May 19, 1942. F. R. GALBRAITH 2,283,549

COT

Filed Aug. 27, 1940

Fig. 1.

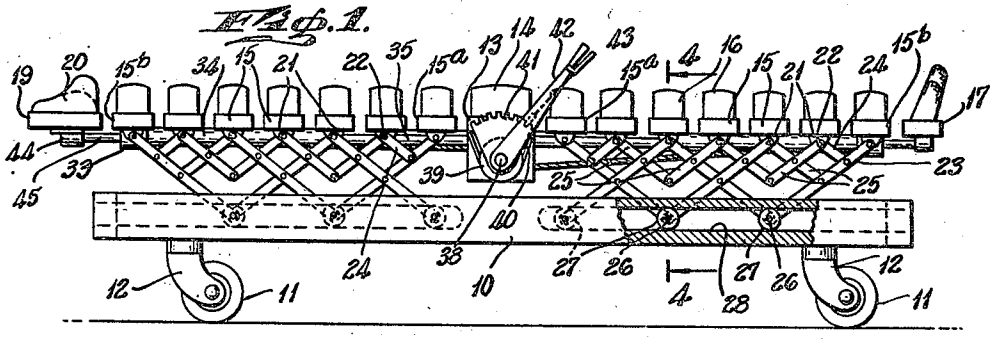


Fig. 2.

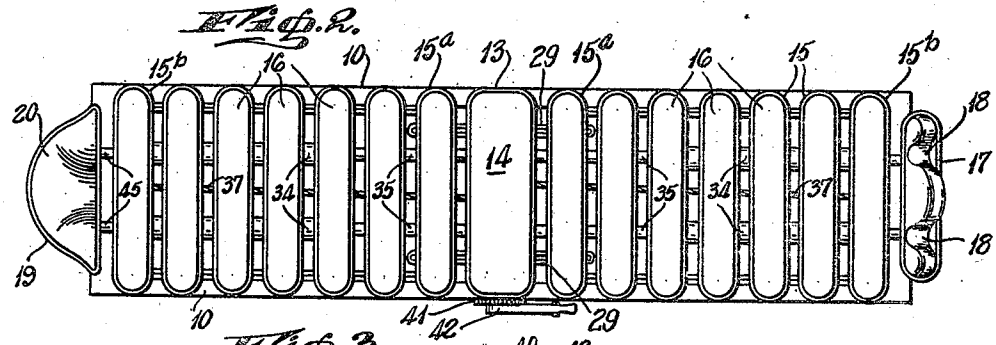


Fig. 3.

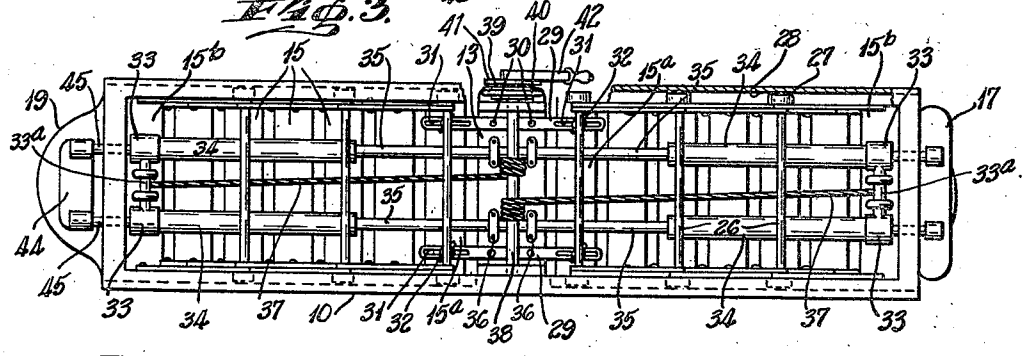
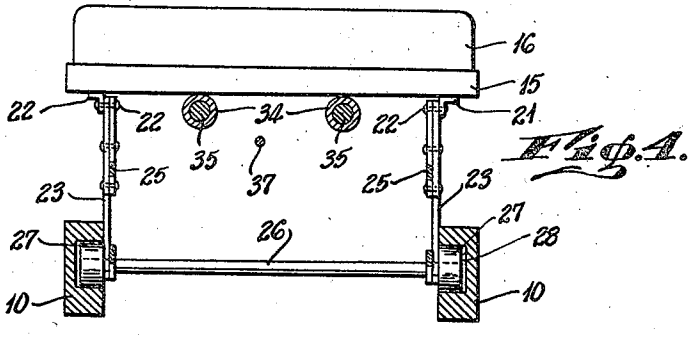


Fig. 4.



