotated order is transmitted to the processor 4. As explained
25 above, an identifier is printed on the order form to ensure the processor uses the correct image files.

Figure 2 shows a schematic diagram of an order form or index print 12 according to the present invention. The print 12 is divided into regions 14 each having a thumbnail picture 16 and optionally an image identifier 28. In the
30 example shown an identifier in the form of a code number 26 is printed in the bottom left hand corner of the order form. Other suitable identifiers may be used such as e.g. bar codes.

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As well as the thumbnail picture, each region has indicia printed to enable a user to select parameters of a final output format print. For example, the available size of a final output print size 18 is marked. By ringing the desired size 24 a user indicates the size of print that is desired. In the example shown the only options
5 presented to a user are to have a print of size 5" x 7" or 8" x 10". Any number of options could be presented to a user for example cartoonise image or print on mug, all of which are examples of user-selectable parameters. If no size is ringed the system may be configured to print a default size print of say 4" x 6". Similarly if no version of the image is required at all, the user can cross out the thumbnail
10 e.g. see image identified by the reference numeral 20 in Figure 2.

As well as print size, the invention enables a user to crop each image so that the output format image provided only has a desired part of the image. For example the image identified by the reference numeral 22 in Figure 2 has been marked to inform the processor that the final output format image is to be a
15 cropped version of the original as indicated by the crop boundaries on the thumbnail.

In use, a user inserts their digital media into the reader slot of an order station and selects "Order Form" option. The images are read and the digital media returned to the customer. A thumbnail order form, as shown in and
20 described above with reference to Figure 2, is either produced using a printing or some other suitable method for producing a hard copy or displayed as a soft copy on a remote gesture aware electronic display. The user can then see the images and mark-up the order form as explained above. The user then returns the order form and it is scanned to extract the order information using Optical Character
25 Recognition or order information is transmitted to the order station from an Anoto type pen or from a remote gesture aware electronic display. Crop boundaries are read to crop a picture as required. The order is then processed by the order station printer, an attached minilab or alternatively the images can be sent to a remote processing station e.g. via the internet.

30 In one example a user is presented with the option of having more than one order form printed. This enables user's friends to use the system as well and make their own independent orders. Order preparation may also be done at home. A

home PC/MAC application is used that prints out the order form with images obtained from the user's digital media, on a home printer or displays it for completion on the computer screen. The user takes their digital media and completed hard copy or data file order form to their local minilab store for fulfillment. The same thumbnail order form could be included in a conventional print order so a customer could order reprints at the local minilab without needing to identify frame numbers. In this case the customer would need to return their image source material with the order form so images can be input into the system unless the images are already stored on the system.

10 The present invention provides a system for and a method of processing in which less customer interaction with an order station is required compared to systems and methods of processing using conventional order stations. This releases the order station for use by the next customer. Since selection of final output images is performed remotely from the order station by the user, the system
15 is freed up for use by others. This has the effect of reducing build-up of queues around the station.

One aspect of the present invention relates to a computer program which when loaded onto a computer or processor enables it to control the system described above with reference to Figure 1. For example in Figure 1 a processor 4
20 is provided. This could be a microprocessor, a dedicated application specific integrated circuit having a suitable control program stored thereon or any other suitable type of processor. The processor 4 could be similar to the processor used in conventional order stations, but different in that it is adapted e.g. by having specific software running or stored thereon, so that the order station functions as
25 an order station according to the present invention. The computer program could also be provided on some form of carrier e.g. a disk, CD-ROM etc.

CLAIMS:

1. A method of processing a customer image order at an image order station comprising the steps of:
 - 5 receiving one or more digital image files;
 - processing said one or more digital image files to create a customer image order form, the customer image order form containing a plurality of image regions, each image region having an image therein and one or more indicia relating to the image therein to enable a user to select parameters of the image for printing; and,
 - 10 producing said customer image order form so that the customer can then select desired images remotely from the order station.
2. A method according to claim 1, in which the step of producing said customer image order form comprises printing a hard copy of said customer image
15 order form.
3. A method according to claim 1, in which the step of producing said customer image order form comprises displaying the order form on a remote gesture aware electronic display.
20
4. A method according to claim 1, in which the step of producing said customer image order form comprises displaying the customer image order form on electronic paper
- 25 5. A method according to any of claims 2 to 4, further comprising the steps of:
receiving an annotated customer image order form, annotated with information indicative of a customer order;
reading said information indicative of the customer order.
30
6. A method according to claim 2, in which the customer image order form is printed on a digitally patterned print medium, the method comprising the step of

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coupling information indicative of a customer order to the order station via a data reader adapted to retrieve data from the order form as it is annotated.

