Exercise Bed for Aesthetic and Slimming Treatments

Bed for motor activity for aesthetic and slimming treatments, comprising at least a base (11) on which the user (14) can rest in at least a partially supine position and a cover in the shape of a dome (12) with an opening (13) associated with closing and insulating means (15), the bed having means (18, 19, 24) to carry out gymnastic and muscular exercises of the upper and/or lower limbs, there being an external control panel (17) to adjust and set the temperature, there being a first heating system comprising means (22, 23) to take in air at a controlled temperature inside the bed (10) and a second heating system comprising a plurality of lamps (27) emitting concentrated and localized rays directed towards the inside of the bed (10) and individually directed and/or able to be directed towards the body of the user (14), the combination of the action of these two distinct heating systems, together with the heat insulation created inside the bed (10), determining conditions of extreme uniformity of the temperature inside the bed (10), which temperature can be controlled for a period of time.
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EXERCISE BED FOR AESTHETIC AND SLIMMING TREATMENTS

FIELD OF APPLICATION

The present invention concerns a bed for motor activity for aesthetic and slimming treatments as expressed in the main claim.

In particular, the invention is applied in the field of personalized aesthetic and/or slimming treatments which can be carried out either in the appropriate specialized centers or within the home.

The invention allows the user to carry out gymnastic exercises for the movement of the upper and/or lower limbs in a closed environment which is maintained at a constant temperature higher than ambient temperature.

In particular, the bed according to the invention allows localized zones to be created inside the bed itself where the temperature is differentiated and can be differentiated according to the necessities of the specific client.

The bed according to the invention is characterised in that it is closed and thermally insulated from the outside, which makes it possible to have a constant, precise and specific differentiation of the temperatures set inside.

STATE OF THE ART

The state of the art includes a variety of equipment and instruments for aesthetic treatments of the human body and in particular for localized slimming by means of a progressive reduction of the fatty tissues and also to correct and/or modify some irregular formations of the human body.

In this field, the method which consists of having the user do gymnastic exercises, preferably of the static type in a supine or prone position, in an environment where a
physiological temperature is induced around the body, has
been known for a long time.

In such machines, which are normally used in specialized
centers and with the assistance of specialized staff, the
user carries out a series of pre-ordained movements
according to the location and the entity of the parts to be
reduced.

The type of exercise and the position in which it is done,
for example supine, prevent or at least considerably reduce
physical fatigue and the weight on the spinal column.

In machines of this type, the consumption of energy by the
user is essentially due to the movements which, even if they
are gentle, activate muscles which are normally very little
used, together with the greater effort made by the body to
disperse heat because of the reduced heat gradient caused by
the surrounding environment.

Equipment known to the state of the art however has some
disadvantages because the sources of heat which it normally
uses have no other function than to heat the environment in
a more or less uniform and distributed way, without
localizing the heat in points or areas of greater or
specific interest.

In particular, in machines known to the state of the art
the temperature is normally set to a value of around 37°C;
this temperature, near to the physiological temperature of
the user who is doing the gymnastic activity, is considered
to be the optimum temperature to achieve maximum enzyme
reactivity, that is, the greatest quantity of fats burnt
following the gymnastic activity.

In these machines known to the state of the art, the
localization effect is achieved only by working on the
muscular layers underlying the areas which have to be
slimmed, however these areas all work at the same
temperature, that is, the set ambient temperature.
Moreover the ambient temperature often does not
 correspond, throughout the period of time when the exercises
are being done, to the set temperature because of the heat
losses which are typical of machines known to the state of
the art.
The sources of heat moreover are unable to carry out
auxiliary functions connected or complementary to the
slimming treatment being carried out, particularly aesthetic
and/or physiotherapeutic treatments for the user's body.
Moreover, it is very difficult to adjust the heat energy
radiated by the sources of heat, because of their very
nature, and therefore it is difficult to personalize the
heat energy according to the specific needs of the user.
What is more, using sources of heat known to the state of
the art, it is not possible to heat specific parts of the
body, such as the back, which therefore remains at a
different temperature from the rest of the body.
Furthermore, in machines known to the state of the art,
the atmosphere generally becomes stale, and there is no way
to air them, for example between one client and the next.
The present applicant has considered these and other
problems concerning a more rational and complete use of
equipment of this type and, to overcome the shortcomings of
the state of the art and to achieve further advantages, has
designed, tested and embodied this invention.

