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13281 U.S.PTO 030105

112960 U.S.PTO 60/656885 030105

PROVISIONAL APPLICATION FOR PATENT COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53(c).

INVENTOR(S)		
Given Name (first and middle [if any])	Family Name or Surname	Residence (City and either State or Foreign Country)
Nissi	VILCOVSKI	Tel Aviv, Israel

☐ *Additional inventors are being named on the ^ separately numbered sheets attached hereto*

TITLE OF THE INVENTION (280 characters max)

Fitting System Using Memorable Interactive Mirror

Direct all correspondence to: **CORRESPONDENCE ADDRESS**

☒ Customer Number **49443**

OR *Type Customer Number here*

☒	Firm or Individual Name	**Pearl Cohen Zedek Latzer, LLP**			
Address	**10 Rockefeller Plaza**				
Address	**Suite 1001**				
City	**New York**	State	**New York**	ZIP	**10020**
Country	**USA**	Telephone	**212-632-3480**	Fax	**212-632-3489**

ENCLOSED APPLICATION PARTS *(check all that apply)*

☒ Specification *Number of Pages* **15** ☐ CD(s), Number

☒ Drawing(s) *Number of Sheets* **34** ☒ Other (specify) **postcard**

☐ Application Data Sheet. See 37 CFR 1.76

Application Size Fee: If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT *(check one)*

☒ Applicant claims small entity status. See 37 CFR 1.27.

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FILING FEE AMOUNT ($)

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The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.

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Respectfully submitted,

Date **01 / Mar / 2005**

SIGNATURE

REGISTRATION NO. *(if appropriate)* **37,912**

TYPED or PRINTED NAME **Caleb Pollack**

TELEPHONE **212-632-3480**

Docket Number: **P-7751-USP**

USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT

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13281 U.S.PTO
030105

Fitting System Using Memorable Interactive Mirror

Abstract

A special fitting system that includes also "Memorable Smart Interactive Mirror ", that allow people to see there previous fittings\Measurements tries-on front of the mirror (or mirror like) Fig1. The system can recognize the people with various ways, and it includes a system that saves ,memories and record the fitting tries-on of each and every person .

A person tries on a product that can be a fashion product , eyewear or any product that people using a mirror in order to see if they like it in front of a mirror , or mirror like , this system can apply also in an environment that only using a camera in the fitting process .

The system can be used also as a "Body changes" monitor, in Sport clubs , Weight centers or for other health applications

The system can be stand alone or in a Network of devices, that connected to each other in the shop, and can be connected to the all other shops of the company, also it can be connected to a public network.

It possible to apply a module that have the ability also to simulate a virtual fittings or virtual body changes to the user.

Inventor – Nissi Vilcovsky (TLV Israel)
Assignee – Nissi Vilcovsky (TLV Israel)

The System Components and description

The System is assembly of the following components

The Main unit - Fig main1

A Mirror or Mirror LCD or other (Appendix 1) in any size disposed on a shop, showroom, exhibition or any point of sale, or in any public place (appendix 2) , The Mirror or LCD Mirror (appendix 1) connected to an unseen or seen camera or cameras (Appendix 3 , FIG 2) , In order to record the fittings tries of the user .
This unit is including Recognition system, and software.
This unit can also reply the previous fitting tries.
In one shop or other (appendix 2) can be many Main units.
It is also possible to put any array of main units in various ways- example **Fig array1**

Recognition System

A recognition system that is connected to the main unit \or in the area of the device (from appendix 1) preferably Biometric (Appendix 4) recognize the customer.

Software and Processing unit

Software that manage the recognition, the recording process ,and the database.
It is saving and memorize each customer \potential customer fittings on a private file \files (appendix 5)
It is possible to modify the amount of saved data that we want for every client

Control

Also it is possible to stop/reply/pause/play at any time with a sensor or remote control (appendix 7)

Reply Unit - fig replay1

After the customer finished fittings\Measurements tries-on he can reply his previous fittings. -examples **fig 2 , fig 3 .**

He stand in front of a Mirror or in front other media (appendix 10) that includes a recognition system with one of the technologies (appendix 4).

After he his recognized by the system. he can see his previous tries on the Mirror or other (appendix 10) , He can browse his previous fittings , and see pictures or movies of his previous fittings .

The user can see the reply in the real size, or in deferent size.

Recognition System

A recognition system that is connected to the Replay unit \or in the area of the device (preferably Biometric (Appendix 4) recognize the customer.

Software and Processing unit

The Main unit can be also a reply unit, but also possible to connect many replay units.

A processing unit with Software (a group of applications) that will organize the data of the owner\users
It can be embedded or connected directly, or connected by any kind of network to a central system.
The system will process the recognition (with a device from appendix 4) ,then it will record the images of the user \ customer

The replay unit use a Software and processing unit that manage the recognition and access the database, in order to show the customer his previous fittings.

The software and the database can be stores in other units as well , and the Replay unit will connect to the main database with a networks (appendix 8)

Also it is possible to stop/reply/pause/play at any time with a sensor or remote control (appendix 7)

The reply unit can be be put in a shop or other (appendix 6)

It will process the communication and request from out of the place (appendix 2)
It is possible to modify the amount of saved data that we want for every client
It is possible to define to delete the history after a time period
If the customer connects to the system, he can modify this parameters as well
It is possible to define whether we want to save snapshots, photos, movies , voice .
It have calendar where you can store info and reminders alarms
If there is no recognition system, it will handle the recording and replay of the stored data , on demand
It is possible to combine all the "PALM Pilot" functions in the system , and to enable each user to use them separately.
The system can have also a video capacity, the customer can record directly from the tv (if embedded)
The system can have also the ability to record and play music
It can also estimates of the head or body position of users ,to the application program.
It can also have a tracking system , that can allow the cameras to move whenever the user moves.(to follow his pattern)
It can have the ability also to simulate a virtual try-ons to the user , using his captured face\body details.
It is possible to combined a manipulation system that will change also colors ,shapes of the user or his surroundings one the capture info.

Control

Also it is possible to stop/reply/pause/play at any time with a sensor or remote control (appendix 7)

General

The System can be stand alone or connected to a network (appendix 8) ,and it gives the possibility to send an email or SMS with the fitting history directory from the Main or reply units (The customer will have to provide the relevant details)

Also it gives the possibility to download it to a Personal memory card or other media (appendix 9) or to Print it .

The customer can connect and download his fittings to any kind media (appendix 9) ,and he can show his fittings anywhere by connect the media (Appendix 9)

Also he can connect to the company website or database and from anywhere using any kind of networks (Appendix 8) and he can browse his fittings history.

The system also can provide a private PIN, in order to access the company system from anywhere.

The retail / shop /brand that use this system can put a Replay or Main unit in any public place (appendix 2) , the customers can stand in front of the device anywhere and they can see there previous fitting tries , this feature is in order to strength the communication of the shop / brand with his customers \ potential customers.

The customer can also see in his house in front of a Mirror /LCD Mirror (appendix 6) the previous tries , he can connect his system to the shop / brand with VPN or via public network.

The system can have a units that only Shows the previous fittings, and not record them this units can be a LCD, Mirror LCD or other (Appendix 10) FIG

Appendix 1 – The Devices that capture the fittings

Mirror in any size with a Video camera \ Cameras - FIG 1A
Mirror LCD\TV (example – Phillips) in any size with a Camera \cameras - FIG 1A
Mirror LCD Combined with See-Through Mirrors with a Camera \cameras - FIG 1A
Mirror LCD \TV Combined with Mirrors with a Camera \cameras - FIG 1B
See-Through Mirrors with a Camera \cameras (Can be part of a regular Mirror) - FIG 1B
LCD Screen in any size with camera \ cameras - FIG 1C
Paint able LCD – (Example –Phillips) in any size with Camera \ Cameras
TV in any size with Camera \Cameras - FIG 1E
Set of Cameras, or a Camera - FIG 1F
LCD with CCD capacities -
Dot Matrix led screens (example - Para light)
The Cameras also can be out of the devices, in any location in that can capture the customer Image FIG 1G

The following screens can contain also Microphone , Radio , TV Tuner
All this devices can combine Touch screen components or parts
All the devices can contain speakers
All Devices can be combination of the technologies (can combine Mirrors LCD TV, and Mirror etc)

More info about Mirror LCD \Mirror TV :
http://www.research.philips.com/technologies/display/mirrordisp/mirrortv/

It can be also Plasma screens , Plasma Mirror screens , Plasma tv's ,in any of this variation
The Display can be based on the following technologies :
OLED,NED PDP ,CRT ,DLP ,SED ,Tablet screens,Flatpanel SED , Organic EL,Paperlike screen, A 3D Hologramа , , 3D Display (Philips 3-D research ,seereal technology),TFT ,OTFT
HDTV, Rear projection TV

Appendix 2 – Where the system can be applied

A Shop
A Shop that is part of chain
Point of sale
Show room
Concept Showroom
Exhibition
Presentation
Public areas like Airports,Shoping malls , streets as interactive advertisement
Any shop that people need a mirror in order to look at there fitting tries.
Fashion shops, Eyewear shops , Cosmetic shops and point of sale , shoe shop etc
Hotels
Restaurants and bars , coffee shops
Sports clubs
Weight clubs
Health institutes
Everywhere people using Mirrors.

Appendix 3 – The Cameras

A camera – means any kind of Video camera, or a set of cameras or stereo cameras that will be connected directly or indirectly to the processing unit (In the main or in the Replay unit)

A camera or set of cameras that is on top\side\bottom of the device (from appendix 1) example -FIG 1A
A camera or set of cameras that is embedded or inside the device (from appendix 1) FIG 1B
A camera or set of Cameras that are in the area of the device (from appendix 1)
A set of cameras that is independed from the device , FIG 1F
A camera or set of cameras that is on top\side\bottom of the device (from appendix 1) combine with external cameras FIG 1G

A camera or set of cameras that is embedded or inside the device (from appendix 1) combine with external cameras FIG 1G

It can also capture the image of the mirror when someone stands in front of it , in order to replay it later.

The cameras will capture the user in front of the device (appendix 1) .

It can also capture the image of the mirror when someone stands in front of it , in order to replay it later.

The cameras can observe the user from the same optical axis as used by the display (device -appendix 1)

The cameras can have the ability to move.
It can be 3D Cameras , Stereo cameras .

Appendix 4 – Recognition

Face Biometric \Non Biometric recognition – FIG 2A
3D Facial recognition – example - Active ID FaceVision® technology
Hand Biometric \Non Biometric recognition – FIG 2B
Finger print Biometric \Non Biometric recognition – FIG 2C
Voice recognition – FIG 2D
Voice recognition input of code- FIG 2D
Credit Card- FIG 2E
Personal pin or other alphanumeric recognition that will click in the system -FIG 2F
Customer Card or smart card or chip that the brand will provide - FIG 2F
Any "customer club" card or smart card or chip - FIG 2F
Eye\Eye Pupil Biometric \Non Biometric recognition 2H
read/write RF Transmitters receivers (example - EM Microelectronic-US)

Appendix 5 – Software and processing unit

A processing unit with Software that will organize the data of the users\customers\potential customers.
It can be embedded or connected directly, or connected by any kind of network to a central system.
The system will process the recognition (with a device from appendix 4) ,then it will record the fittings of the customer \potential customer
It will process the viewing of the previous fittings, in the shop or in other (appendix 2)
It will process the communication and request from out of the shop (appendix 2)
It is possible to modify the amount of saved data that we want for every client
It is possible to define to delete the history after a time period
If the customer connects to the system, he can modify this parameters as well
It is possible to define whether we want to save snapshots, photos, movies, voice .
The system can have also the ability to record and play music
It can also estimate the head or body position of users, to the application program.
It can also have a tracking system, that can allow the cameras to move whenever the user moves.(to follow his pattern)
It can weight the user (if weight detectors applied) and store the info

Appendix 6 – Where the customer can reply his previous fittings

A Shop
A Shop that is part of chain
Point of sale
Show room
Concept Showroom
Exhibition
Presentation
Public areas like Airports, hoping malls, etc
Streets as interactive advertisement
Other public advertisement that will include this system capabilities
Any shop that people need a mirror in order to look at there fitting tries.
Fashion shops, Eyewear shops, Cosmetic shops and point of sale, shoe shop etc
In his house or other houses that will be connected to the system.
Hotels
Restaurants and bars , coffee shops
Sports clubs
Weight clubs
Health institutes
Everywhere people using mirrors

Appendix 7 - Ways to control the replay of previous fittings

With buttons - FIG 7A
With Keyboards or mouse or pen – FIG 7B
With remote control \ wireless or that connected to the system –FIG 7C
Voice commands Or recognition – FIG 7D
Movement, with movement sensors – FIG 7E
Movement with weight sensors – FIG 7F
Face related movement with face recognition –FIG 7G
Touch screens with or with out external device – FIG 7H
With laser markers
RF Transmitters \receivers

Appendix 8 – Network

LAN- with any infrastructure
Wireless WAN
WAN- with any infrastructure
VPN - with any infrastructure
Wireless VPN
Wireless VPN that uses satellite connection, or radio connection or RF
Any Wireless technology
Public Networks –with any infrastructure
Internet- with any infrastructure
Private commercial networks- with any infrastructure
Blue tooth
Satellite Network
Modems- with any infrastructure
Dial in system – with any infrastructure

Appendix 9 – Devices that the customer can connect

Hard Disk
Memory Card
Wireless personal device
Personal computer
Portable personal computer
Any kind of magneto optic device
CDR, CDRW, DVD, DVDRW
Any kind of external device that can connect and download

Appendix 10 – Replay unit -The devices that can show the previous fittings

Mirror LCD in any size with a Camera \cameras
LCD Screen in any size with camera \ cameras
Paintable LCD in any size with Camera \ Cameras
TV in any size with Camera \Cameras
Mirror LCD in any size without a Camera \cameras
LCD Screen in any size without camera \ cameras
Paintable LCD in any size without Camera \ Cameras
TV in any size without Camera \Cameras
Dot Matrix led screens (Para light)
A Projector from any king that project to any kind of surfate \ wall
LCD with CCD capacities
A 3D Hologramа
Dot Matrix led screens (example - Para light)

It can be also Plasma screens , Plasma Mirror screens , Plasma tv's ,in any of this variation
The Display can be based on the following technologies :
OLED,NED PDP ,CRT ,DLP ,SED ,Tablet screens,Flatpanel SED , Organic EL,Paperlike screen, A 3D Hologramа , , 3D Display (Philips 3-D research ,seereal technology),TFT ,OTFT
HDTV, Rear projection TV

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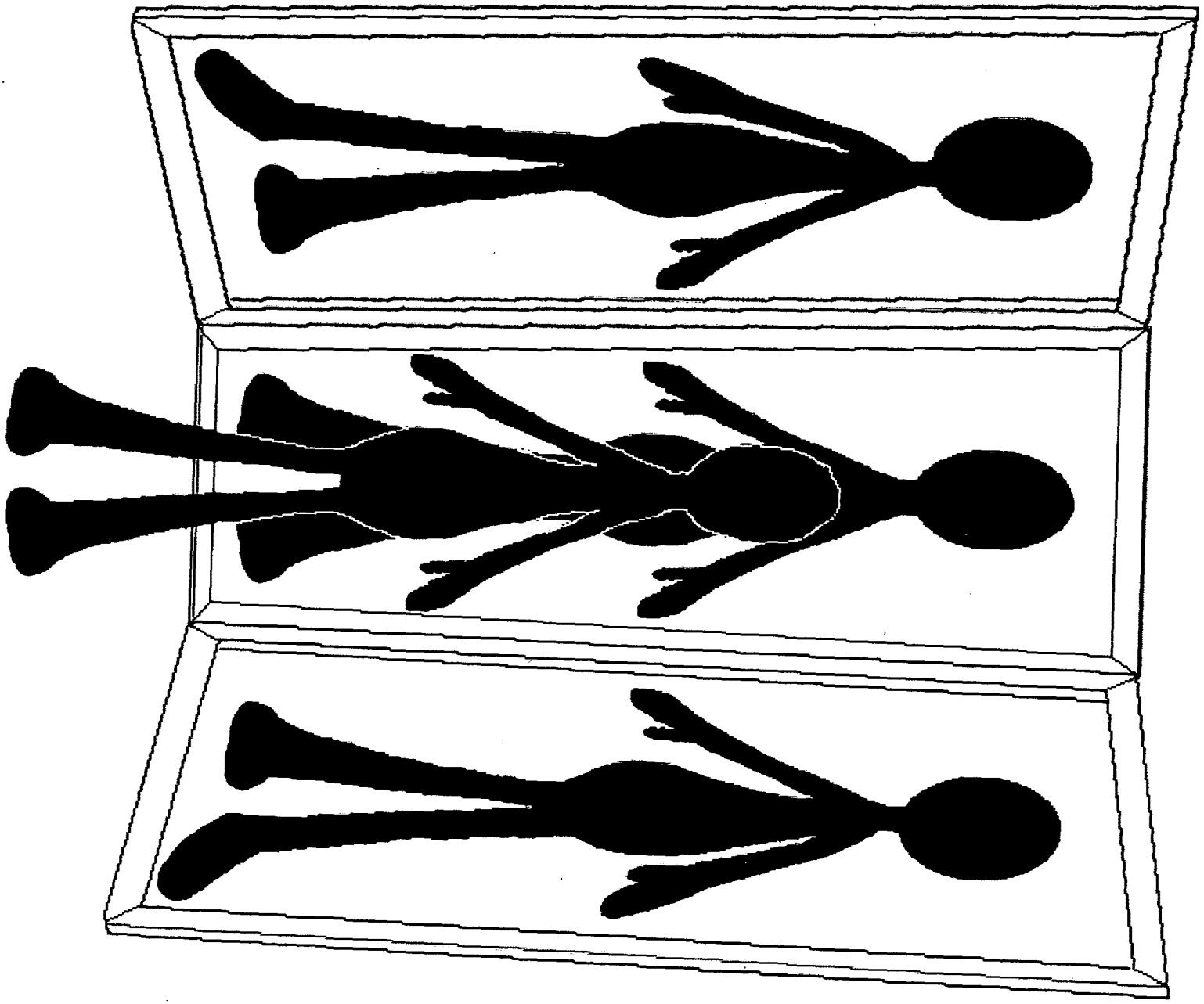


