April 2, 1935. H. W. SCHAFF 1,996,350

INFANT'S EXERCISER

Filed April 18, 1934

Fig. 1

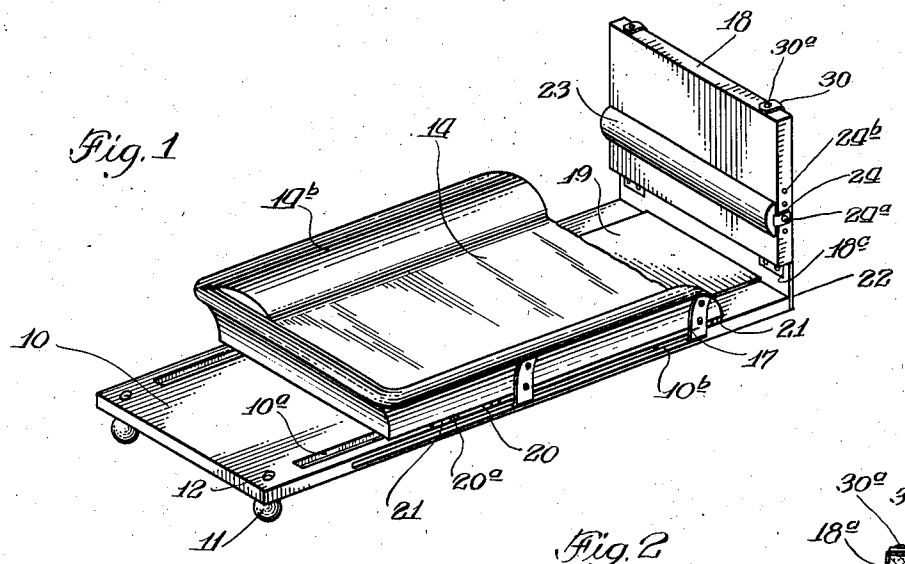


Fig. 2

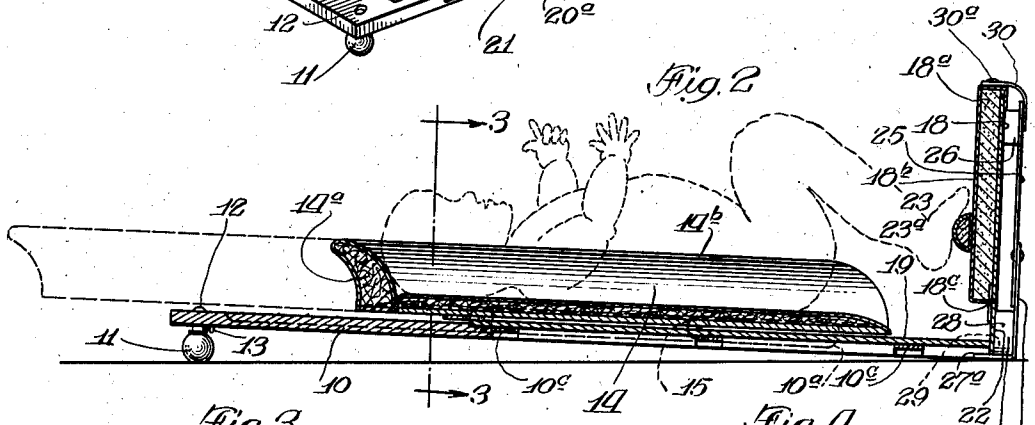


Fig. 3

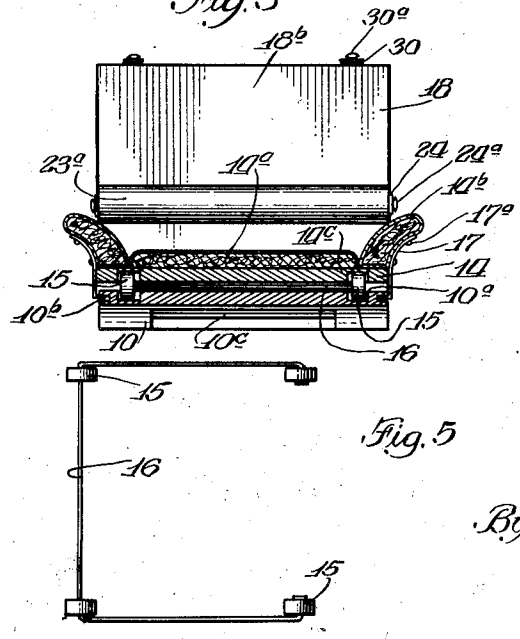


Fig. 4

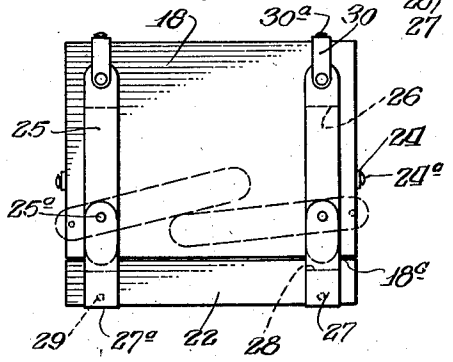


Fig. 5

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INFANT'S EXERCISER

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18 Claims. (Cl. 272—79)

My invention relates to devices designed to provide pastime and exercise for infants, and my main object is to devise a riding device operable in the direction of a back stop, the infant lying on the riding device and having its limbs exercised by contact with the back stop.

A further object of the invention is to design the novel device with a carriage that moves on rollers toward and from the back stop, the rollers being free to ease the motion of the carriage.

A still further object of the invention is to support the carriage on a base which is inclined in the direction of the back stop, in order that the carriage may return the occupant in proximity to the latter by gravity after each ride in the outward direction.

Another object of the invention is to provide a foot platform immediately under the carriage of the device, in order that the feet of the occupant may always find an ample, convenient and safe surface for that purpose.

An additional object of the invention is to design the back rest with yielding features such as a cushion pad and a spring back for purposes of comfort and safety.

A significant object of the invention is to place the base and carriage of the device at the lowest possible levels over the floor or other surface on which the device is placed in order that the infant may not suffer a fall or injury in case he leans or crawls out of the carriage.

With the above objects in view and any others that may suggest themselves from the specification and claims to follow, a better understanding of the invention may be had by reference to the accompanying drawing, in which—

Fig. 1 is a perspective view of the device with the carriage in forward position;

Fig. 2 is a longitudinal section of the same;

Fig. 3 is a section on the line 3—3 of Fig. 2;

Fig. 4 is an end view from the right hand side of Fig. 2; and

Fig. 5 is a plan view of a roller bearing frame.

