M. B. REACH.

EXERCISING APPARATUS, VAULTING HORSE.

APPLICATION FILED MAY 20, 1911.

1,013,685. Patented Jan. 2, 1912.

2 SHEETS—SHEET 1.

Fig. 1.

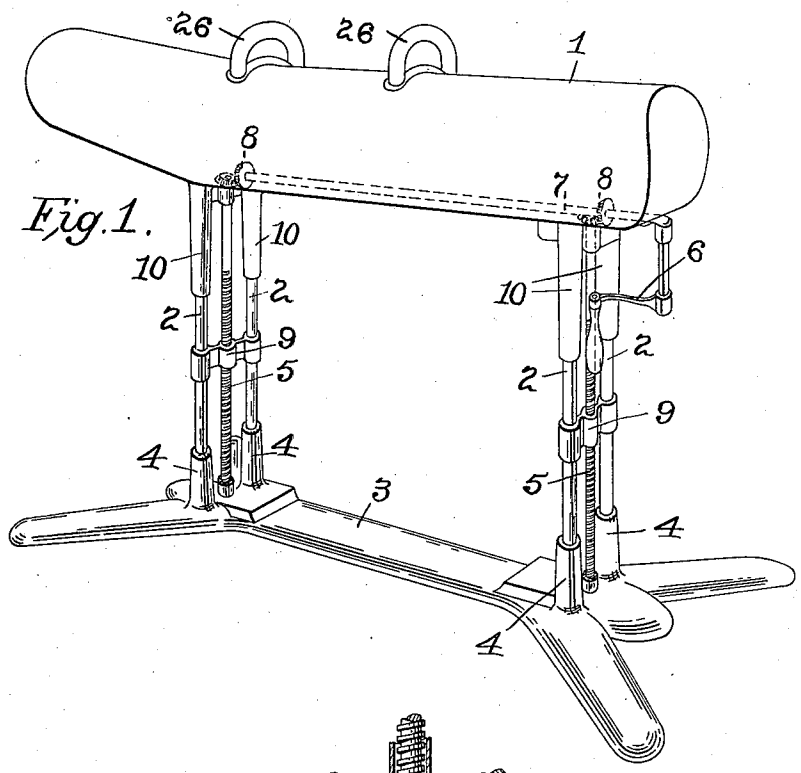

Fig. 2.