DISCLOSURE OF THE INVENTION

This invention is set forth and characterised in the
respective main claims, while the dependent claims describe
variants of the main embodiment.
The purpose of this invention is to provide a bed for
static motor activity for use in personalized cycles for
slimming and/or aesthetic treatment.
The bed according to the invention creates a heated environment substantially insulated from the outside environment, with an opening from which only the user's head protrudes.

The opening is made of wrapping materials which make it possible to maintain the bed substantially heat insulated from the surrounding environment without however causing discomfort to the user.

Substantially at the height of the hands and feet there is a plurality of instruments which make it possible for the user to do gymnastic and muscular exercises of the upper and/or lower limbs.

These instruments are typically arranged to offer resistance to the muscular effort made by the user, and are arranged and distributed along the bed in such a way that it is possible to do specific exercises which achieve a localized thinning of specific areas of the human body.

According to the invention, this resistance can be adjusted manually or also automatically.

According to a variant, there is at least one device to record the user's heart rate, associated with the gymnastic instruments.

This device continually adjusts the resistance of the gymnastic instruments according to the user's physical effort, in order to maintain the heart beat at a rate of between 55% and 90%, advantageously between 65% and 80%, of the maximum rate of the individual user.

In fact, it is in this range that motor activity allows the user to burn most of the fats and not, for example, the carbohydrates in the blood, in which case there would be no reduction in the fatty deposits.

The permitted motor activities include preferentially exercises to extend/contract the muscles by means of
specific and adjustable elastic resistences and/or weights
which oppose the pulling movement exercised by the user.

Other solutions include instruments for straight, circular
or bicycle-type movements of the lower limbs, slope-
simulators, a rowing machine for the upper limbs or other
similar instruments.

According to the invention, in correspondence with at
least one peripheral area of the bed, and inside the cover
which defines the closed environment associated with the
bed, there is an air intake system by which air is taken
inside the closed environment.

The temperature of the air which is introduced is adjusted
and modified during the motor activity according to the
temperature desired inside the bed, for example, 37°C
approximately, in relation to other sources of heat
cooperating with the inside of the bed.

The air intake system is associated with a recircling
system which uses air taken from the outside so as to
achieve a substantially continuous recircling of air and
avoid staleness of the air.

According to the invention, inside the vault defined by
the cover of the bed there is a plurality of lamps emitting
concentrated heat;

The lamps can be of the incandescent type and associated
with means to concentrate the flow of radiance, for example
parabolic screens.

According to a solution of the invention, the lamps emit
infra-red rays.

According to a variant, the direction of the lamps can be
adjusted.

According to a variant, the intensity of the lamps can
also be adjusted, and they can be associated with
thermostats with preset functioning.
The thermostats switch on/off the lamps in the event that
the temperature goes beyond the preset limits.

According to another variant, the lamps are associated
with timing devices which enable them to be
activated/disactivated at predefined periods.

The infra-red lamps can be fixed and directed, or are
movable and can be directed, towards specific points or
areas of the user's body inside the bed; they have different
effects both from the aesthetic and from the therapeutic and
physiotherapeutic point of view.

The synergic combination of the action of the infra-red
rays on the user's body, together with the slimming action
obtained from the motor activity in an environment heated to
a constant temperature and set with extreme precision, gives
a plurality of advantages and positive effects in aesthetic
and slimming treatments.

In fact, the intake system for hot and/or cold air,
together with the heat insulation created inside the bed,
gives a uniform temperature, constant in the environment,
except in those localized points acted upon by the infra-red
lamps.

The infra-red lamps however do not create any
discontinuity or sudden variations in the temperature in
specific areas of the bed, given that there is the hot/cold
air intake system which has the function of rebalancing and
making the temperature uniform inside the bed at every
moment.