7. A method according to claim 5, further comprising the step of storing said
5 information to enable said customer order to be prepared therefrom.

8. A method according to claim 7, comprising the step of providing said
stored information to a fulfillment service provider to produce the customer image
order.

10

9. A method according to claim 8, in which the fulfillment service provider is
a minilab.

10. A method according to claim 8, in which the fulfillment service provider is
15 a printer integral with the order station.

11. An image order station, comprising:
a processor adapted to receive digital image data and create a customer image
order form, the customer image order form containing a plurality of image
20 regions, each image region having an image therein and one or more indicia
relating to the image therein to enable a user to select one or more parameters of
the image for printing; and,
producing means to produce said customer image order form so that the customer
can then select desired images remotely from the order station.

25

12. An image order station according to claim 11, further comprising receiving
means to receive information indicative of a customer order.

13. An image order station according to claim 12, in which the receiving
30 means is a scanner to scan a hard copy annotated customer image order form.

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14. An image order station according to claim 12, in which the receiving means is adapted to receive customer image order form data.

15. An image order station according to claim 11, the station being connected
5 to a network from which digital image data may be provided thereto.

16. An image order station according to claim 15, wherein the network is the Internet.

10 17. An order form for use in obtaining an image order, comprising:
a plurality of image regions, each image region having an image therein and
wherein each image region has one or more indicia relating to the image therein to
enable a user to select one or more parameters of the image for printing.

15 18. An order form according to claim 17, further comprising an identifier to
enable identification of the images to which the order form relates.

19. A computer program which when run on a processor causes said processor
to function as the processor in the image order station of any of claims 11 to 16.