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2,283,549

COT

Frank R. Galbraith, Atlanta, Ga.

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11 Claims. (Cl. 128—71)

This invention relates to a supporting means for the human body, and more particularly to a supporting means adapted to stretch the muscles and vertebrae of a human body reposing thereon.

Even more particularly, my invention comprises a series of longitudinally spaced body supports which are so interconnected that the application of a human body thereto, will cause the body supports to move longitudinally relatively to one another whereby to tend to stretch the muscles of the body in contact with the said supports, and to separate the several vertebrae of the body in contact with the said supports. For the purposes of this specification, I shall call my invention a cot.

More in detail, the cot of my invention comprises a series of longitudinally spaced independent body supports, and a series of levers pivoted to the said supports, the said levers being interconnected so as to move pivotally when the human body is applied to the supports. This pivotal movement of the levers will tend to separate the supports longitudinally to contribute the results already generally set forth above.

As a further feature of my invention, a main control support is located in the center of my cot, and suitable means are provided for controlling the longitudinal relative movements of the several supports at each side of the central control support. Preferably, these control means comprise a brake and suitable connections between certain of the supports for limiting the separation thereof, all as will appear clearly from the description which follows.

I have thus described generally the more important features of my invention in order that the scope and nature of my contribution to the art may be better understood. There are, of course, other features of my invention which I shall hereinafter describe and claim. While I shall now show and describe a particular preferred form of my invention, it should be understood that I deem myself entitled to a patent monopoly which will prevent the utilization of my contribution in physical forms other than those by me described herein.

Referring now more particularly to the drawing, Fig. 1 is an elevation and partial section of my invention. Fig. 2 is a view looking downwardly thereon, while Fig. 3 is a view looking upwardly from the bottom of the cot. Fig. 4 is a section taken along lines 4—4 of Fig. 1.

Referring now more particularly to the drawing, the cot of my invention comprises a rectangular base designated by reference numeral 10 supported by suitable caster wheels 11 through brackets 12, all as will be appreciated by those skilled in the art. The central control support which I have already described generally, is designated by reference numeral 13 and comprises a base plate of some material such as cast aluminum, to which is applied as at 14 a cushion material, which may be of the type known in the trade as "Air Foam," or some other like substance.

At each side of the central control support 13 there are a series of body supports, preferably seven in number, some of which are designated in the drawing by reference numeral 15. These supports are formed similarly to the support 13, except, of course, that the cushion portion 16 of each of the supports 15 is considerably narrower than the cushion portion 14 of the central support. Of course, the base plate of each of the supports 15 is also narrower than the base plate of support 13.

At the foot end of the cot of my invention there is a specially constructed support 17, the cushion portion of which contains depressions 18 wherein may rest the legs of the user of the invention. At the head end, I have a support 19 which is equipped with a cushion 20 adapted especially for the head of a person wishing to use my invention. The cushions for the two end supports 17 and 19 are so formed as to hold the head and legs firmly, as the supports are drawn away from one another longitudinally, all as is quite apparent.

Each of the supports 15 is equipped with ears 21 at the opposite transverse ends thereof, and through suitable pins 22 these ears are connected with the ends of certain of the levers designated by reference numerals 23, 24 and 25. The relationship of the several levers 23, 24 and 25 to the ears 21 of the several supports 15 is well illustrated in the drawing, and will readily demonstrate that the application of a human body to the several supports will tend to move the levers so as to spread the several supports 15 longitudinally relatively to one another.

The corresponding lower ends of the relatively long levers 23 at each side of the cot are connected by shafts 26, which in turn support rollers 27 that move in channels 28 formed in the base 10. It is obvious that as the levers 23 pivot relatively to one another, and to the remaining levers 24 and 25 incidental to the longitudinal separation of the several supports 15, the rollers 27 will

move in the channels 28, all as will be clear to those skilled in the art.

Those supports 15 immediately forward and rearward of the central control support 13 are designated in the drawing by reference numerals 15a, and are adapted for movement with the support 13. For this purpose, I utilize metal straps 29 secured as at 30 to the under side of the base plate of the central support 13, and having slots 31 at each end thereof. Suitable threaded bolts extend from the supports 15a through the slots 31 and are secured as by wing nuts 32 in binding relation to the straps 29. In this way, the two supports 15a are secured in endwise adjustable relation to the central body support 13 and move integrally therewith. This insures the maintenance of a predetermined relationship between the central control support 13 and the remaining movable supports pivotally connected to the supports 15a.