The body's exposure to the infra-red rays increases the
impregnation of the tissues caused by the dilatation of the
blood vessels which is in turn induced by the heat, and for
this reason the nutrition and oxygenization of the tissues
are improved.

The increase in temperature also causes an increase in the
chemical reactions and the local metabolism; a further
effect is the increase in perspiration with a consequent
increase in the liquids and metabolic wastes.
Moreover, the dilatation of the follicles and the
softening of the layer of rough skin caused by the localized
heat and the consequent increase in perspiration give a
better, deeper and more intense absorption of any products
which may have been applied on the parts exposed to the
rays, such as creams, pomades, ointments etc.
This increased absorption also gives a more efficient use
of the active ingredients contained in the products for a
greater metabolic and functional efficiency of the tissues.
All this gives a greater efficiency of the applications
which therefore improve and accelerate the effects of the
specific treatment to slim and tone the specific parts of
the human body.
By localizing the application using the infra-red lamps,
it is possible to avoid the problem of heating specific
areas where exposure to the heat, for contingent reasons,
may be harmful.
According to a variant of the invention, the base of the
bed has at least a part for the user's back which comprises
means to emit heating rays, either normal or infra-red.
The function of the rays is to heat deeply the parts of
the body which, supporting the weight of the body, are not
heated by the hot air of the environment or the localized
infra-red rays emitted by the lamps on the cover.
In particular, these rays can heat those parts of the body
to a temperature which can be different both from the
ambient temperature and from the surface body temperature(s)
determined by the action of the infra-red rays.
According to another variant, at least the part of the bed
where the user's back lies is made of transparent material
which infra-red radiation emitted by lamps placed underneath the bed can pass through.

The programmed and programmable combination of the heated air intake system, the infra-red lamps and the heated back support makes it possible to obtain preordained and localized temperatures, adjustable to order and constant.

The combination of differentiated heat sources makes it possible to act on the various parts of the body alternately, in such a way as to give a pleasurable sensation of a wave of heat spreading through the body.

Moreover, in specific cases when necessary, the various parts of the body can be subjected to temperatures which are greatly different, because the sources of heat can be localized and independently adjusted.

This allows different applications and treatments to be used according to the specific and personal needs of the user.

According to another variant, the bed can be used for chromotherapy treatments, using replaceable colored lamps with varying colors according to the specific problem to be treated.

These lamps may be switched on, according to the specific treatment cycle, continually, alternately or according to preset cycles.

ILLUSTRATION OF THE DRAWINGS.

The attached figures are given as a non-restrictive example and show some preferred embodiments of the invention as follows:-

Fig.1 shows a diagram of the bed for motor activity according to the invention;

Fig.2 shows a more detailed view of the bed in Fig 1 without the cover;

Fig.3 shows a front view of the bed in Fig.1;
Fig. 4 shows a diagram of the side view of the bed in Fig. 1.

DESCRIPTION OF THE DRAWINGS

The bed for motor activity 10 shown in Fig. 1 has a base 11 associated with a fixed, dome-shaped cover 12 made, in this case, of transparent material such as plexiglass or polycarbonate, possibly colored according to the aesthetic effect desired.

The dome 12 is closed at the rear and has at the front an opening 13 through which the user 14 can enter the inside of the bed 10.

In this case, the solution is shown in which the user 14 is supine during the exercises, but the bed 10 can be planned for the user 14 to do the motor activity in a vertical or subvertical position.

In a preferred solution of the invention, the dome 12 can be swivelled open in one direction or the other or both, to make it easier for the user 14 to enter the bed, and to allow cleaning, maintenance, replacements or otherwise on the bed 10.

The opening 13 is closed and hermetically sealed by means of a cape 15 which is substantially wrapped around the neck of the user 14 in such a way that the user's head remains outside the closed environment defined by the dome 12.

The cape 15 can moreover be closed over other parts of the body if specific parts, for example only the lower limbs, are to be treated.

The user's head rests on the pillow 25 whereas there is a mattress 26 for the body.