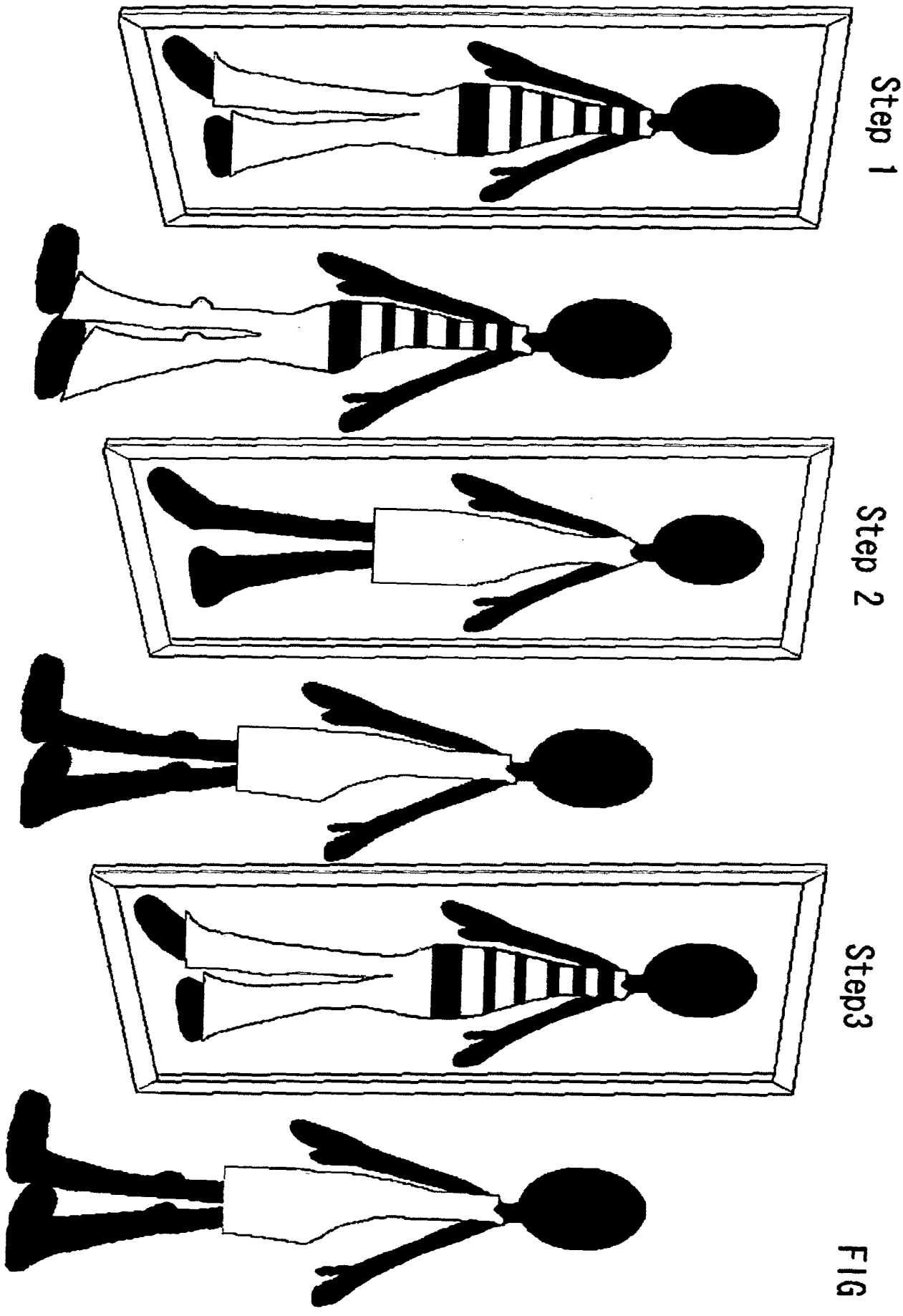


FIG 1

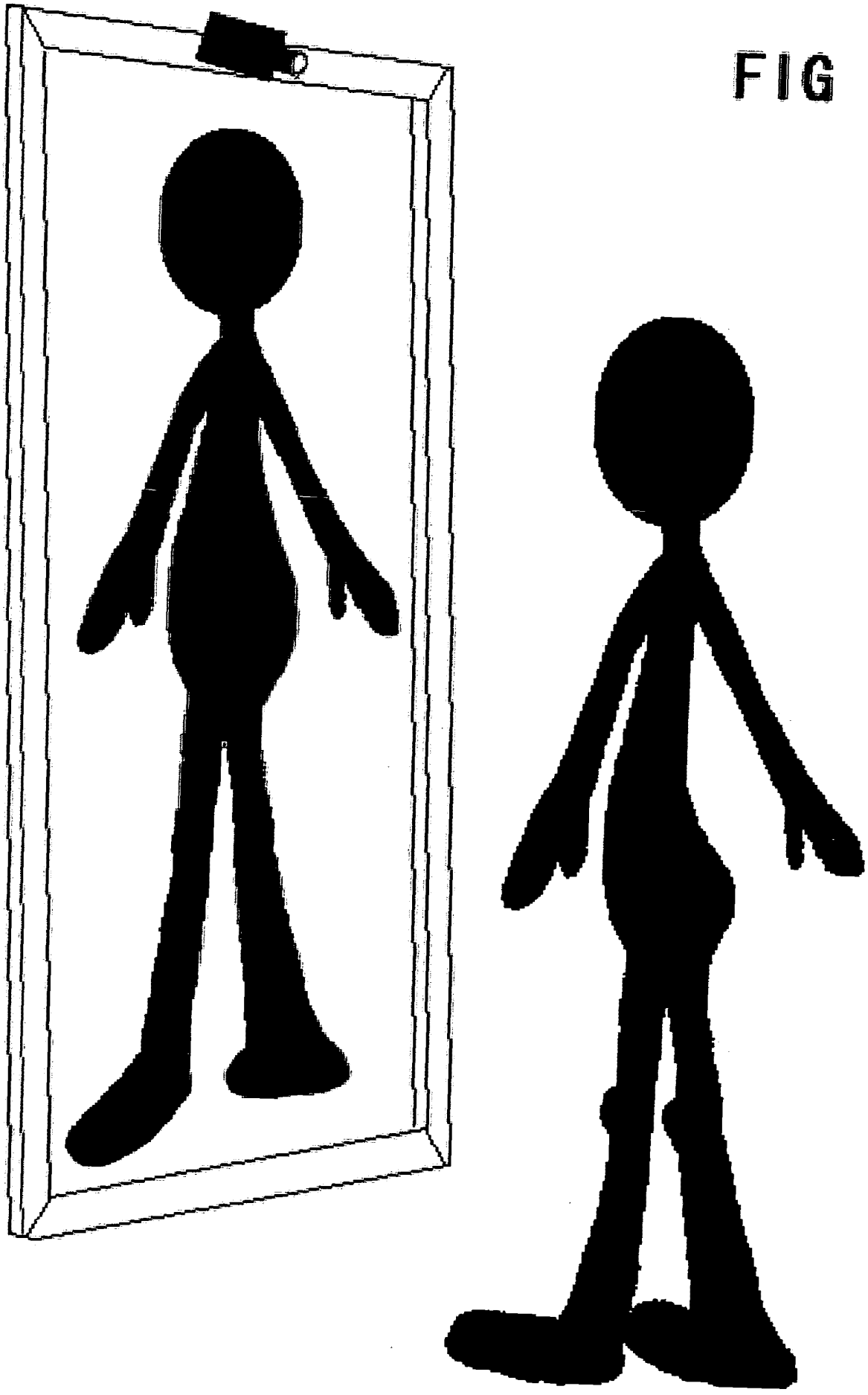


FIG 1A

FIG 1B

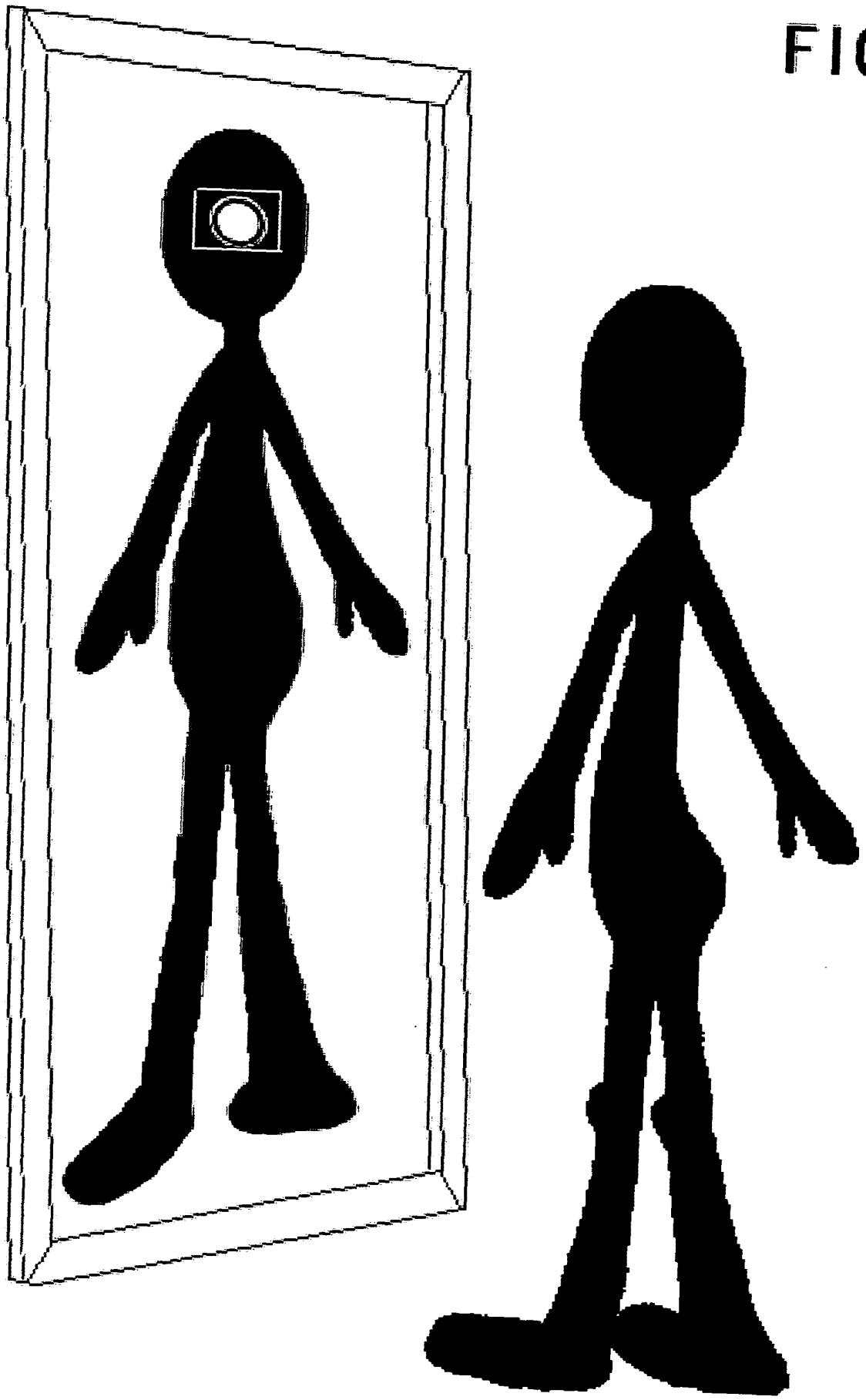


FIG 1C

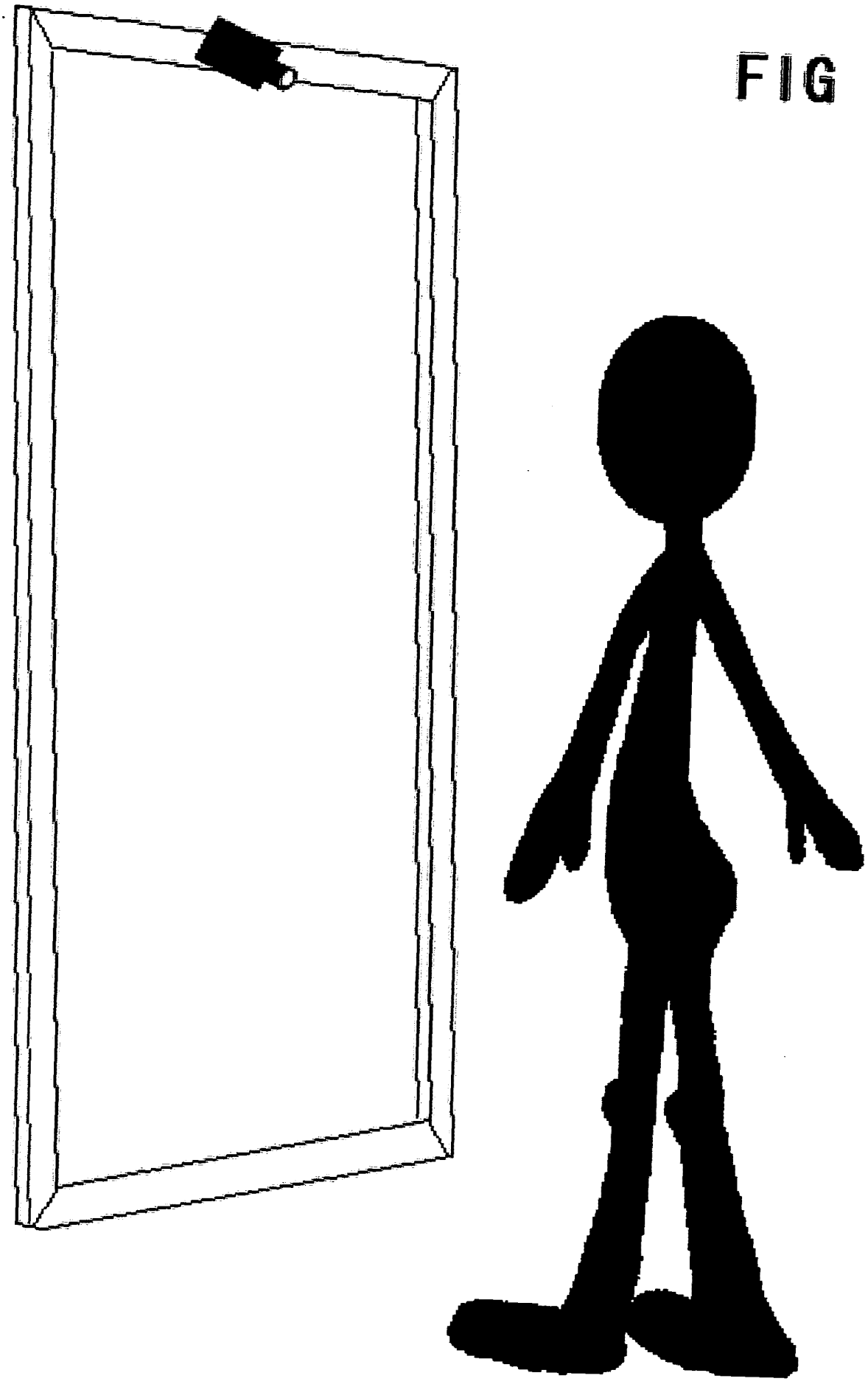


FIG 1E

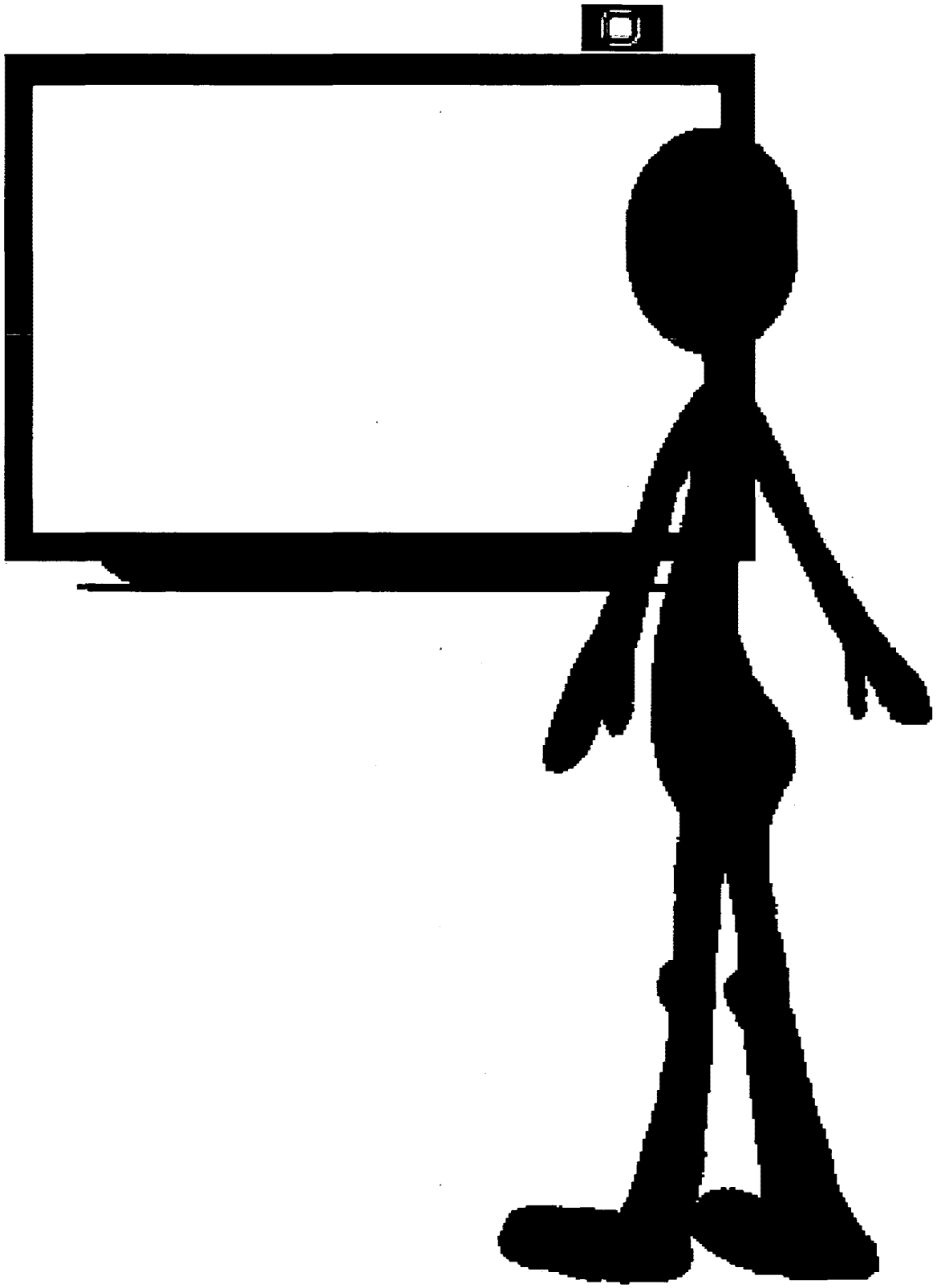