It is a familiar fact that infants acquire at a very early time the habit of extending and gathering their limbs either by natural impulse or in a playful mood. This characteristic is in a sense an exercise for the limbs and the body, and the fact that it is so naturally assumed by the infant has prompted me to devise the present invention, creating a co-operative means which improves the exercise and absorbs the attention of the infant as a pastime or toy. In fact, I have found by the actual use of the invention over a period of time that the infant becomes trained, so to speak, in the action and use of the device.

In carrying out the invention, I first provide a wood base 10, resting one end thereof—intended as the front end—on the floor, rug, or other object on which the device is supported, and having its rear end raised by means of a pair of feet 11. These are threaded upon screws 12 passed downwardly through the board, and are rotatable to adjust the height of the rear end of the board. Set screws 13 are provided to fix the adjustment of the feet at any desired height.

At a slight distance over the base board 10 is positioned the carriage 14 in which the infant is laid. This carriage is preferably padded as indicated at 14*a* and made with padded sides 14*b*, outwardly flared to make for comfort in case the infant moves to one side. The structure is so low that the infant will suffer no fall or injury in case he should lean or crawl out of the carriage.

At laterally spaced points, the carriage and base have registering grooves 14*c* and 10*a*, each groove to seat a pair of longitudinally spaced rollers 15. These rollers are interconnected by a wire frame 16, but are otherwise free in relation to the carriage and the base, so that the base and carriage will roll with perfect ease in either forward or rearward direction. It is intended that the infant cause the carriage to recede, whereupon the incline of the base will procure the forward return of the carriage by gravity. It will be appreciated that the use of free-running rollers is far more desirable than that of wheels provided either for the carriage or for the base, as no bearings or axles are involved to cause friction, and the carriage can roll much further during a given number of turns of the rollers than during the same number of turns of the wheels. The result is a carriage which can be made to run with very little effort.