According to a variant not shown here, the mattress 26 is associated with a lifting system which allows it be tilted, within the limits of the dimensions of the opening 13, in such a way that particular gymnastic exercises may be carried out in a different position from the supine.
Advantageously, the front edge of the dome 12 has handles 16 which make it easier for the user 14 to enter the bed 10 and on which the user can lean during the exercises when at least part of the body is outside the bed 10.

On the front edge 11a of the base 11 there is also the control panel 17 to adjust the functional elements of the bed 10.

In this case, substantially at the height of the hands and feet of the user 14 in a prone position, the bed 10 has means to do exercises to extend and contract the muscles of the upper and lower limbs.

In particular, there are holding nooses 18 associated at the lower end, by means of cords, with elastic resistance elements 19, in this case made of spiral springs 36, which oppose the pulling force exerted by the user.

According to a variant, the elastic resistance elements 19 are made of magnetic resistance elements, or of other type, which can be adjusted manually or automatically.

According to the invention, the user 14 cooperates, at least during the exercises, with a heart rate recorder, indicated by 35a in Fig.4, which automatically sets the resistance of the elastic resistance elements 19 according to a precise heart rate being obtained by the user 14.

In particular, if during the exercise the user's heart rate under stress goes beyond the preset limits, for example between 65% and 80% of maximum beats, the intensity of the resistance opposed to the force of the elastic resistance elements 19 is varied, one way or another, until the heart rate returns within the preset limits.

The heart rate can advantageously be visualized on a display on the control panel 17, to enable the staff to follow the evolution of the effort made by the user 14 and if necessary to intervene in situations of abnormality.
The elastic resistance elements 19 are advantageously of
the replaceable type so as to allow a wide range of
resistances and muscular efforts to be required of the user
14.

Instead of the elastic resistance elements 19 there may be
weights or other devices.

According to other embodiments of the invention, inside
the bed 10 there may be instruments to carry out articulated
movements and/or efforts of the limbs, advantageously
adjustable in entity and/or extent according to the
characteristics of the user 14 and the type of treatment to
be followed.

Substantially at the height of the supine user 14, there
are fixed handles 32 which help the user 14 to carry out the
exercises relating to the lower limbs.

In this case, there is also an emergency button 33 so that
the user 14 may signal any emergency situation.

In correspondence with the rear edge 11b of the base 11
there is a grille system 20 to take in and recirculate air
inside the bed 10 so that the bed 10 is aired with air taken
from the outside environment.

The air intake system inside the bed 10 comprises a grille
system 22 on the upper edge of the base 11 and inside the
dome 12, connected with grille elements 23 which communicate
with the outside.

The grille elements 22 are associated with heating
elements (not shown here) which allow the air, taken from
the environment by means of the grilles 23, to be heated.

The heating means can be adjusted by acting on the control
panel 17 so as to define the desired temperature inside the
bed 10.

Advantageously, the heating means are governed by a
plurality of means 21 to measure the temperature distributed
inside the bed 10 which regulate the action of the heating
means according to the desired temperature being obtained
and maintained in all the areas of the bed 10.

On the internal face of the dome 12, turned and directed
towards localized parts of the body of the user 14, there is
a plurality of lamps 27 which emit heating rays,
advantageously but not necessarily infra-red rays.

In a first embodiment of the invention (Fig.3), the lamps
27 are distributed uniformly on a transverse band 28 which
follows the substantially elliptic shape of the dome 12.

According to a variant, the lamps 27 are distributed on
bands 29 which are lengthwise to the bed 10, below 29a or
above 29b the bed 10.

These solutions may be combined or alternated, or other
arrangements may be included.

The lamps 27 may be adjusted individually, both with
regard to the intensity of the rays, and to the timing and
to their direction, by acting on the control panel 17.

The lamps 27 are associated individually with thermostats
30 which automatically determine when they are switched on
/off, and regulate the intensity of the light emitted if the
temperature exceeds the preset limits.

According to a variant, the thermostats 30 are arranged
near the surface of the user's body in order to regulate the
functioning of the lamps 27 according to the desired
temperature being obtained and maintained in correspondence
with the surface areas of the body.