FIG 1F

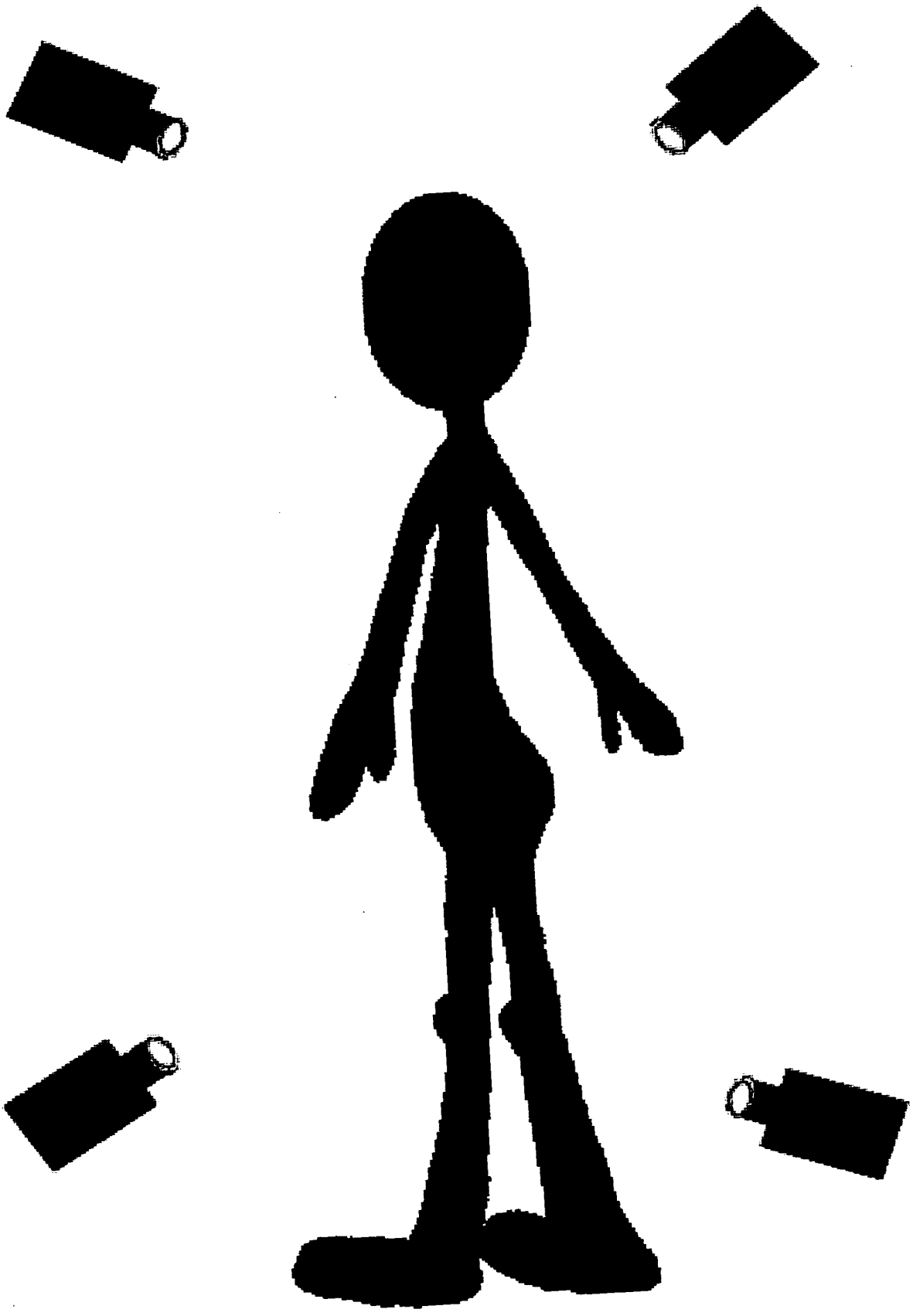
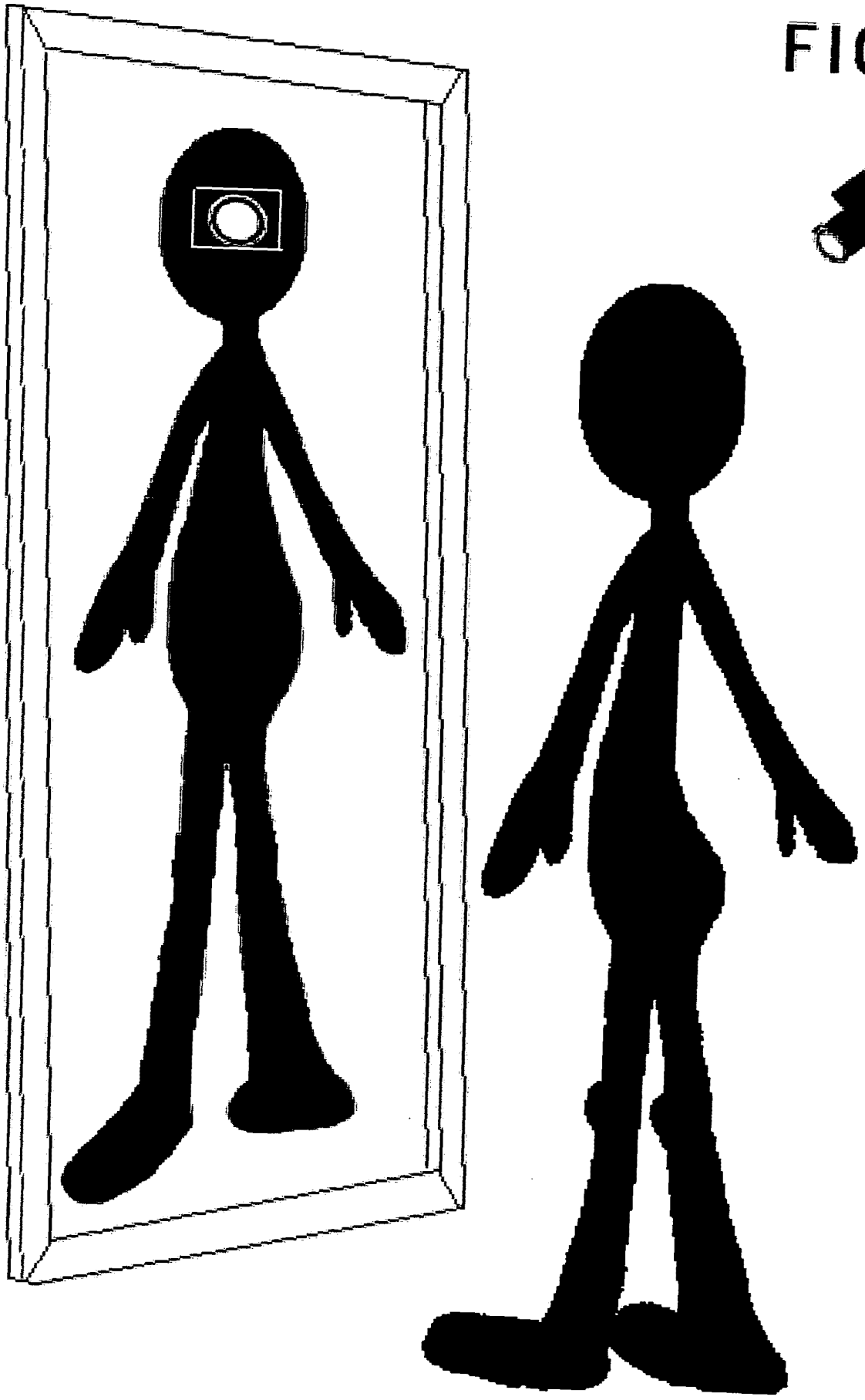
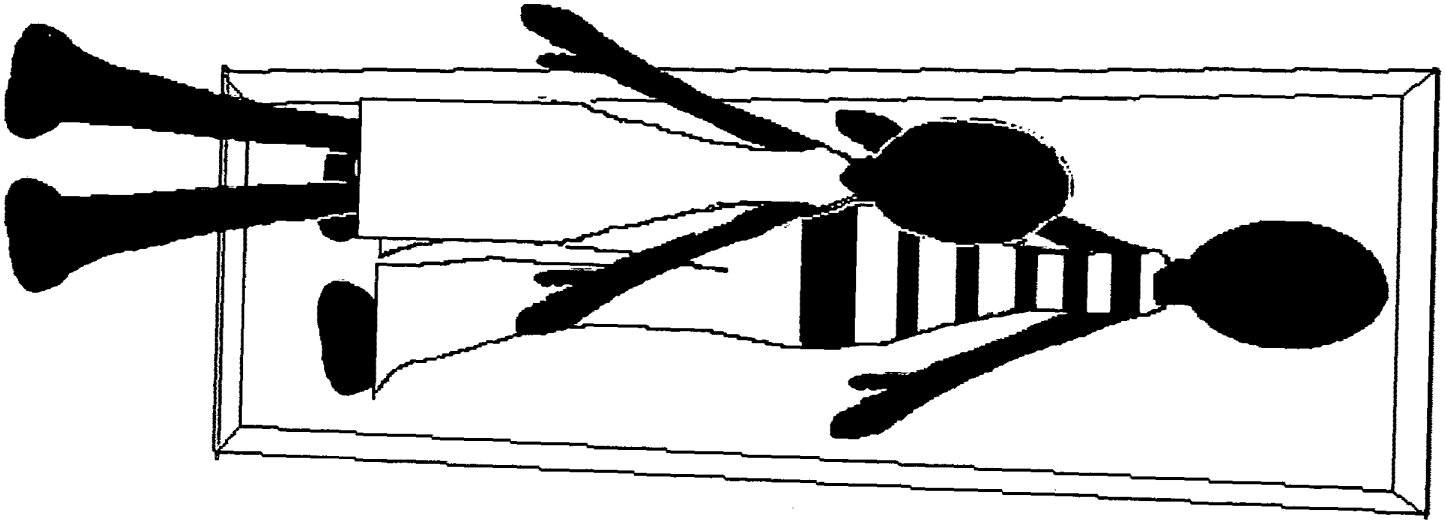
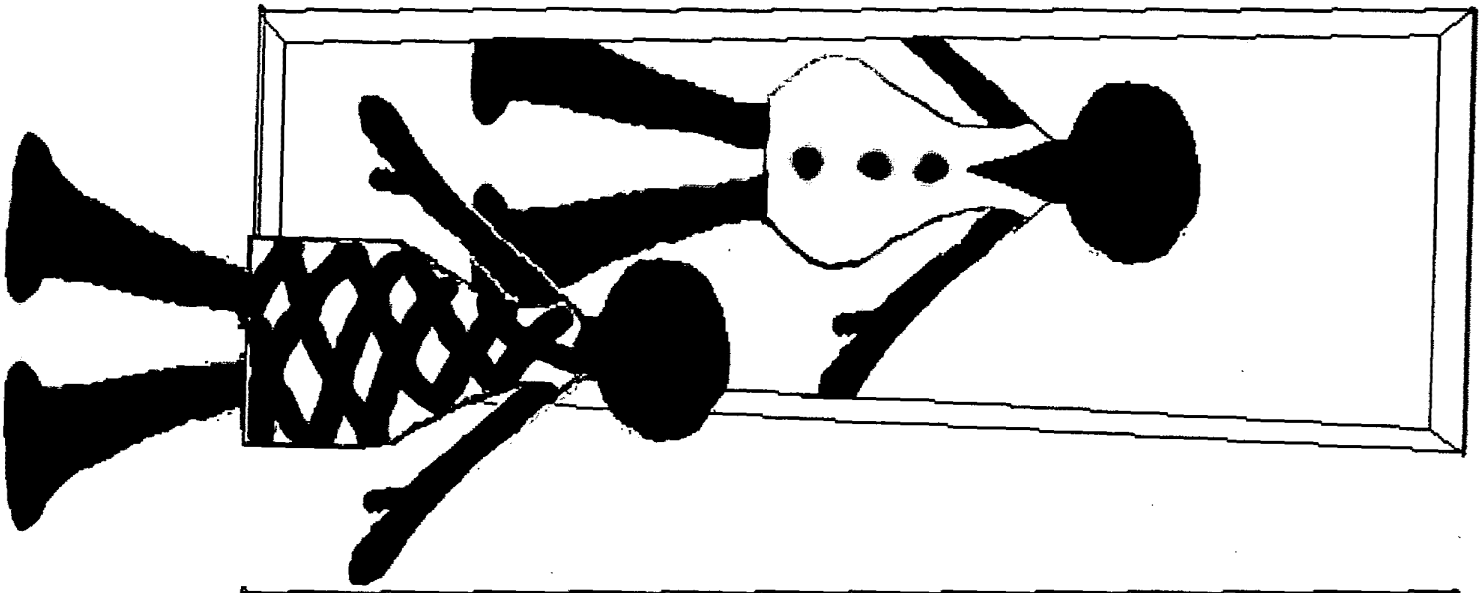
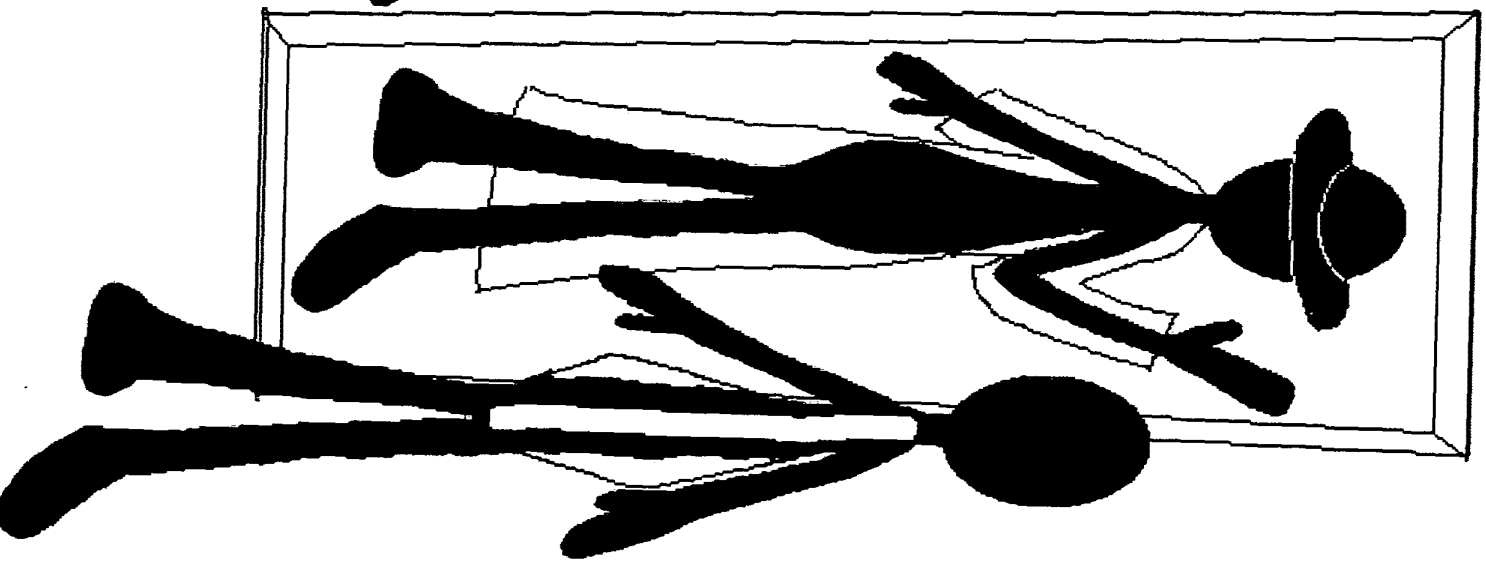