In order that the carriage may not depart from the base by movements of the occupant or when carried from place to place, I have provided pairs of hangers 17 at the front and near the rear, these being secured by screws 17*a* or other suitable means to the carriage and having inward bends operating in side grooves 10*b* cut in the base 10.

Fig. 2 shows by finely dotted lines the position of the infant when the carriage is at the forward end of its travel, and it will be seen that at such time the infant's feet are gathered and in contact with the back stop 18. In the natural effort to stretch his limbs, the infant will cause the

carriage to recede to the extent denoted by long dotted lines in Fig. 2, during which time a platform 19 serves immediately under the carriage as a wide rest and safety rest in case the infant's feet drag. The platform is simply a flat pad of yielding material and covered with leatherette or other suitable covering, and is supported by cross pieces 10c. The base 10 is cut out in the center toward the front in order to save weight, and the cross pieces 10c are of light material and span the opening in the base at sufficiently spaced intervals to form an ample support for the platform 19. It will be appreciated that the uninterrupted platform from the site of the back stop 18 as far back as the carriage can go and even further, serves as a handy rest to prevent the feet of the infant from becoming caught in any part of the structure, and therefore makes the device safe at all times. The limits of travel of the carriage are controlled by a bumper block 20 under each side of the carriage, the bumpers being secured to the base 10 and having rubber ends 20a at the front and rear for impact with stops 21 depending from the front and rear portions of the carriage.

Fig. 1 shows one of the rear stops in contact with a bumper on the rear side as an indication that the carriage has reached its forward travel limits.

Relative to the back stop 18, the same is preferably a light wood board padded on the front side with a thick layer of sponge rubber 18a and covered by a facing 18b of leatherette or other suitable material. The back stop 18 is hinged at 18c to a cleat 22 carried by the base 10, so as to be foldable forwardly upon the platform 19 or the carriage 14 for compactness when the device is carried or stored away. While the feet of the infant may find the back stop sufficiently yieldable for comfort and safety, I prefer to add a sponge rubber cross member 23 on the front side of the back stop, securing the cross member by end straps 24 which fasten with glove clasp devices 24a to the sides of the back stop, as shown in Fig. 1. The cross member 23 is also covered with suitable material 23a and is intended to receive the arches of the infant's feet for extra comfort, the height of the cross member being suitable to that at which the feet would most frequently contact. However, I have provided a vertical series of glove clasp receptacles 24b in the side of the back stop in order that the height of the member 23 may be changed as desired or found most convenient.

In order to render the back stop even more yieldable, I have provided a spring supplement therefor in the form of a pair of leaf springs 25 occurring at laterally spaced points behind the back stop. The upper portions of the springs carry sponge rubber pads 26 in contact with the back stop; and the lower portions of the springs are pivoted at 25a to the vertical portions of brackets 27 which carry sponge rubber pads 28 in contact with the cleat 22. The brackets have horizontal bottom bends 27a secured by screws or other suitable means to the under side of the base 10. The latter also has rearward pins 29 passing through perforations in the cleat 22, whereby to make the latter movable freely between the end of the base and the bracket portion 27 with the pins 29 as guides thereby providing a yieldable mounting for the back stop 18.

It will be seen that impact against the back stop 18 will be transferred through the cushion pads 26 to the springs 25, the latter flexing rearwardly to take up the shock. Also, by reason of the hinges 18c the cleat 22 will be drawn rearwardly to some extent but will be cushioned by the pads 28. Thus, the padded back stop, the arch receiving member, and the rear pad and spring assembly combine to cushion the impact and soften the contact of the infant's feet with the back stop to a sufficient degree for the comfort and safety of the most delicate child.

The springs 25 carry tapes 30 at their upper ends with glove clasps 30a to fasten them upon the back stop 18, in order to maintain the springs in proper working position. However, when the back stop is to be folded, the clasps at 30a are uncoupled, permitting the springs to be folded upon each other by swinging them on their pivots as indicated by dotted lines in Fig. 4, this contributing to the compactness of the device when it is not in use.

It will be seen that I have provided a device which serves both as an exerciser and as a pastime and toy for the infant. The device is built neatly, and has no parts or mechanisms which may cause injury to the infant or to the person handling the article, when it is to be set up or taken away. At the same time, the carriage is so low that safety from injury by a fall is assured. Further, the device is made up of parts which are light and simple in construction, making it inexpensive to produce and useful over a long period. Finally, the front ends of the grooves 10a rise gradually to the surface of the base, as shown, to prevent possible injury to the occupant's toes in case one or the other of these should reach into a groove as the carriage moves forward.