The extreme forward and extreme rearward of the supports 15 are designated by reference numerals 15b and have mounted thereon suitable brackets 33 which are preferably bored and threaded internally. Tubes 34, which are externally threaded at their ends, are secured to the brackets 33 by being threaded into the internally threaded portions of said brackets. These tubes 34 are in telescopic relation to rods 35 secured by brackets 36 to the central control support 13. In this manner, there is maintained connection between the end supports 15b and the central control support 13.

Extending between the brackets 33 on the right hand end support 15b, is a portion 33a to which is secured a cable 37 which extends into engagement with a winding shaft 38 mounted for rotation on the base plate of the center control support 13. There is, of course, a similar cable 37 extending from a portion 33a of the brackets 33 carried by the end support 15b at the head end of my cot. It is obvious that the rotation of shaft 38 will wind and unwind the cables 37 whereby to control the longitudinal movement of the end supports 15b, and therefore the longitudinal movement and the separation of all of the body supports, as will be quite apparent. For controlling this movement of the cable, I utilize preferably, a brake drum 39 secured at one end of the shaft 38 and suitably held against movement by a brake band 40, which may be in the form of a strap secured at its ends to the central support 13. A suitable ratchet plate 41 is keyed to the shaft 38, and cooperating with this ratchet plate 41 is a pivoted lever 42 having the usual pawl 43 cooperating with the ratchet portions of the said ratchet plate.

It is the function of the brake lever 42 to loosen the brake band 40 to allow unwinding of the cables 37 and consequent separation of the several body supports, as will be quite clear. It is also the function of the lever 42, when its pawl 43 is engaged with ratchet 41, to rotate the shaft 38 to wind the cables 37 thereon to bring closer together the several body supports, all as will be quite apparent to those skilled in the art.

It may be well to add that as a preferred form of my invention, the head support 20 is secured through a suitable bracket 44 and pipe extensions 45 relatively to the brackets 33 under the support 15b at the head end of the cot. The foot support 17 is similarly supported relatively to the brackets 33 of the support 15b at the foot end of the cot of my invention.

It will now be quite apparent that anyone desiring to use my cot will lie flat thereon with his head resting on the cushion 20 of the head support 19, and with each of his legs deposited in one of the portions 18 of the foot support 17. With the body lying relaxed, the brake is released relatively to the drum 39 allowing rotation of the shaft 38 incidental to the unwinding of the two cables 37. Since the two opposite end supports 15b will now be released for movement, it follows that the remaining supports will also be released for movement, and that there will be a graduated lowering of all the supports, including the central control support 13. There will, of course, because of levers 23, 24 and 25, be a simultaneous separation of the several supports 15, including a separation of the head support 19 relatively to the foot support 17. When this endwise separation has attained the degree required, the brake band 40 may be released, whereby to function to hold the shaft 39 in the particular position it has then reached so as to hold the parts as required.

Having thus described my invention and its operation, I now claim:

1. In a body stretching apparatus a series of spaced body support pads on which is adapted to repose a human body for stretching by said support pads, and pivoted lever means supporting and interconnecting said body support pads, and pivotally movable to space said body support pads different distances relatively to one another.

2. In a body stretching apparatus a series of spaced independent body support pads on which is adapted to repose a human body for stretching by said support pads, pivoted lever means supporting and interconnecting said body support pads, and pivotally movable to space said body support pads different distances relatively to one another, said levers pivoting to increase the spacing of said body support pads when the weight of a body is applied to said support pads, and means for limiting the pivotal and longitudinal movement of said levers.

3. In a body stretching apparatus a series of spaced independent body support pads on which is adapted to repose a human body for stretching by said support pads, pivoted lever means interconnecting said body support pads, and pivotally movable to space said body support pads different distances relatively to one another, said levers pivoting to increase the spacing of said body support pads when the weight of a body is applied to said support pads, and means for limiting the movement of said body support pads relatively to one another.

4. In a body stretching apparatus a series of spaced independent body support pads on which is adapted to repose a human body for stretching by said support pads, a base, support means secured to said body support pads, for supporting said pads, means mounting said support means on said base for movement relatively to one another when a body is applied to said body support pads whereby the body support pads will be separated from one another to stretch the body.