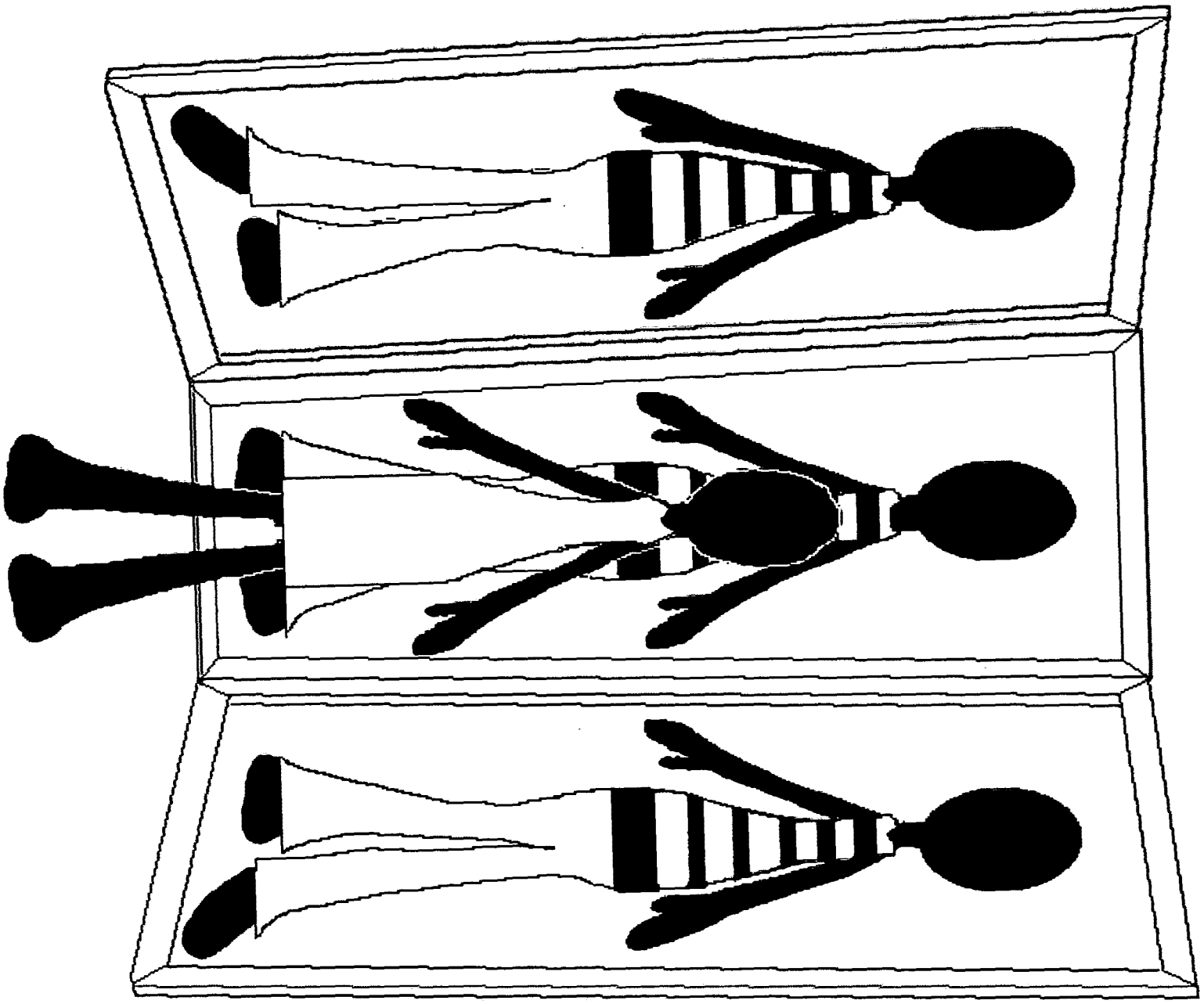
FIG 1G











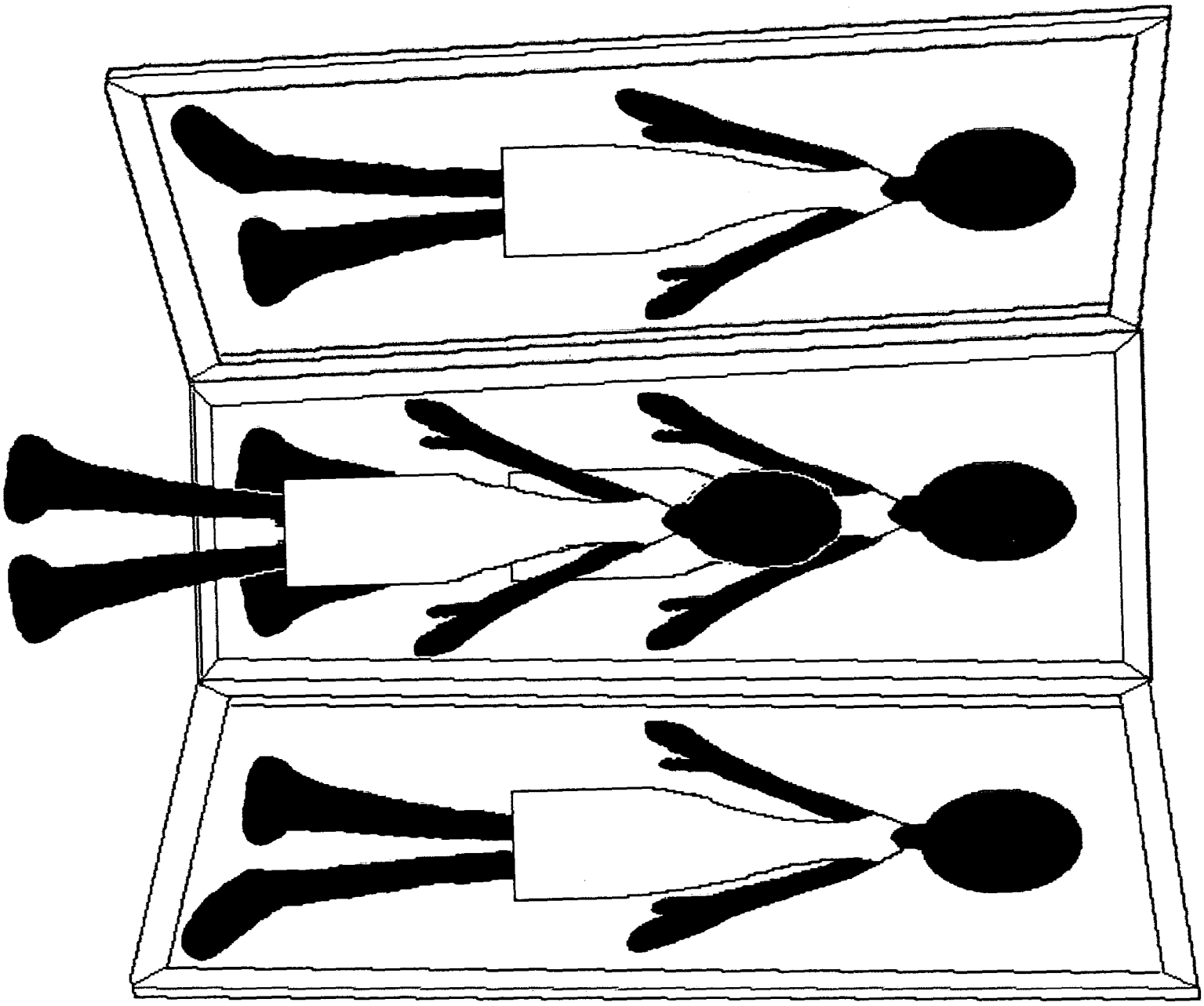


FIG 4A

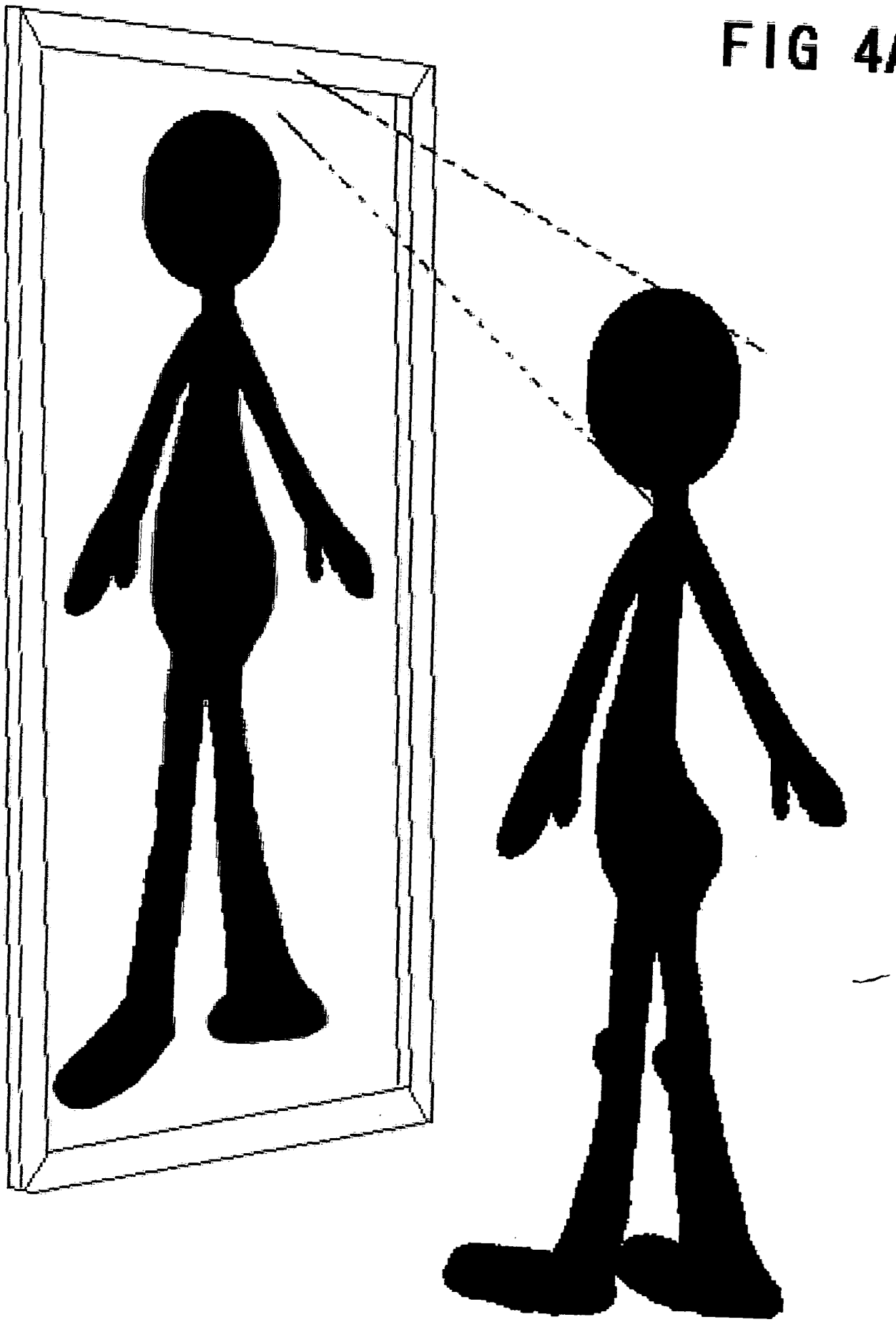


FIG 4B

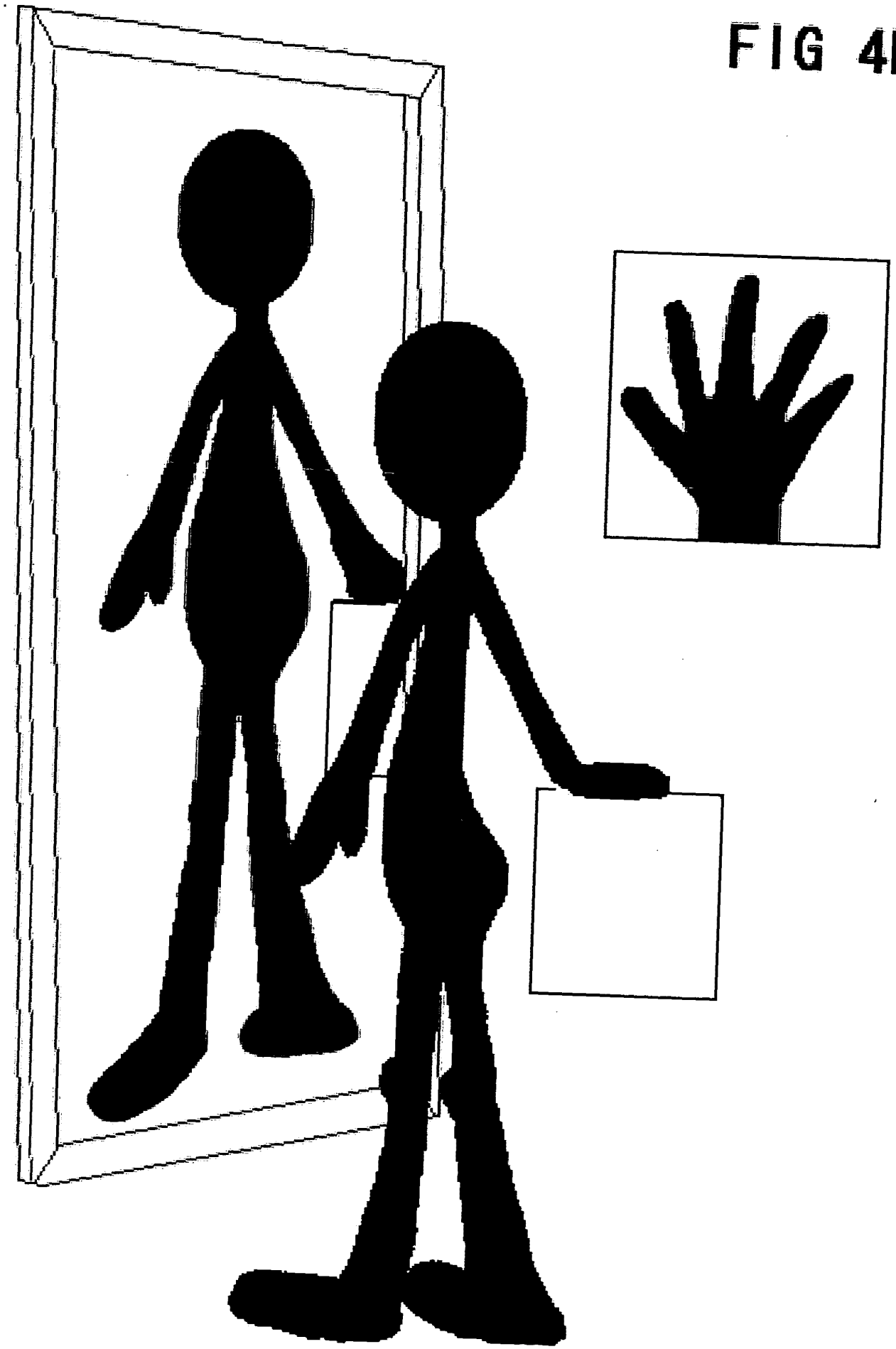


FIG 4C

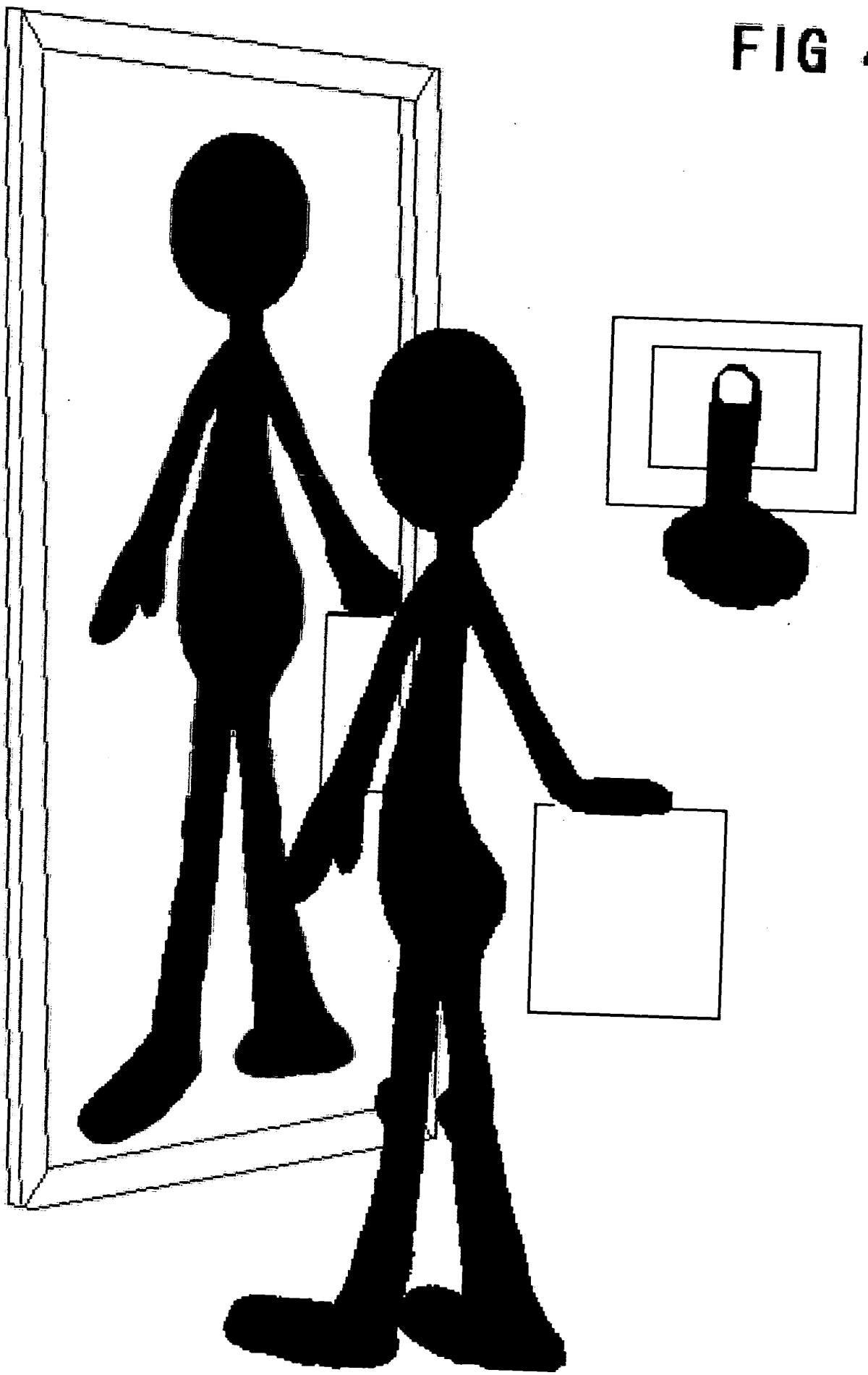