I claim:—

1. An infant's exerciser comprising a base, a carriage movable thereon, a back stop opposite one end of the carriage, the carriage and base having registering grooves in the direction of travel, and free rollers disposed in the grooves for the rolling support of the carriage.

2. An infant's exerciser comprising a base, a carriage movable thereon, a back stop opposite one end of the carriage, the carriage and base having registering grooves in the direction of travel, free rollers disposed in the grooves for the rolling support of the carriage, the rollers being in longitudinally-spaced sets, and means carried by them to maintain them in such spaced relation.

3. An infant's exerciser comprising a base, a carriage movable thereon, a back stop opposite one end of the carriage, the carriage and base having registering grooves in the direction of travel, free rollers disposed in the grooves for the rolling support of the carriage, and a rod frame carrying the rollers and maintaining them in spaced relation.

4. An infant's exerciser comprising a base, a carriage movable thereon, a back stop opposite one end of the carriage, the base being formed with a terminal opening in the portion adjacent the back stop and extending toward the opposite end of the base, transverse spacers bridging said opening, and a stationary cushion platform supported on said spacers at a height immediately under the carriage.

5. An infant's exerciser comprising a base, a carriage movable thereon, a back stop opposite one end of the carriage, feet supporting the rear end of the base at an incline towad the back stop, and screws along which the feet are adjust-

able to change the height of the rear end of the base and so vary the angle of its inclination.

6. An infant's exerciser comprising a base, a carriage movable thereon, a back stop opposite one end of the carriage, the backstop comprising a substantially vertical board, a cushion padding on the frontal side thereof, a support carried by the base, and a hinged connection between the back stop and the support.

7. An infant's exerciser comprising a base, a carriage movable thereon, a back stop opposite one end of the carriage, brackets carried by the base and rearwardly of the back stop, and springs carried by the brackets and resisting the rearward motion of the back stop.

8. An infant's exerciser comprising a base, a carriage movable thereon, a back stop opposite one end of the carriage, brackets carried by the base and rearwardly thereof, and springs carried by the brackets to resist the rearward motion of the back stop, the springs being pivoted to the brackets and foldable upon each other for compactness.

9. An infant's exerciser comprising a base, a carriage adapted to travel over the base and upon which the infant is laid, a back stop opposite the infant's feet, and a cushioned cross member carried by the back stop at a height suitable for the arches of said feet.

10. An infant's exerciser comprising a base, a carriage movable thereon, a back stop opposite one end of the carriage, and spring means carried by the base and engaging the back stop to resist rearward movement thereof.

11. An infant's exerciser comprising a base member, a carriage movable longitudinally thereon, and a back stop hingedly secured to said base adjacent one end thereof and foldable over said base when not in use.

12. An infant's exerciser comprising a base member, a carriage movable longitudinally thereon, and a yieldable upstanding back stop mounted on said base adjacent one end thereof.

13. An infant's exerciser comprising a base member, a carriage movable longitudinally thereon, a back stop adjacent one end of said base, and a yieldable connection between said back stop and said base.

14. An infant's exerciser comprising an inclined base member, a carriage movable thereon, an upstanding back stop adjacent the lower end of said base, and spring means carried by said base in engagement with said stop providing a yielding resistance to rearward movement thereof.

15. An infant's exerciser comprising an inclined base member, a carriage movable thereon, a yieldable cleat mounted on said base adjacent the lower end thereof, and a back stop carried by said cleat.

16. A device according to claim 15, and spring means carried by said base and engaging the rear side of said back stop to provide a resilient support therefor.

17. An infant's exerciser comprising an inclined base member, a carriage movable thereon, a yieldable cleat mounted on said base adjacent the lower end thereof, and a back stop hingedly secured to said cleat and foldable over said base when not in use.

18. An infant's exerciser comprising an inclined base, a carriage adapted to support an infant in prone position and movable back and forth on said base, a yieldable back stop mounted on said base adjacent the lower end thereof for engagement by the feet of an infant lying on said carriage, and cushion means mounted on said base and extending from adjacent said back stop toward the upper end of said base in a position to be uncovered by movement of said carriage away from said back stop.

HOWARD W. SCHAFF.