20

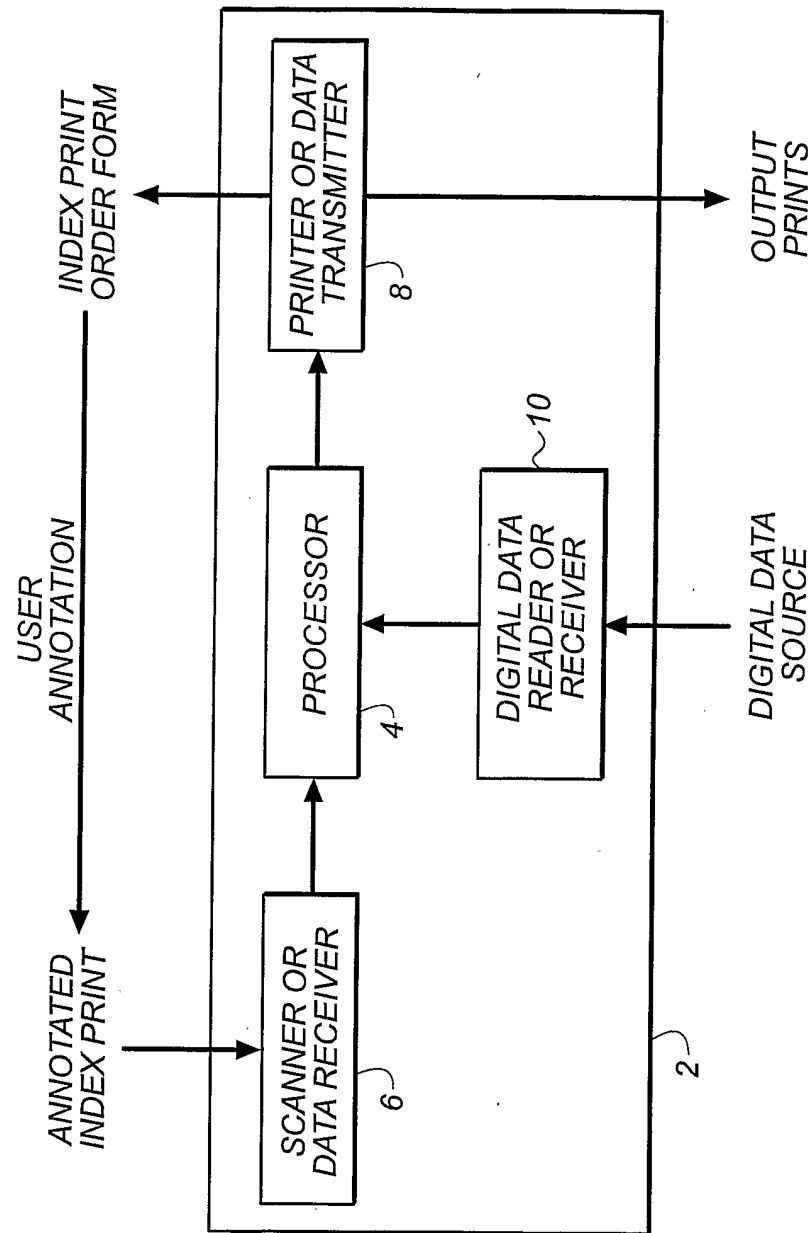


FIG. 1

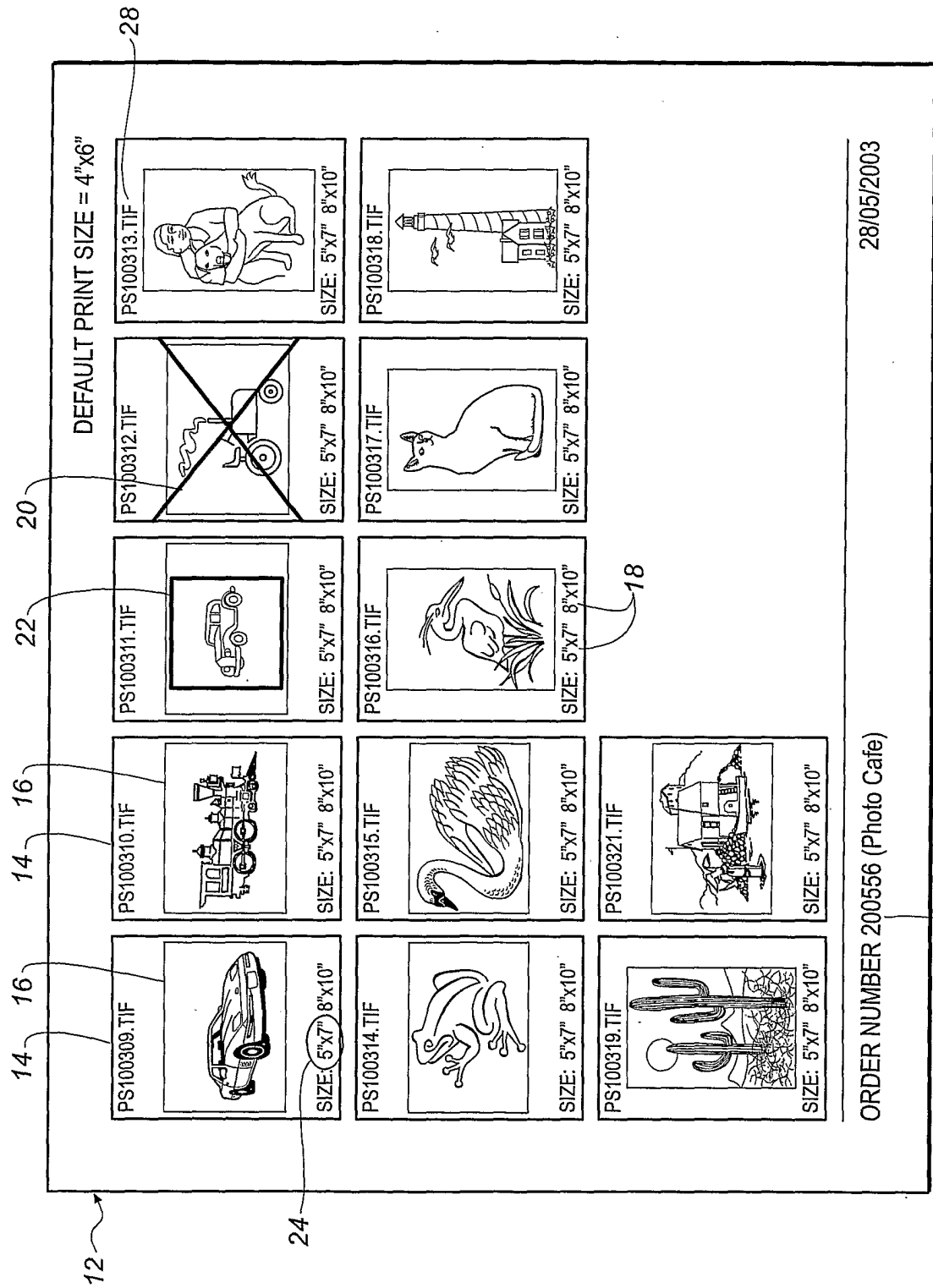


FIG. 2