FIG 4D

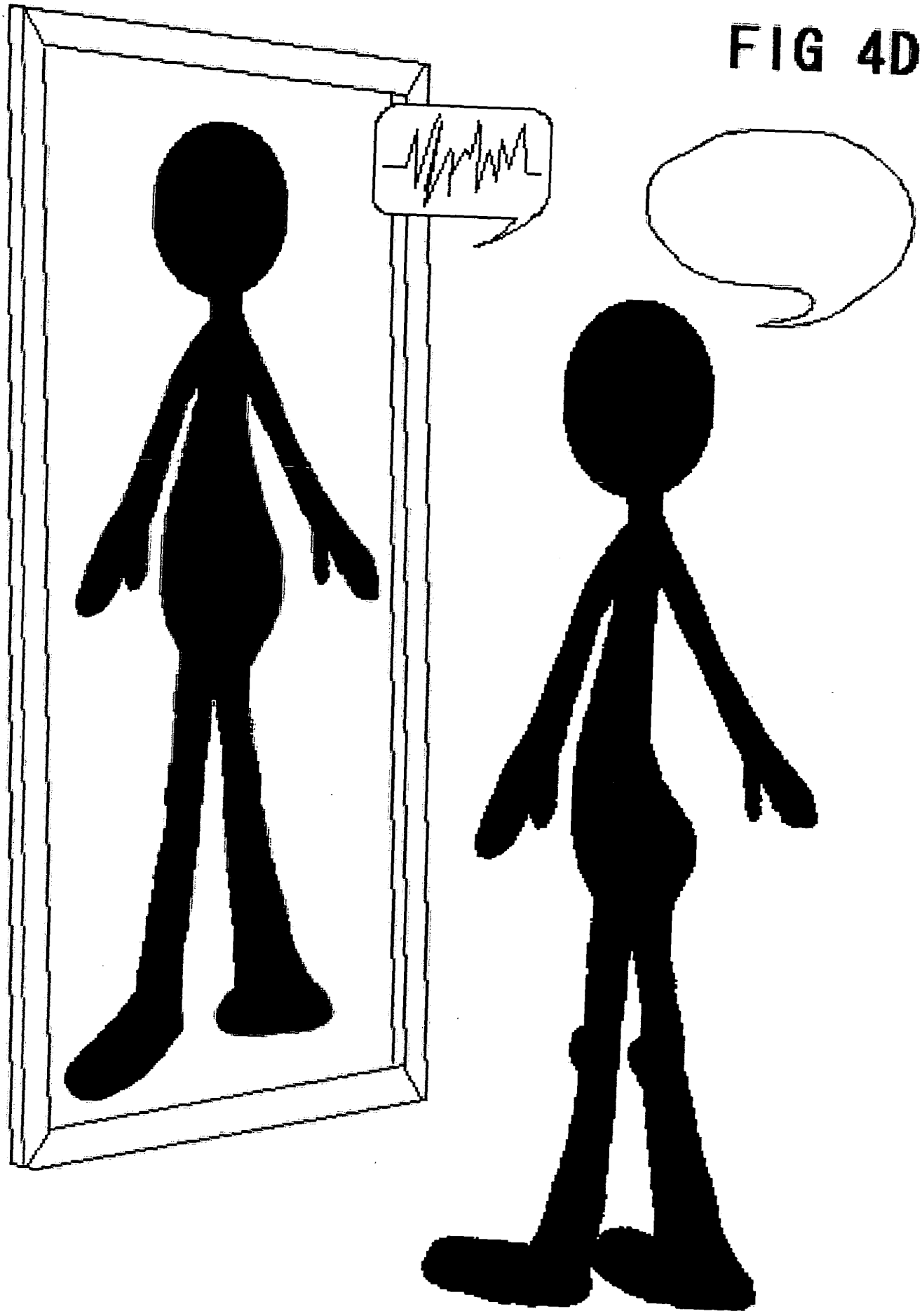


FIG 4E

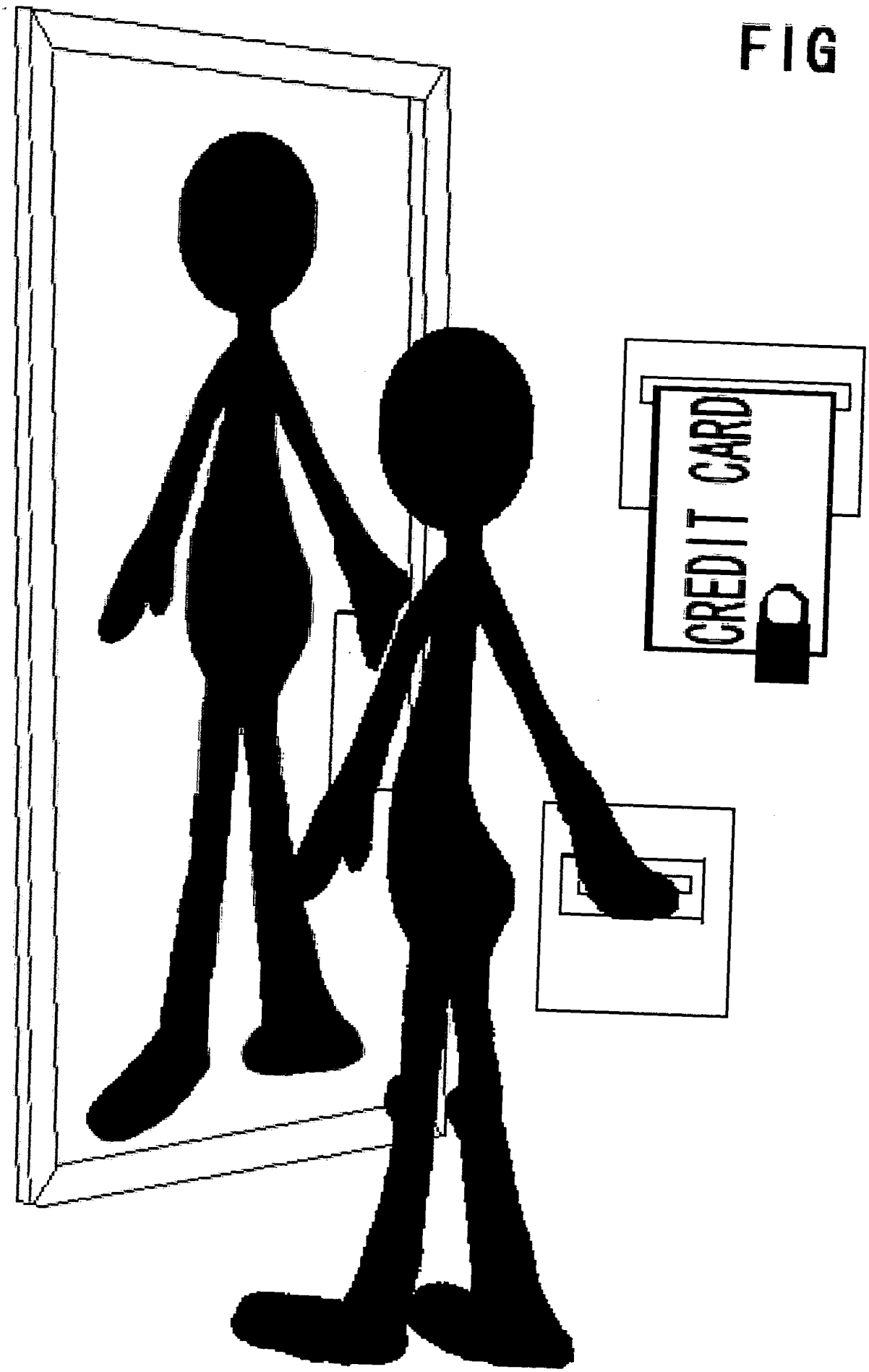


FIG 4F

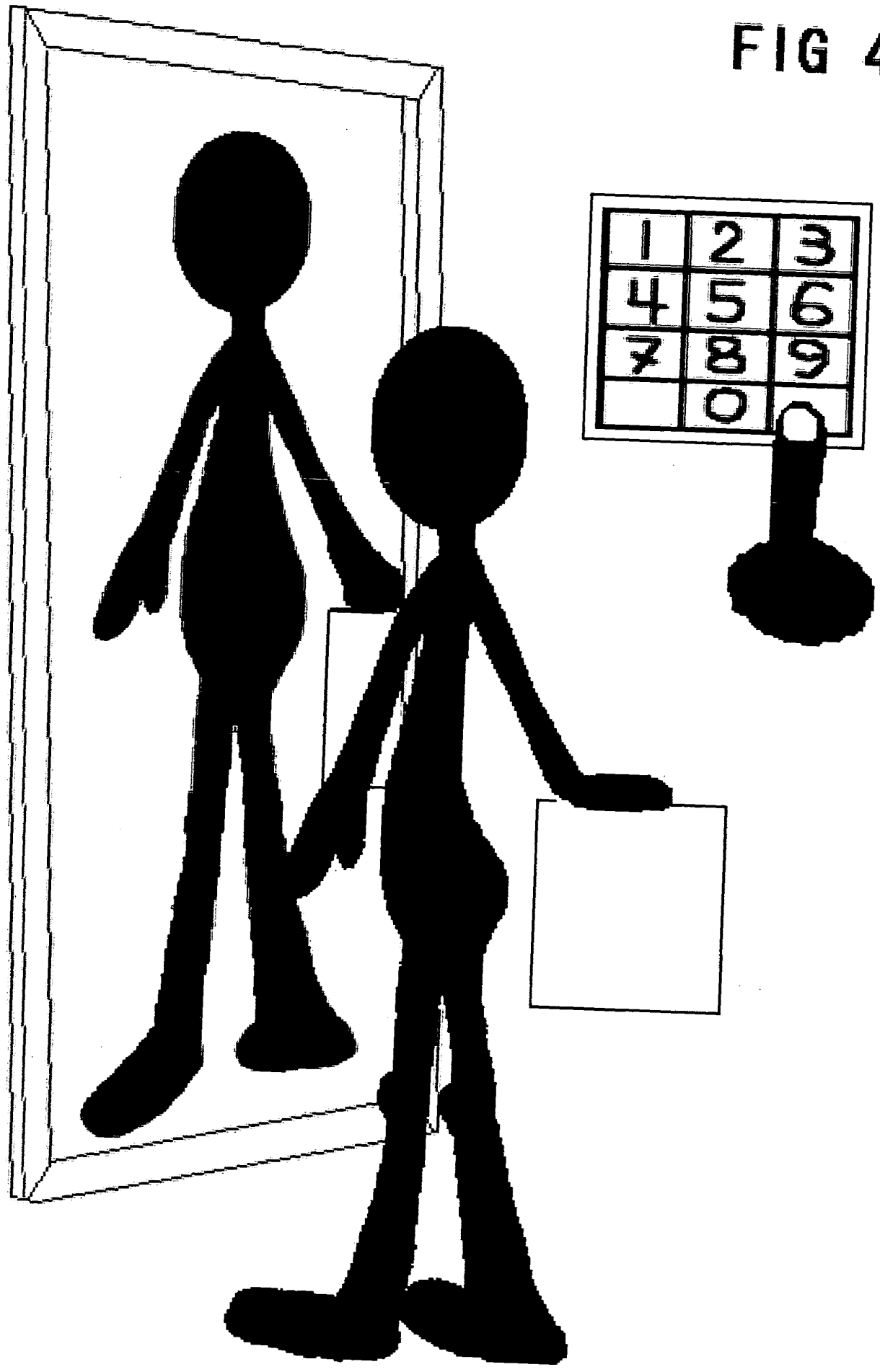


FIG 4G

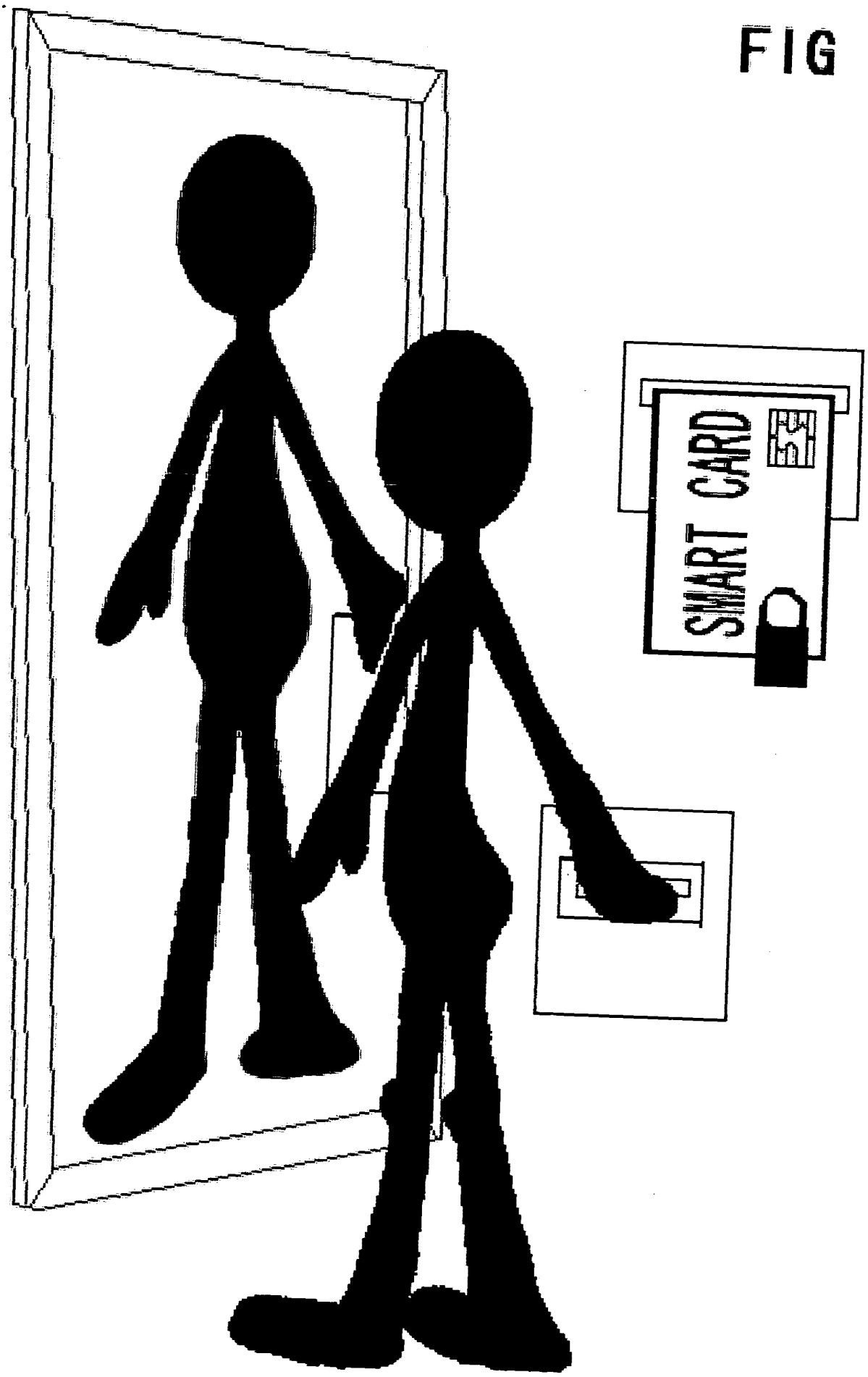


FIG 4H