5. In a body stretching apparatus a series of spaced body supports on which is adapted to repose a human body, a series of levers pivoted at their upper ends to said body supports and pivotally interconnected for movement relatively to one another whereby the body supports at the upper ends of said levers will be separated from one another distances determined by the degree of pivoting of said levers, a support base for said

levers, and rollers on the lower ends of certain of said levers bearing on said base whereby said lever ends may move relatively to said base.

6. In a body stretching apparatus a series of spaced body supports on which is adapted to repose a human body, including a substantially central control body support, a series of levers pivoted at their upper ends to those body supports forward of said control support and pivotally interconnected for movement relatively to one another whereby the body supports at the upper ends of said levers will be separated from one another distances determined by the degree of pivoting of said levers, the body supports rearward of said control support being similarly interconnected, and means on said control support connected to certain of said forward and rearward supports for controlling the separation of said body supports.

7. In a body stretching apparatus a series of spaced independent body supports on which is adapted to repose a human body, including a substantially central control body support, a series of levers pivoted at their upper ends to those body supports forward of said control support and pivotally interconnected for movement relatively to one another whereby the body supports at the upper ends of said levers will be separated from one another distances determined by the degree of pivoting of said levers, the body supports rearward of said control support being similarly interconnected, said levers being biased for pivotal movement to separate said body supports as by the application of a human body to said supports, and means connecting to the said control support the body supports immediately forward and rearward of said control support whereby the three supports will be held against endwise separation.

8. In a body stretching apparatus a series of spaced independent body supports on which is adapted to repose a human body, including a substantially central control body support, a series of levers pivoted at their upper ends to those body supports forward of said control support and pivotally interconnected for movement relatively to one another whereby the body supports at the upper ends of said levers will be separated from one another distances determined by the degree of pivoting of said levers, the body supports rearward of said control support being similarly interconnected, said levers being biased for pivotal movement to separate said body supports as by the application of a human body to said supports, means connecting to the said control support the body supports immediately forward and rearward of said control support whereby the three supports will be held against endwise separation, and means connecting said control support to the extreme opposite end supports for determining the separation of said body supports by the application of a human body thereto.

9. In a body stretching apparatus a series of spaced independent body supports on which is adapted to repose a human body, including a substantially central control body support, a series of levers pivoted at their upper ends to those body supports forward of said control support and pivotally interconnected for movement relatively to one another whereby the body supports at the upper ends of said levers will be separated longitudinally from one another distances determined by the degree of pivoting of said levers, the body supports rearward of said control support being similarly interconnected, said levers being biased for pivotal movement to separate said body supports as by the application of a human body to said supports, and means securing to the said control support the body supports immediately forward and rearward of said control support whereby the three supports will be held against endwise separation, means connecting said control support to the extreme opposite end supports for determining the longitudinal separation of said body supports by the application of a human body thereto, a support base for said levers, and rollers on the lower ends of certain of said levers bearing on said base whereby said lever ends may move relatively to said base.

10. In a body stretching apparatus a series of longitudinally spaced independent body supports on which is adapted to repose a human body, including a substantially central control body support, a series of levers pivoted at their upper ends to the body supports forward and rearward of said central control body support and pivotally interconnected for movement relatively to one another whereby the body supports at the upper ends of said levers will be separated from one another distances determined by the degree of pivoting of said levers, a support base for said levers, rollers on the lower ends of certain of said levers bearing on said base whereby said lever ends may move relatively to said base, telescoping metal members connecting the extreme forward and extreme rearward body supports to said central control body support, and means for limiting the longitudinal movement of said extreme forward and rearward body supports relatively to one another and said central control body support whereby to limit the relative separation of said pivotally interconnected body supports.

11. In a body stretching apparatus a series of longitudinally spaced independent body supports on which is adapted to repose a human body, including a substantially central control body support, a series of levers pivoted at their upper ends to the body supports forward and rearward of said central control body support and pivotally interconnected for movement relatively to one another whereby the body supports at the upper ends of said levers will be separated from one another distances determined by the degree of pivoting of said levers, a support base for said levers, rollers on the lower ends of certain of said levers bearing on said base whereby said lever ends may move relatively to said base, telescoping metal members connecting the extreme forward and extreme rearward body supports to said central control body support, means connecting to said central control body support the body supports immediately forward and rearward of said control support whereby the three supports will be held against endwise separation, and means for limiting the movement of the extreme forward and rearward body supports relatively to one another and said control support whereby to limit the relative separation of said pivotally interconnected body supports.

FRANK L. GALBRAITH.