The lamps 27 are mounted on ball-joints 31 which allow
them to be directed as desired, servoassisted with remote
movement means.

According to a variant, the lamps 27 are associated with
servoassisted movement systems which allow them to be moved
nearer/farther from the user 14.
This positioning can be carried out both by the staff and by the user 14, according to the specific therapeutic and slimming requirements, or according to contingent situations, for example the application of creams or other on localized parts of the body, the user's build etc.

According to a variant not shown here, the lamps 27 are mounted on heads on the outside periphery of the dome 12.

According to another variant, the lamps 27 are mounted on a removable band which follows the shape of the dome 12 in order to allow them to be mounted even on beds 10 which are not specifically planned to be so used.

The direction of the lamps 27 can also be memorized in such a way as to obtain a personalized programmed position for every individual user 14 or for every category of user 14.

The lamps 27 are replaceable and can also be replaced by colored lamps for particular chromotherapy treatments.

In this case, at least a part of the mattress 26 on which the back of the user 14 rests is covered by a layer 34 provided with means to emit heating rays which strike an area which would not otherwise be affected by other sources of heat present inside the bed 10.

According to a variant not shown here, the part of the mattress 26 on which the back of the user 14 rests has at the bottom a transparent element under which there are lamps which emit heating rays.

The combination of the heat energy emitted by the intake system 22, the lamps 27 and the layer 34 makes it possible to obtain a desired distribution of the temperature inside the bed 10 and on the body of the user 14.

This distribution, according to the specific requirements, can be uniform or localized even in an accentuated way, and a differentiation in the application of the heat energy is
thus assured.

The sources of heat 20, 27 and 34 can be adjusted independently and activated alternately, in such a way as to give the effect of a wave of heat which stimulates the circulation and gives the user 14 a pleasurable sensation.

According to a variant, the user 14 cooperates with a heating garment, for example a track suit with means to emit heating rays, infra-red or not, which makes it possible to obtain precise and controllable temperature values over all the body surface or over specific parts of it.

The heating garment is associated with the control panel 17 to regulate the temperature induced by the individual heating elements present in it.

In this case, there are also temperature sensors 35 which can be associated with the body of the user and which give signals to the system which regulates the sources of heat 20, 27 and 34, together with means which measure the ambient temperature 21, in order to adjust and if necessary deactivate the sources of heat 20, 27 and 34.
CLAIMS

1 - Bed for motor activity for aesthetic and slimming treatments, comprising at least a base (11) on which the user (14) can rest in at least a partially supine position and a cover in the shape of a dome (12) with an opening (13) associated with closing and insulating means (15), the bed having means (18, 19, 24) to carry out gymnastic and muscular exercises of the upper and/or lower limbs, there being an external control panel (17) to adjust and set the temperature, characterised in that there is a first heating system comprising means (22, 23) to take in air at a controlled temperature inside the bed (10) and a second heating system comprising a plurality of lamps (27) emitting concentrated and localized rays directed towards the inside of the bed (10) and individually directed and/or able to be directed towards the body of the user (14), the combination of the action of these two distinct heating systems, together with the heat insulation created inside the bed (10), determining conditions of extreme uniformity of the temperature inside the bed (10), which temperature can be controlled for a period of time.

2 - Bed as in claim 1, in which the lamps (27) are distributed on at least one transverse band of the dome (12).

3 - Bed as in claim 1 or 2, in which the lamps (27) are distributed on at least one longitudinal band of the dome (12).

4 - Bed as in any of the claims hereinbefore, in which the lamps (27) are arranged on external heads arranged on the periphery of the dome (12).

5 - Bed as in any of the claims hereinbefore, in which the lamps (27) are of the incandescent type.

6 - Bed as in any of the claims hereinbefore, in which the
lamps (27) are infra-red lamps.

7 - Bed as in any of the claims hereinbefore, in which the intensity of each lamp (27) can be varied and preset by acting on the control panel (17).