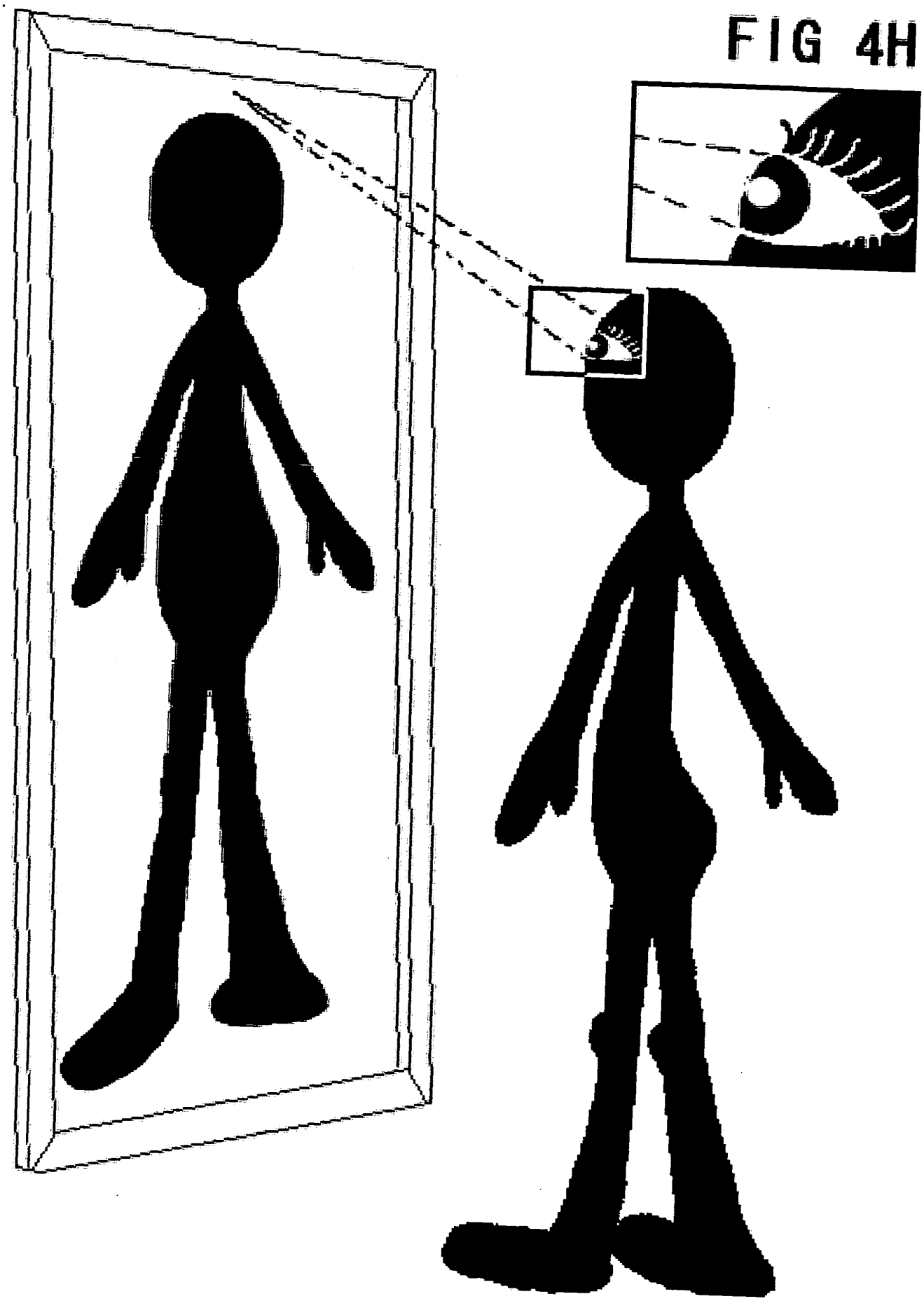


FIG 7A

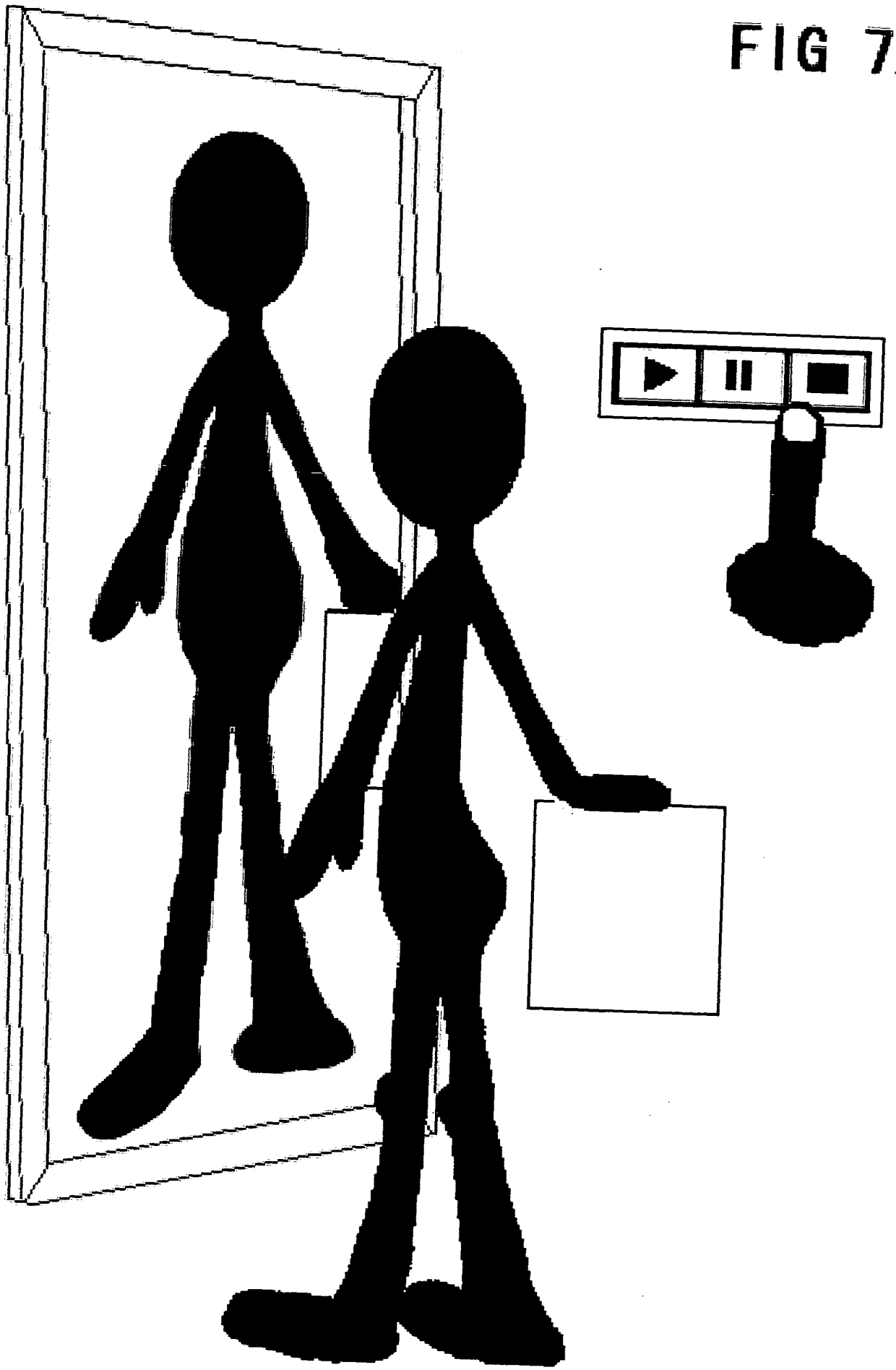


FIG 7B

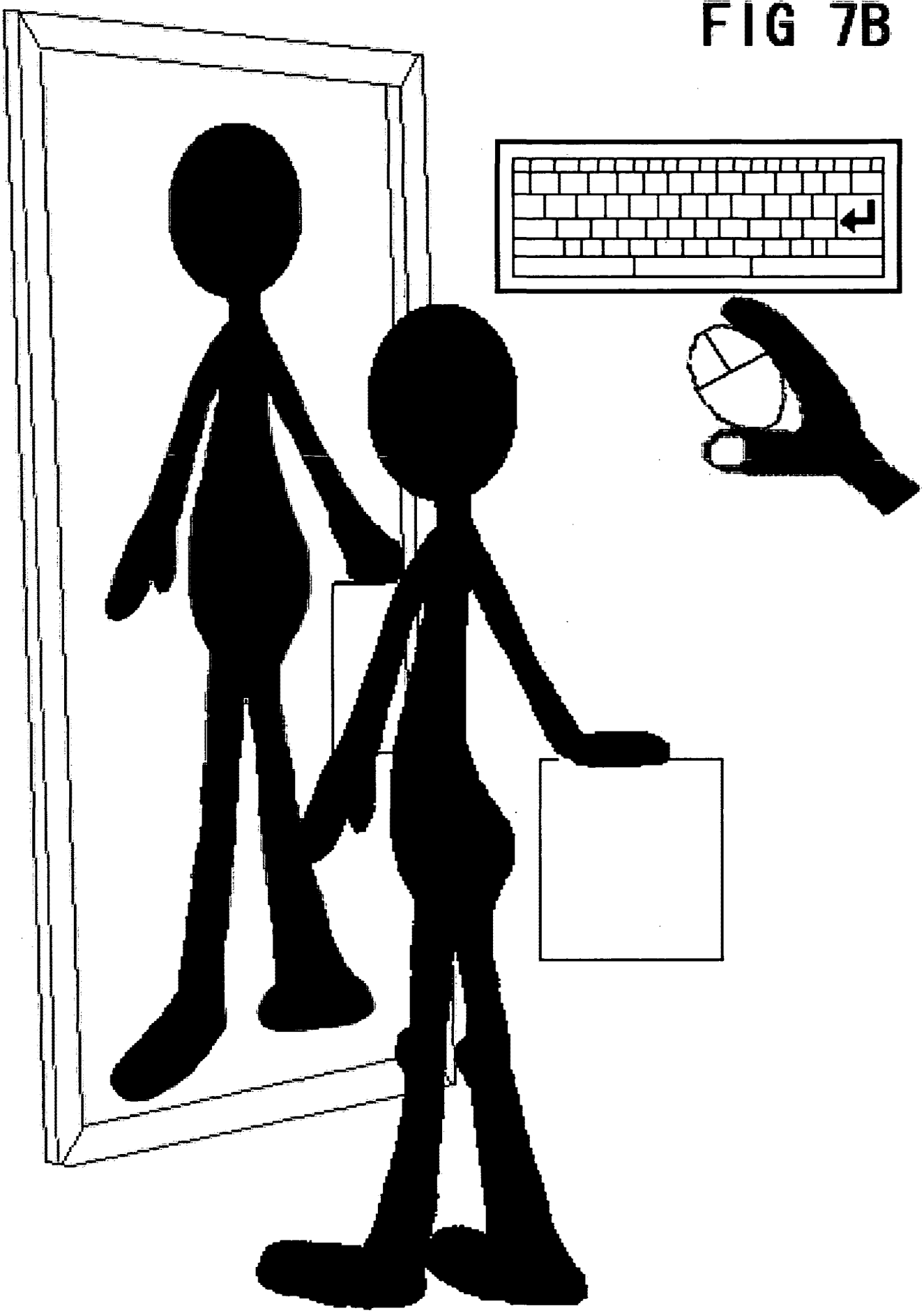


FIG 7C

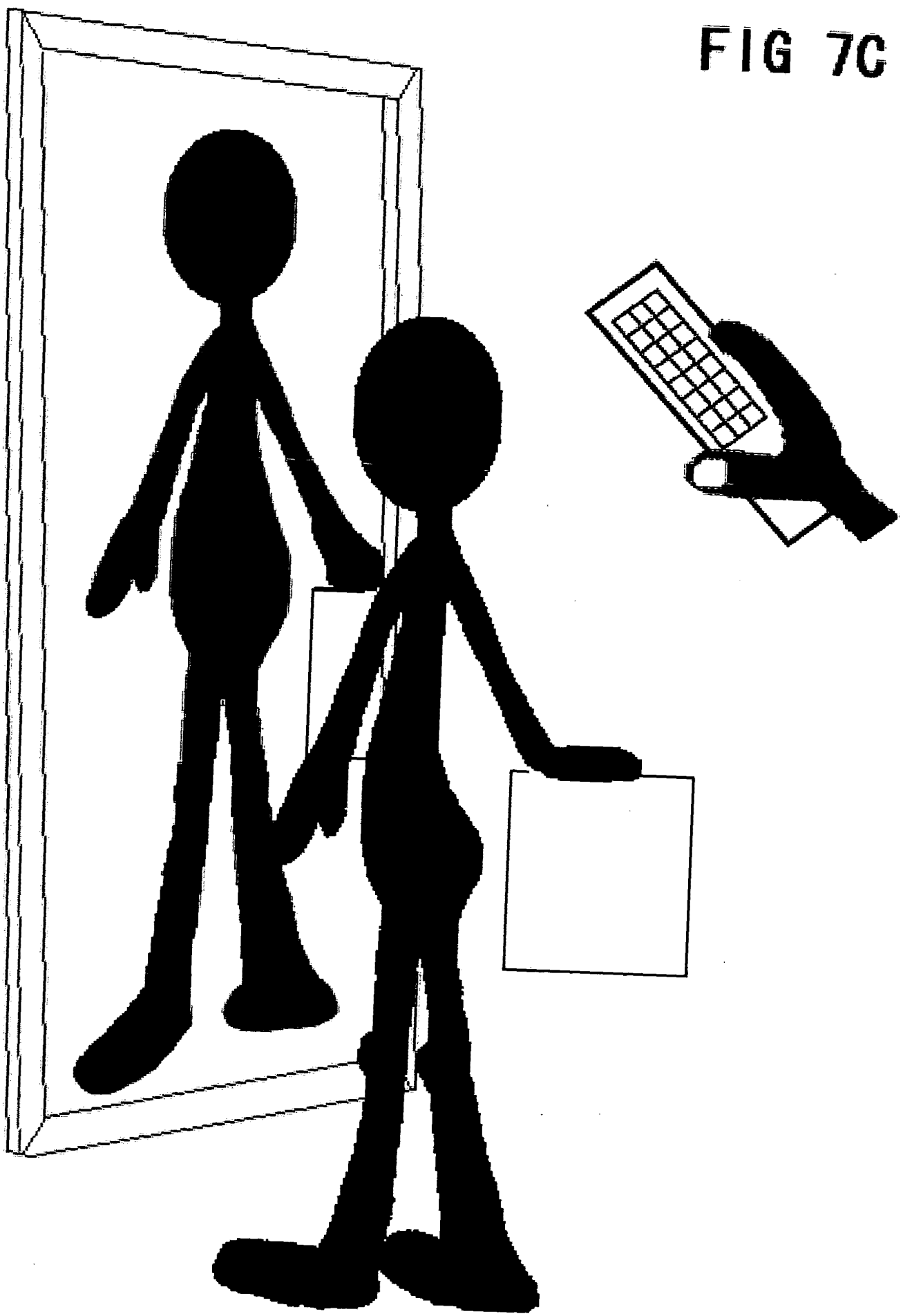


FIG 7D

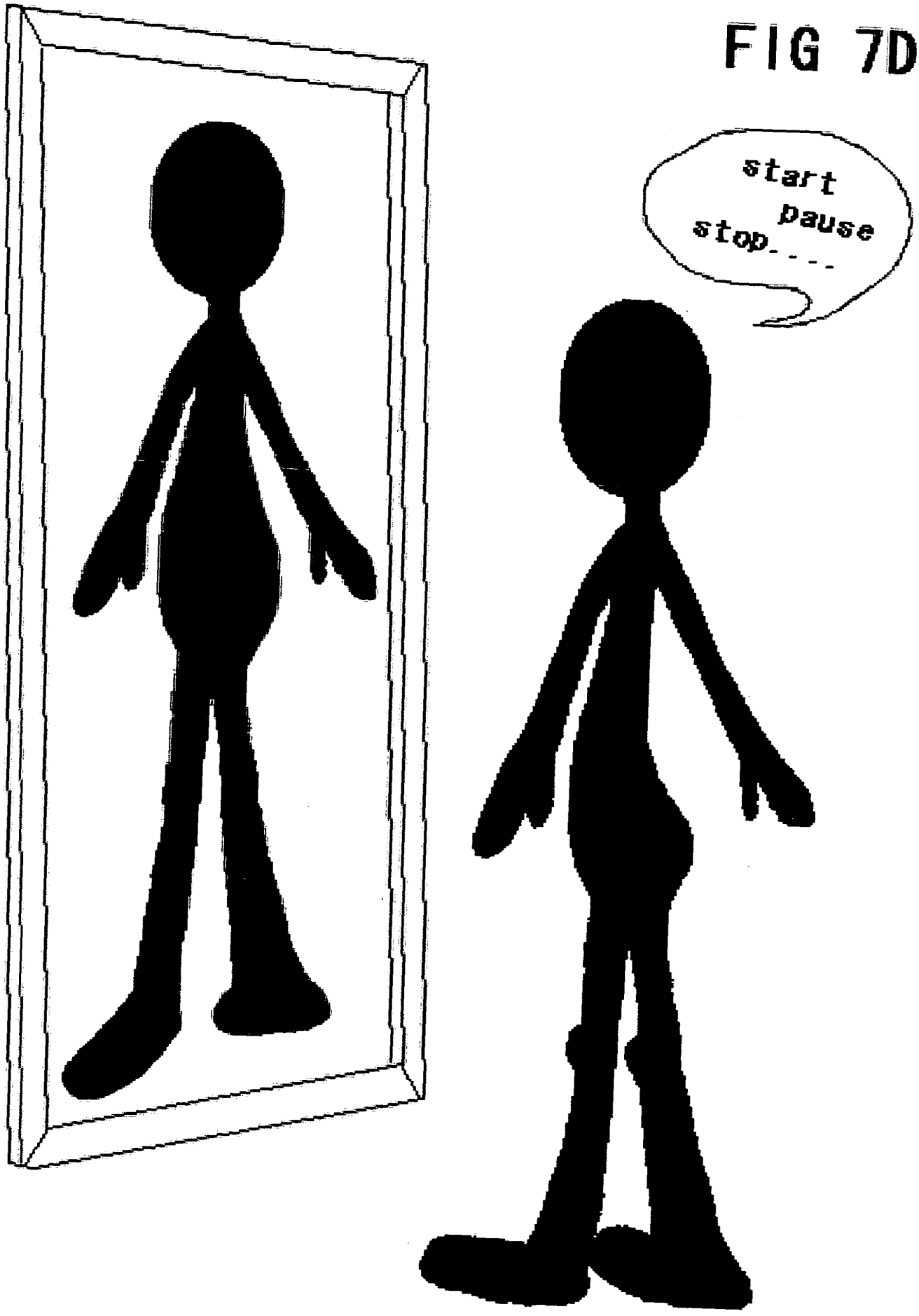


FIG 7E

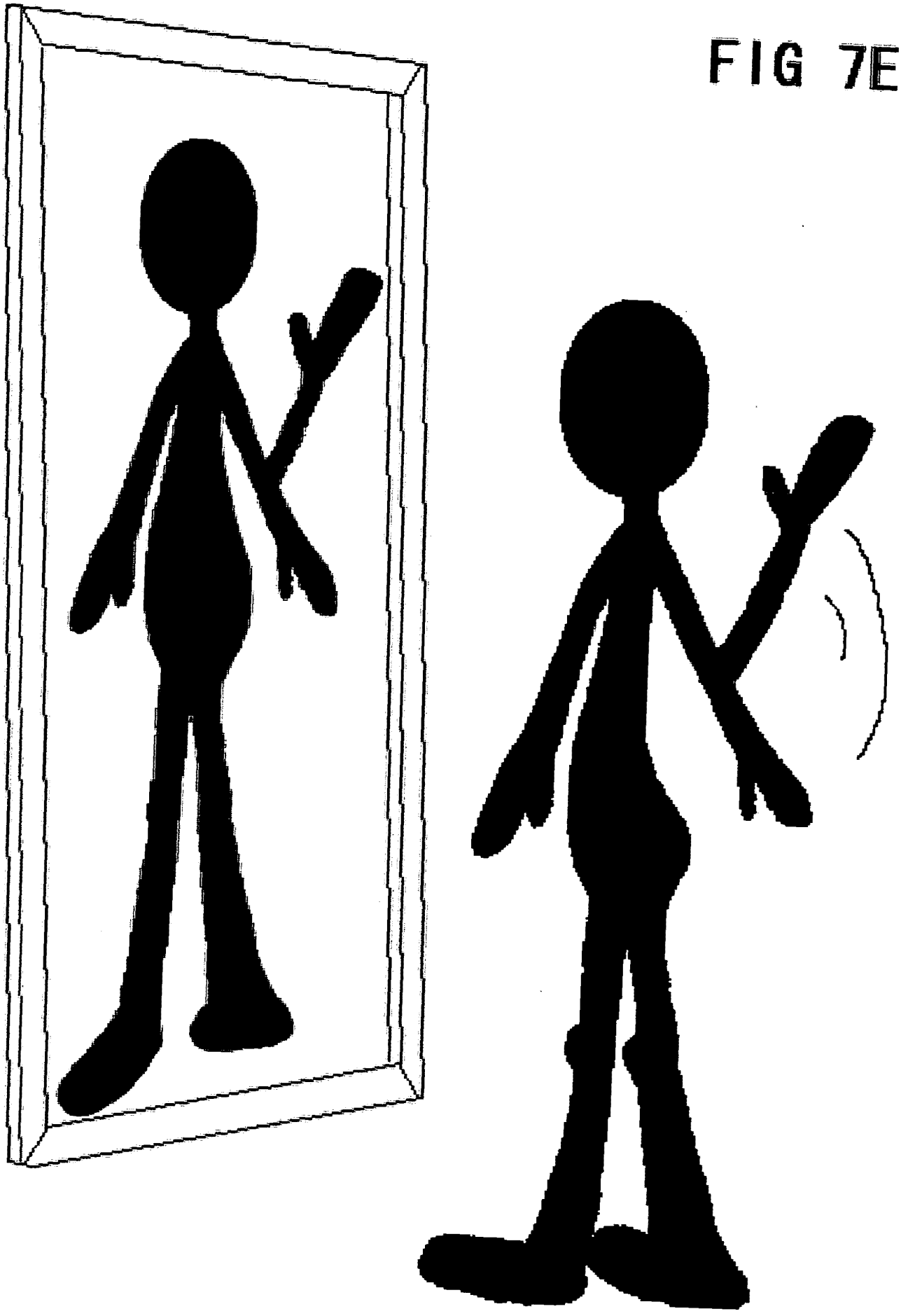


FIG 7F

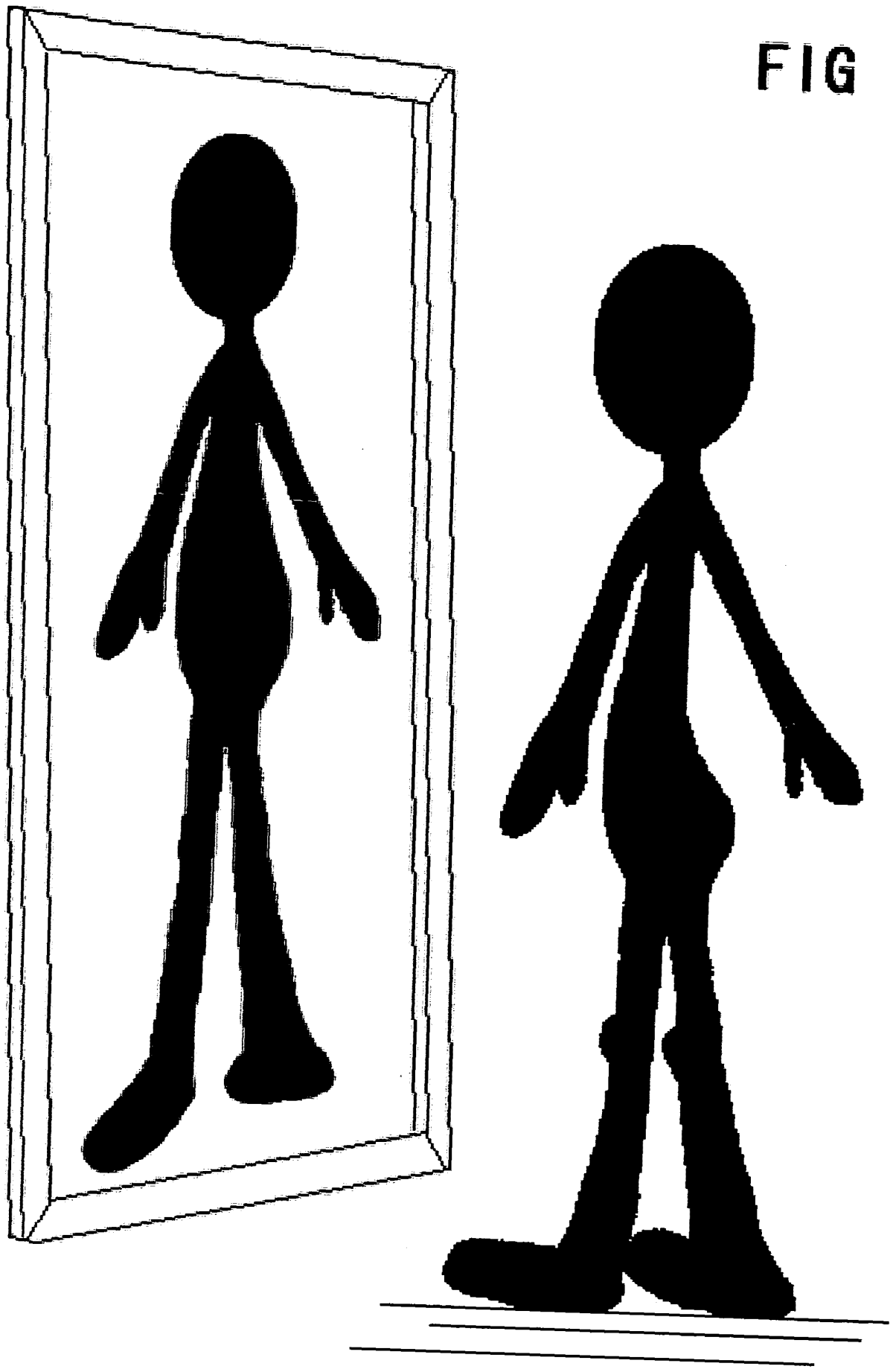


FIG 7G

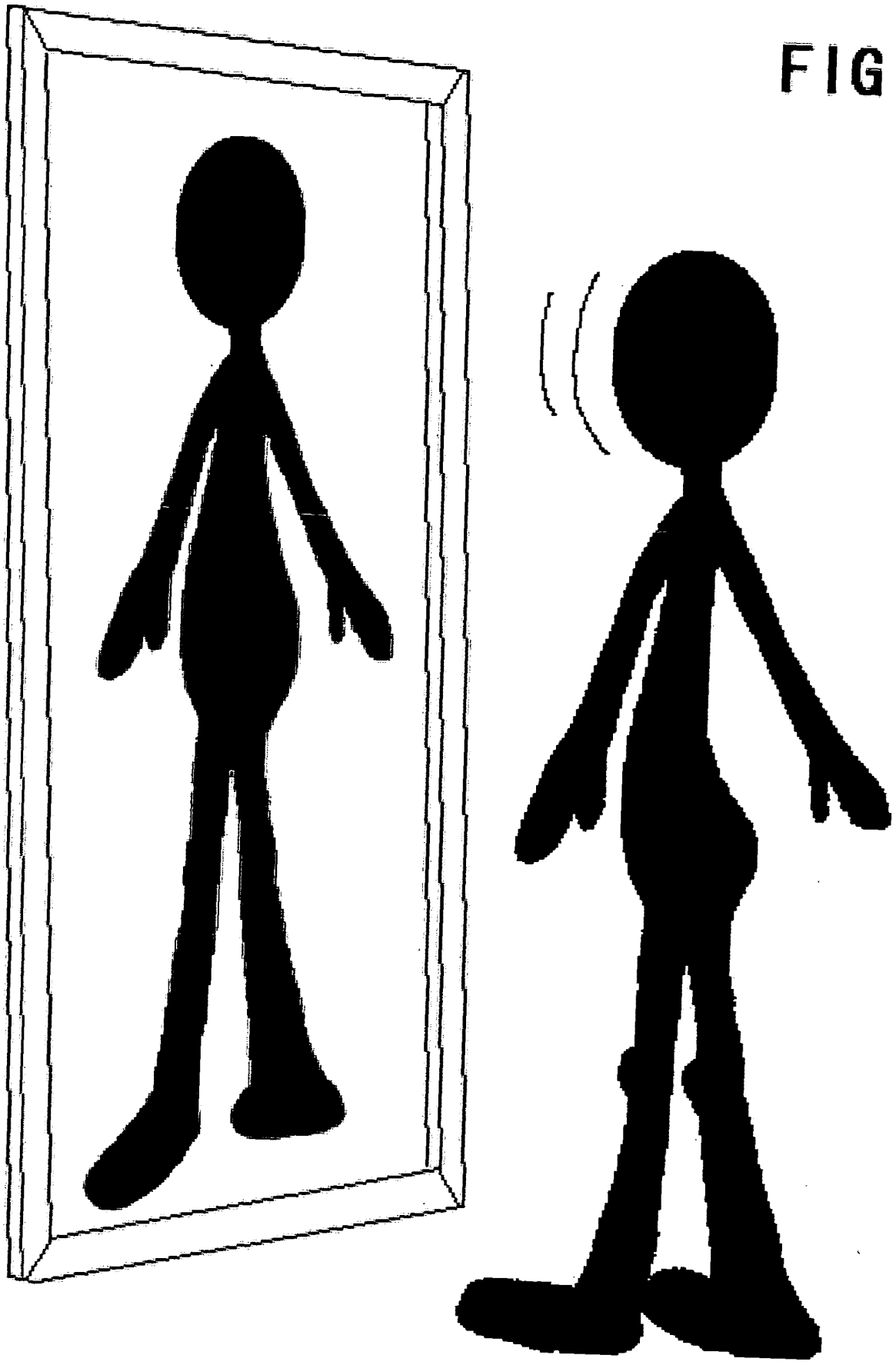
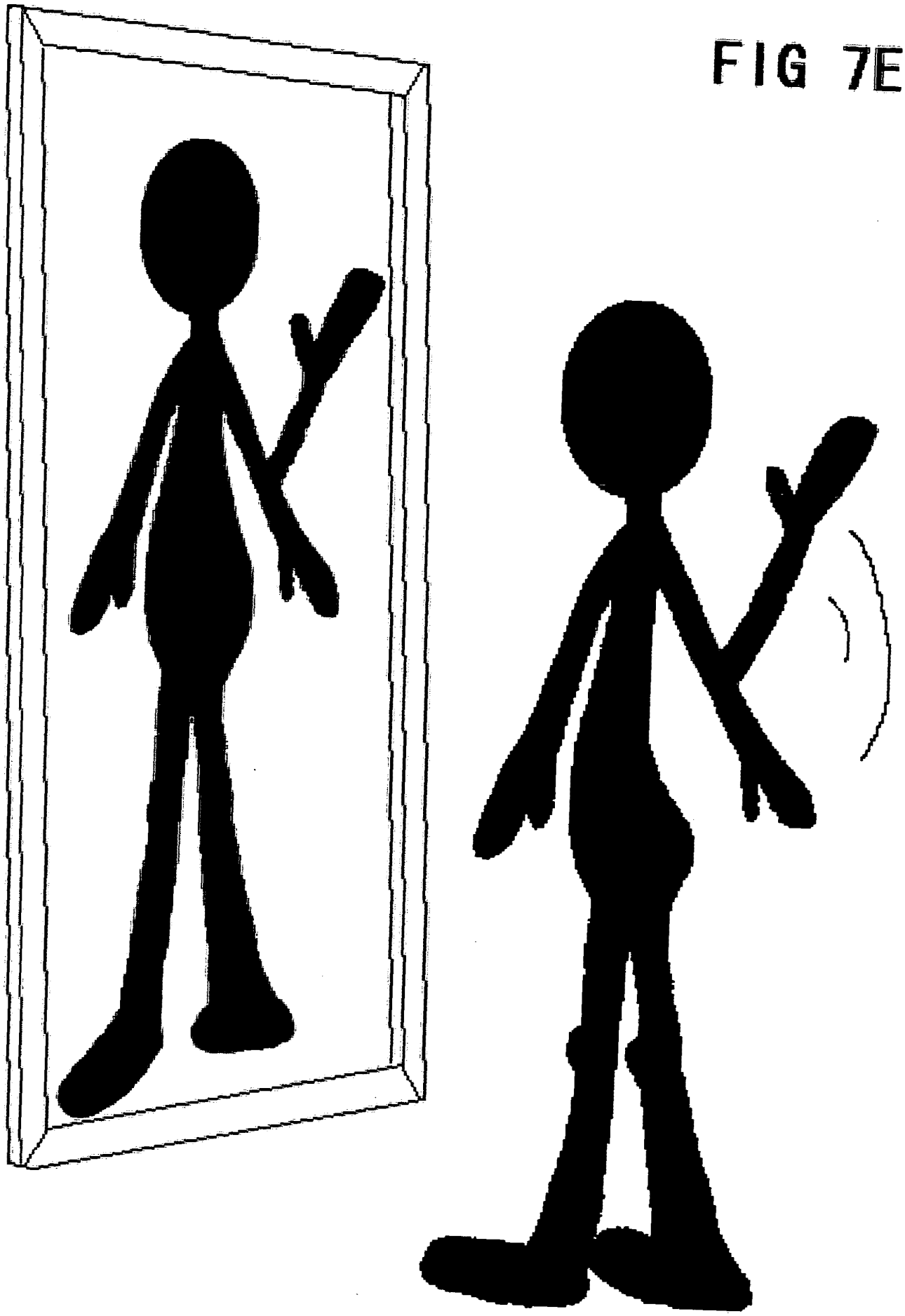
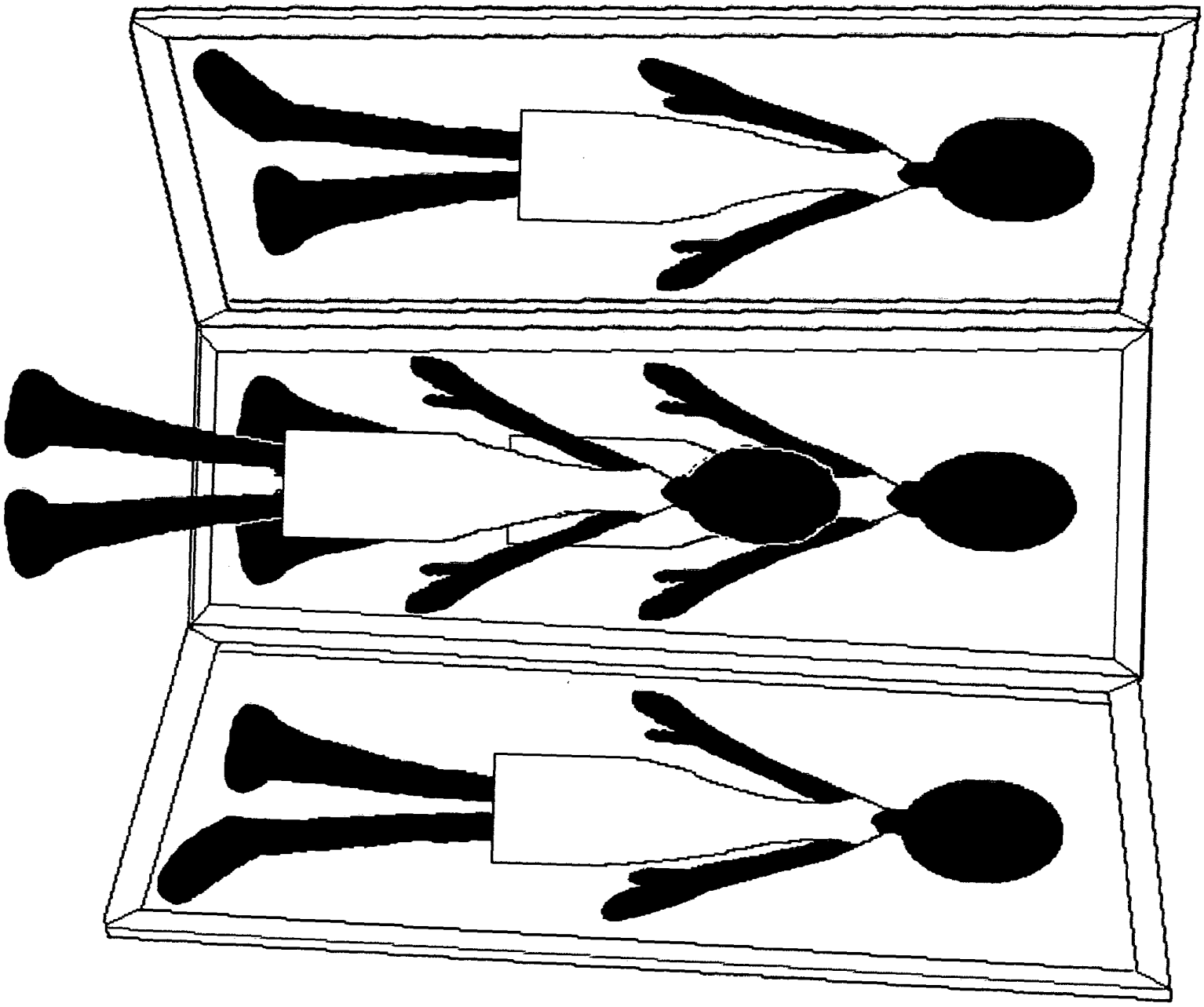