8 - Bed as in any of the claims hereinbefore, in which each lamp (27) is associated with its own thermostat means (30) to control and regulate the emission temperature.

9 - Bed as in claim 8, in which the thermostat means (30) are installed directly on the support of the lamps (27).

10 - Bed as in claim 8, in which the thermostat means (30) are installed near the body surface of the user (14).

11 - Bed as in any of the claims hereinbefore, in which each lamp (27) is associated with its own timing means to switch it on/off.

12 - Bed as in any of the claims hereinbefore, in which the lamps (27) can be replaced, and can also be replaced by colored lamps for chromotherapy treatments.

13 - Bed as in any of the claims hereinbefore, in which the operating conditions of the lamps (27) can be memorized and reproduced for each individual user (14) or category of user (14).

14 - Bed as in any of the claims hereinbefore, in which at least the part (34) which cooperates with the back of the user (14) is associated with means which emit heating rays.

15 - Bed as in any of the claims hereinbefore, in which at least the part (34) which cooperates with the back of the user (14) is made of transparent material and cooperates with lamps which emit heating rays.

16 - Bed as in any of the claims hereinbefore, in which the control panel (17) permits the regulation of the first heating system (the hot air intake system), the second heating system of infra-red lamps, and the heating system for the user's back, in order to create a desired
temperature distribution and a desired time sequence of
heating inside the bed (10).

17 - Bed as in any of the claims hereinbefore, in which the
heated air intake system (22,23) cooperates with an exchange
and recircling system (20) communicating with the outside.

18 - Bed as in any of the claims hereinbefore, in which
there are means to record the temperature (21) of the
environment and means to record the body temperature (35)
which govern the means to regulate the heating systems
(20,27,34).

19 - Bed as in any of the claims hereinbefore, in which the
resistance of the means to carry out the gymnastic and
muscular exercises (18,19,24) can be adjusted.

20 - Bed as in any of the claims hereinbefore, in which
there are means to record the heart rate of the user (14)
under stress.

21 - Bed as in claim 20, in which the means (35a) govern
the adjustment of the means to carry out the gymnastic and
muscular exercises (18,19,24) according to the heart rate
being maintained within preset and programmable limits.

22 - Bed as in any of the claims hereinbefore, in which the
heart rate is maintained inside a range of between 55% and
90% of the maximum rate of the specific user (14).

23 - Bed as in any of the claims hereinbefore, in which the
heart rate is displayed on the control panel (17).
1 - Bed for motor activity for aesthetic and slimming treatments, comprising at least a base (11) supporting cushion means (25) and body support means (26) when the user (14) is in at least a partially supine position and a cover in the shape of a dome (12) attached to the base (12) so as to cover the user (14) except for the head, the dome-shaped cover (12) including at least an opening (13) associated with closing and insulating means (15), the bed including means (18,19,24) to carry out gymnastic and muscular exercises of the upper and/or lower limbs, at least part of these means (18,19,24) being associated with means to adjust the resistance to the pulling action exerted by the user (14), there also being included an external control panel (17) to adjust and set the temperature, the inside of the dome-shaped cover (12) cooperating with a heating and temperature maintaining system, the bed being characterised in that the first heating and temperature maintaining system comprises, inside the dome-shaped cover (12), a plurality of means to let in air at a controlled temperature (22) cooperating with at least one of the two long sides of the base (11), and with means to take in and recirculate the air (20) and, outside the dome-shaped cover (12), means to take in air (23) located at least on one side of the base (11), there also being included inside the dome-shaped cover (12) a second localized heating system comprising lamps (27) located at least on one transverse band (28) of the dome-shaped cover (12), the lamps (27) being individually directed and/or able to be directed towards localized areas of the body of the user (14), there also being included a third heating system (34) associated with the body support means (26) and cooperating at least with the lower part of the user (14) resting on the body support means (26).
first heating and temperature maintaining system being
adjusted so as to maintain inside the heat-insulated
environment of the bed (10) a temperature which is
substantially uniform and substantially similar to that of
the body temperature of the user (14).
2 - Bed as in Claim 1, in which the lamps (27) are
distributed on at least one longitudinal band (29b) of the
upper median part of the dome-shaped cover (12).
3 - Bed as in Claim 1 or 2, in which the lamps (27) are
located at least at the side and longitudinally on the lower
median part of the dome-shaped cover (12).
4 - Bed as in any of the claims hereinbefore, in which at
least the first heating and temperature maintaining system
is functionally associated with means to monitor the
temperature (21) which cooperate with the inside of the
heat-insulated environment of the bed (10), the means to
monitor the temperature (21) governing at least the second
system of localised heating.
5 - Bed as in any of the claims hereinbefore, in which at
least some of the lamps (27) installed in cooperation with
the inside of the heat-insulated environment of the bed (10)
are of the infra-red type.
6 - Bed as in any of the claims hereinbefore, in which at
least some of the lamps (27) installed in cooperation with
the inside of the heat-insulated environment of the bed (10)
are of the incandescent type cooperating with means to
reflect and concentrate the flow of heat.
7 - Bed as in any of the claims hereinbefore, in which at
least some of the lamps (27) are associated with the
relative thermostat means (30) to control and adjust the
emission temperature.
8 - Bed as in Claim 7, in which the thermostat means (30)
are installed directly on the mounting of the relative lamp
9 - Bed as in Claim 7, in which the thermostat means (30) are installed near the body surface of the user (14).