FIG 7E





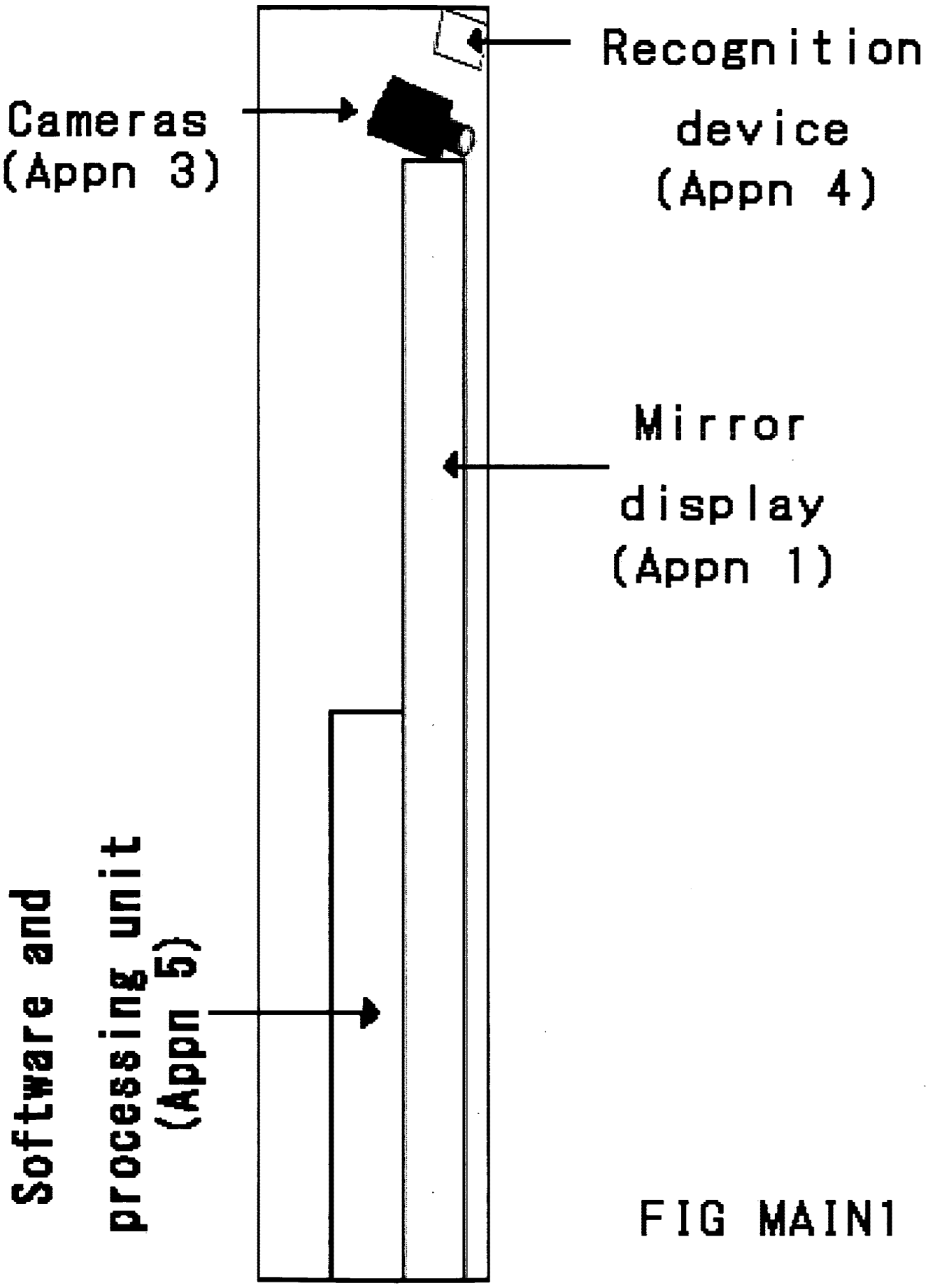
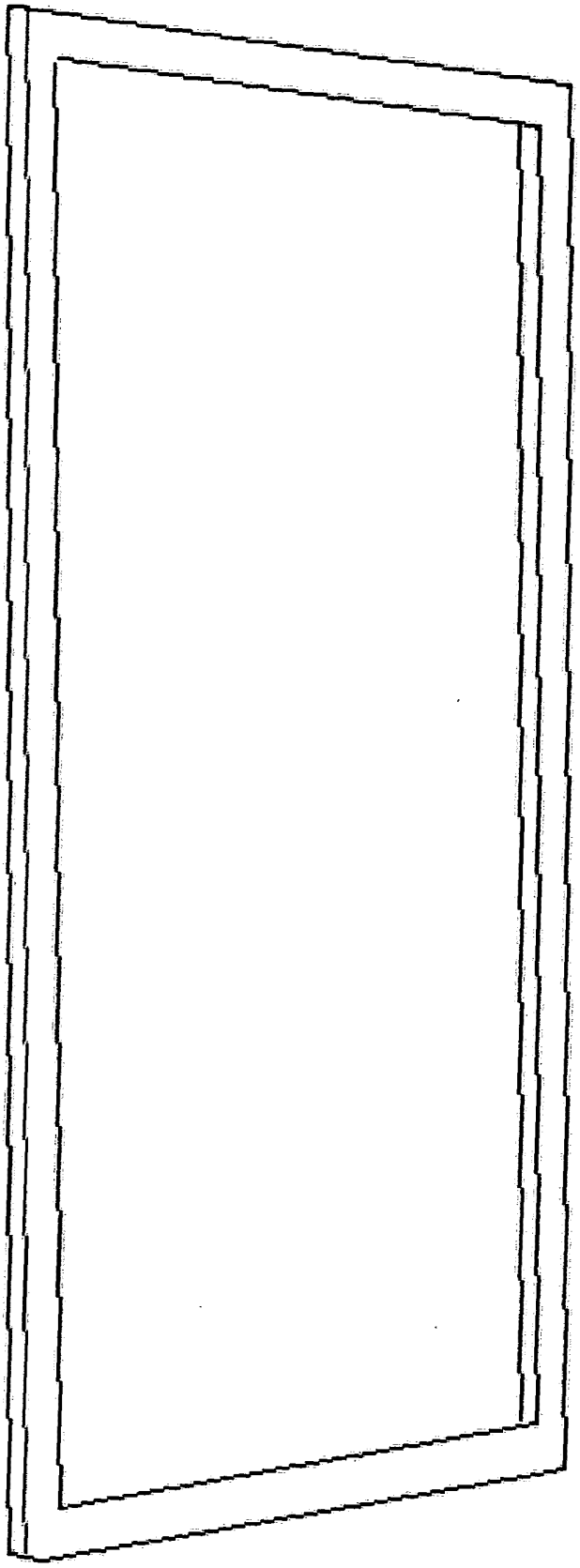
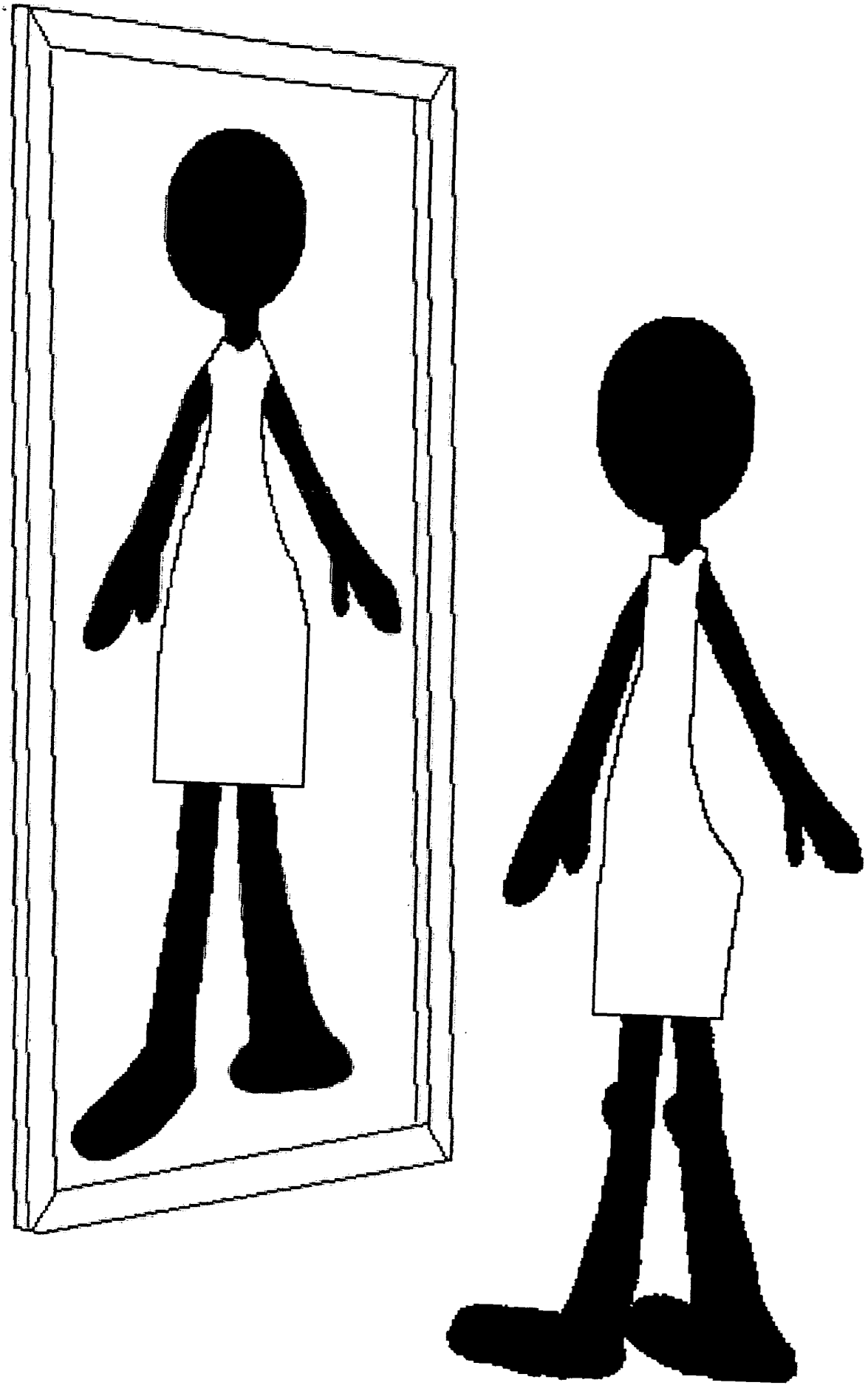
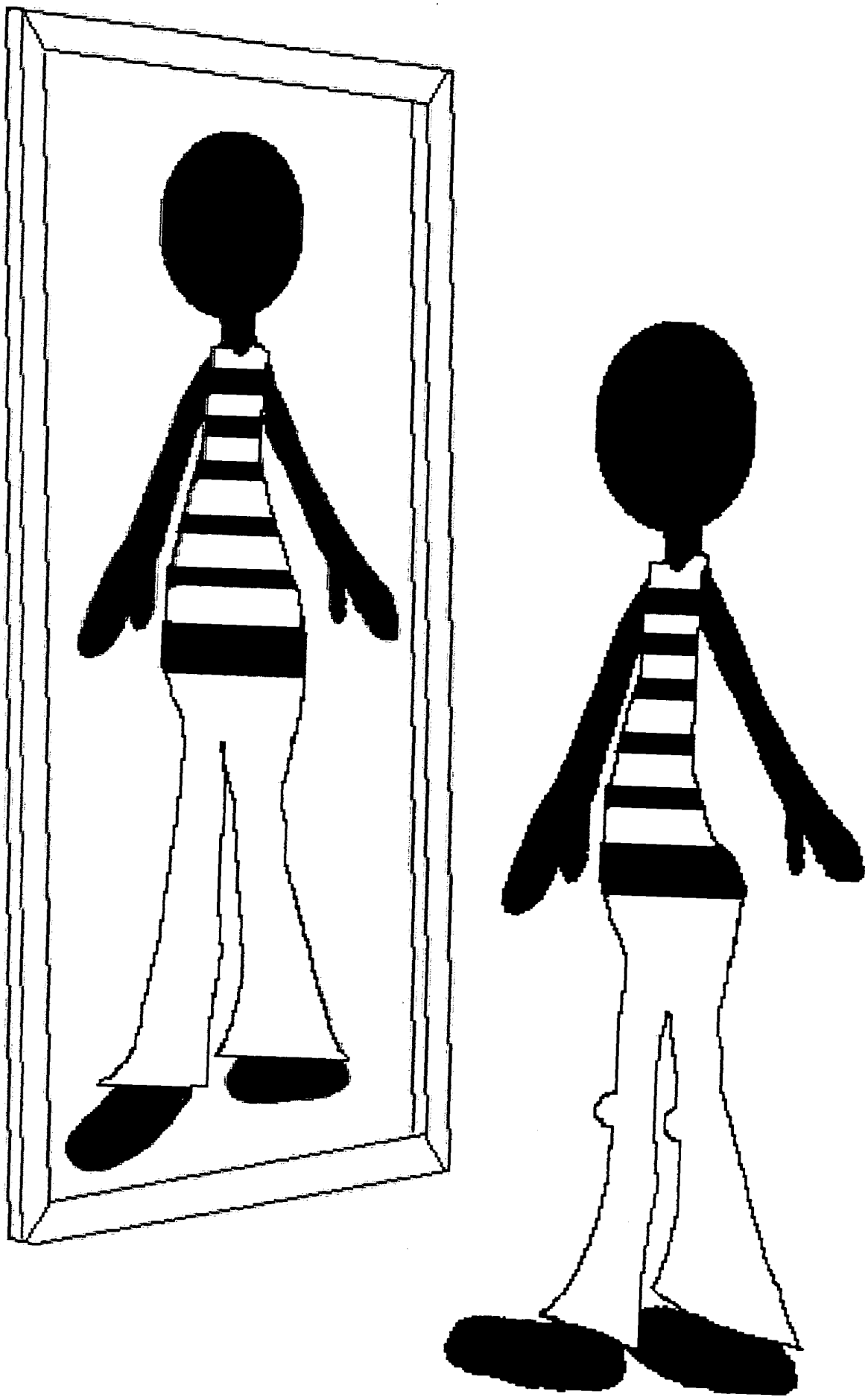
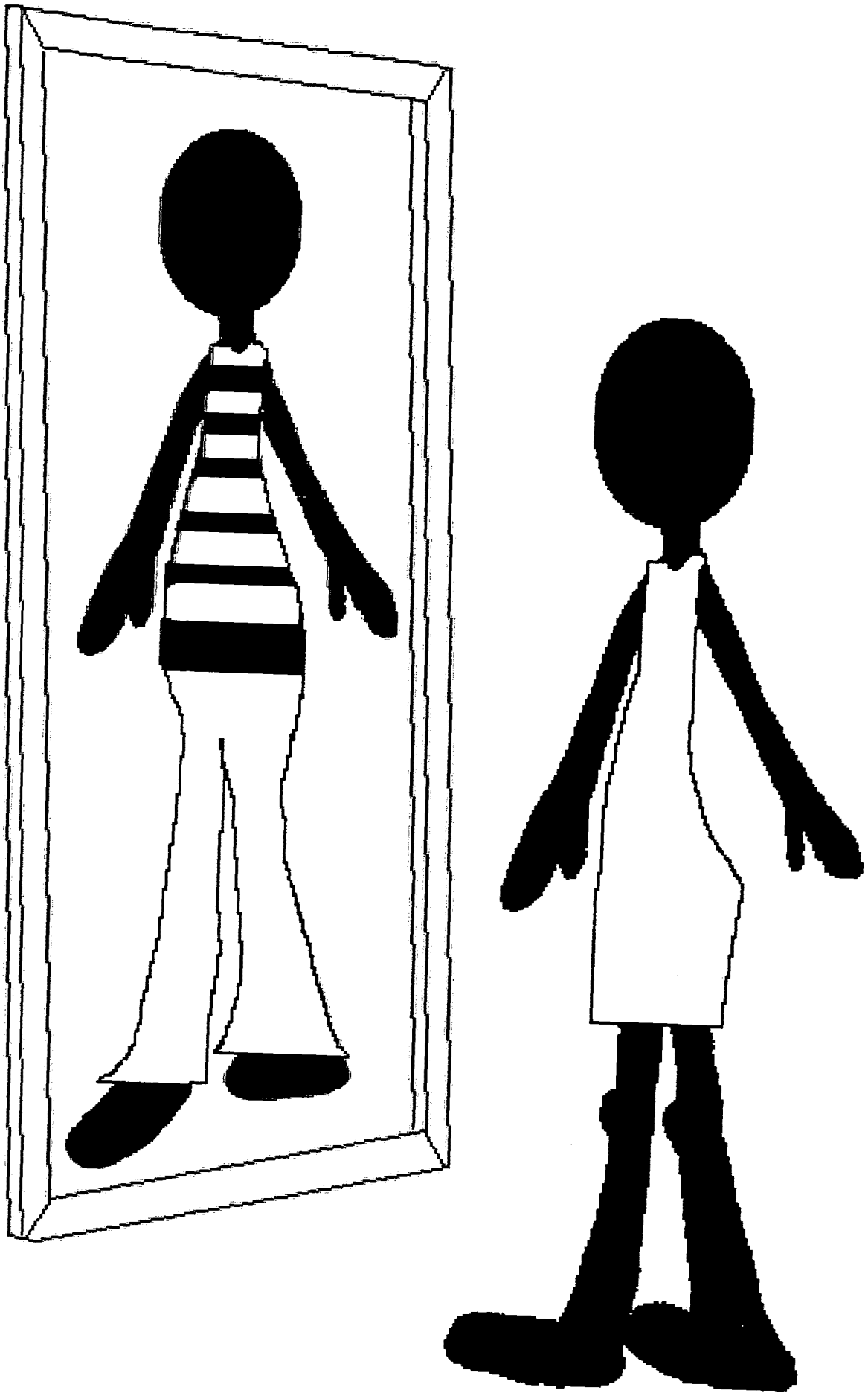

Recognition device (Appn 4)
Cameras (Appn 3)
Mirror display (Appn 1)
Software and processing unit (Appn 5)

FIG MAIN1









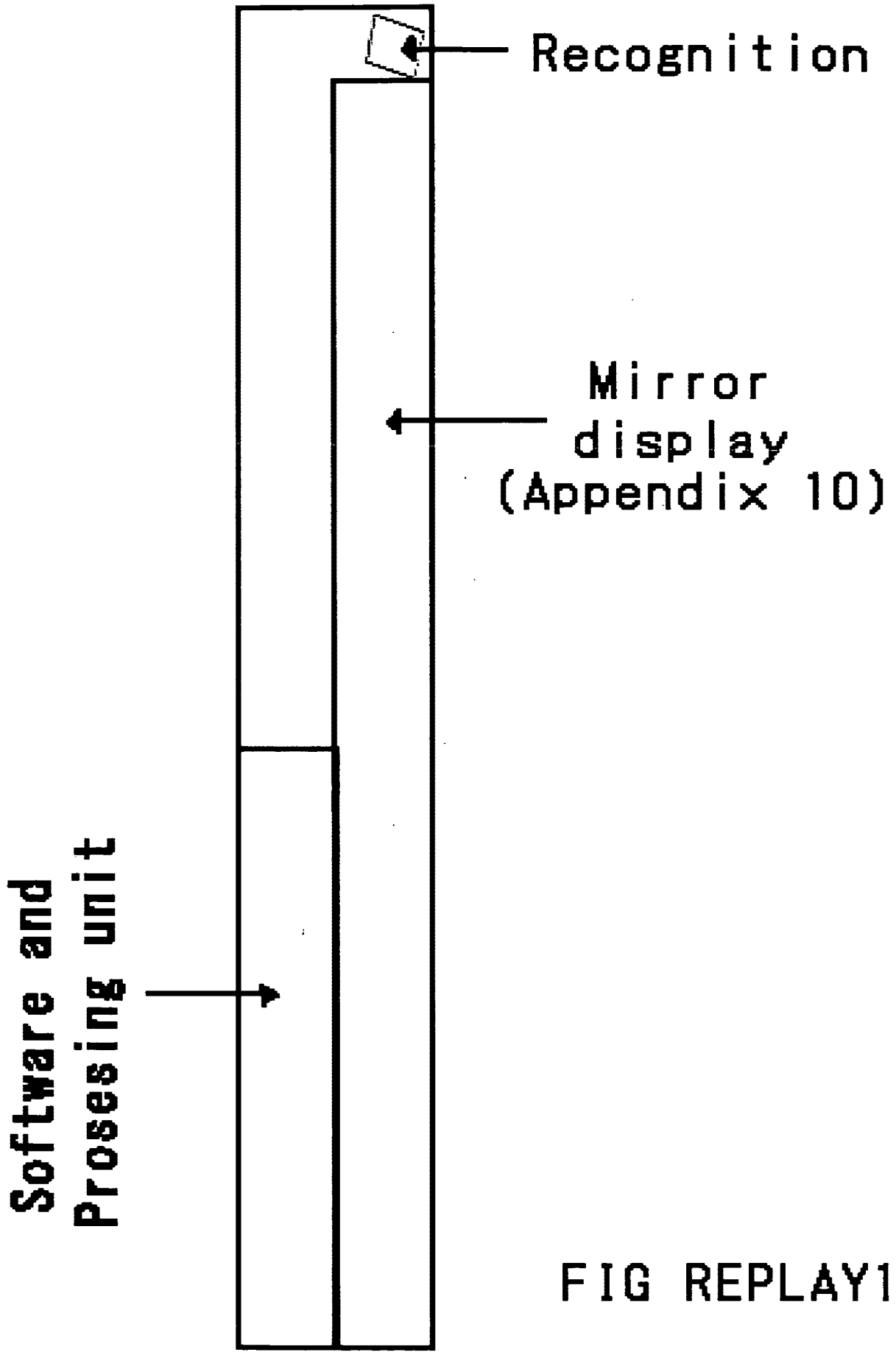

Recognition
Mirror
display
(Appendix 10)
Softwara and
Prosesing unit

FIG REPLAY1

PATENT APPLICATION SERIAL NO. _____

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE
FEE RECORD SHEET

03/03/2005 EABUBAK1 00000032 503355 60656885
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PTO-1556
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