10 - Bed as in Claim 8, in which at least some of the lamps (27) are associated with timing means to switch them on and off.

11 - Bed as in any of the claims hereinbefore, in which at least some of the lamps (27) are colored.

12 - Bed as in any of the claims hereinbefore, which comprises means (35a) to monitor the heart rate of the user (14), these means being functionally connected to means to adjust the resistance of at least some of the means (18,19,24) to perform the gymnastic and muscular exercises so as to maintain the heart rate in a range of values between 55% and 90% of the maximum permitted rate for the specific user (14).

13 - Bed as in Claim 12, in which the heart rate is maintained in a range of values between 65% and 80% of the maximum permitted rate for the specific user (14).

14 - Bed as in Claim 12 or 13, in which the control and adjustment panel (17) includes a display at least of the heart rate of the user (14) while performing physical effort.

15 - Bed as in any of the claims hereinbefore, which includes an emergency distress button (33).

16 - Bed as in any of the claims hereinbefore, in which the lamps (27) are mounted on ball joints (31) and cooperate with servoassisted remote positioning means.

17 - Bed as in Claim 1 or 2, in which at least some of the body support means (26) when the user (14) is in a partially supine position is made of a material which is transparent for heat radiations, and cooperates with sources of heat underneath.
18 - Bed as in any of the claims hereinbefore, in which the means (18,19,24) to perform gymnastic and muscular exercises comprise means to perform articulated movements and/or efforts of the lower and/or upper limbs.
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER

| IPC 6 | A61H33/06 |

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

| IPC 6 | A61H |

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
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<td>FR.A,2 618 342 (LACHAR ROYALTY MANAGEMENT CORP) 27 January 1989 see page 8, line 16 - line 19; claims 1,4-6; figures</td>
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<td>Y</td>
<td>US.A,4 130 120 (KOHLER, JR.) 19 December 1978 see column 6, line 9 - line 16; figures 3,15,17,18 see column 7, line 57 - line 60 see column 8, line 45 - line 48 see column 9, line 50 - line 60</td>
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<td>A</td>
<td>FR.A,2 086 905 (TOURNAY) 31 December 1971 see page 3, line 5 - line 16; figure 3</td>
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Further documents are listed in the continuation of box C. Patent family members are listed in annex.

Special categories of cited documents:

- "A": document defining the general state of the art which is not considered to be of particular relevance
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- "O": document referring to an oral disclosure, use, exhibition or other means
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- "A": document member of the same patent family

Date of the actual completion of the international search

25 October 1996

Date of mailing of the international search report

11.11.96

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2 NL-2280 MV Rijswijk Tel. (+31-70) 340-2040, Fax 31 651 epo nl

Authorized officer

Jones, T

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