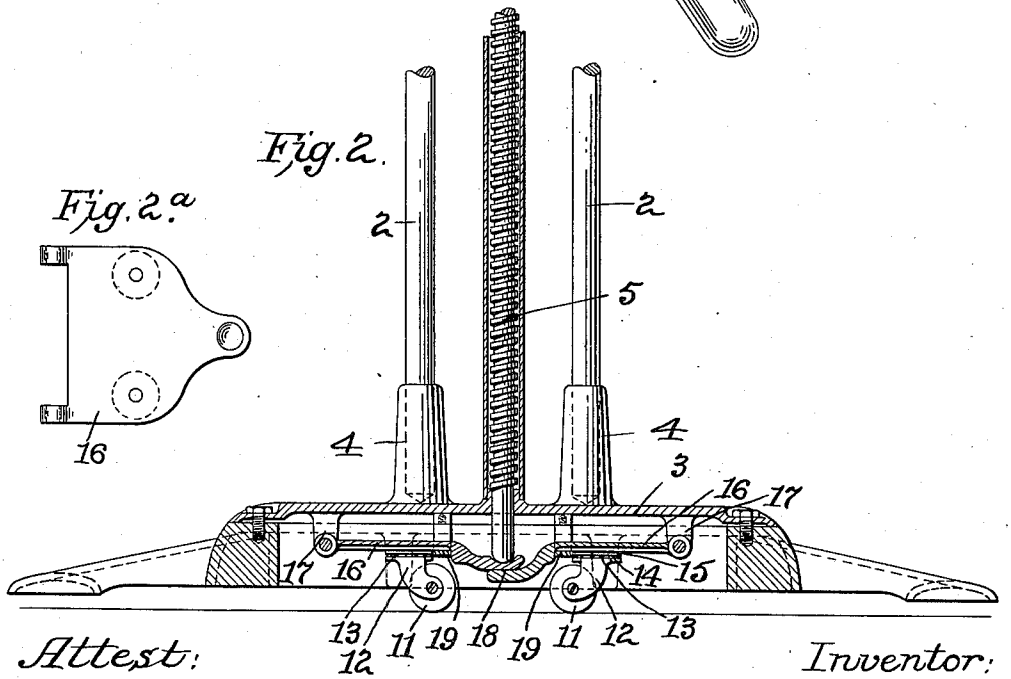

Fig. 2a.

Attest:

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2 SHEETS—SHEET 2.

Fig. 5.

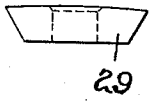


Fig. 3.

Fig. 6.

Fig. 3a.

Fig. 4.

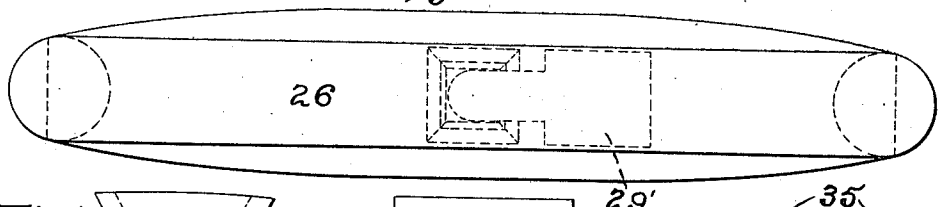


Fig. 7.

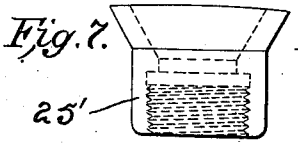


Fig. 8.

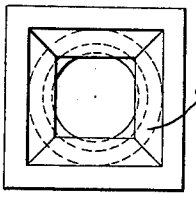
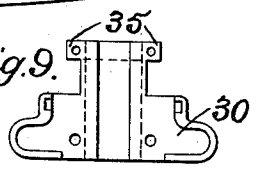


Fig. 9.



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UNITED STATES PATENT OFFICE.

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EXERCISING APPARATUS, VAULTING-HORSE.

1,013,685. Specification of Letters Patent. Patented Jan. 2, 1912.

Application filed May 20, 1911. Serial No. 628,538.

To all whom it may concern:

Be it known that I, MILTON B. REACH, citizen of the United States, residing at Springfield, Massachusetts, have invented certain new and useful Improvements in Exercising Apparatus, Vaulting-Horses, of which the following is a specification.

My invention relates to exercising apparatus and particularly to vaulting horses, and it consists in the features and combination and arrangement of parts hereinafter described and particularly pointed out in the claims.

In the accompanying drawings Figure 1 is a perspective view of a vaulting horse to which my invention is applied; Fig. 2 is a vertical sectional view of a portion of the base, the standards, and a part of the adjusting mechanism and other parts being shown in elevation; Fig. 2ª is a view of the caster lever; Fig. 3 is a transverse sectional view through the body of the horse at the pommel; Fig. 3ª is a detail view; Fig. 4 is a plan view of the pommel; Fig. 5 is a side view and Fig. 6 a plan view of the head of the holding bolt for the pommel; Fig. 7 and Fig. 8 are respectively a side view and a plan view of the socket piece for the pommel. Fig. 9 is a view of one half of the wing nut.

In these drawings, the body of the horse is shown at 1, being supported by standards 2 from a base 3 having sockets 4 to receive the said standards. Vertically arranged adjusting screws 5 are mounted between the standards at front and rear, and by turning these screws by means of a crank handle 6, a shaft 7 and bevel gears 8, the body of the horse may be raised and lowered, the screws engaging suitable nuts 9 connected with the standards 2. This mechanism for raising and lowering the horse is of known construction and specifically forms no part of my present invention. The screws move vertically through the nut 9, and being carried by the body of the horse, raise and lower the same in their vertical movement. The standards 2 extend up into the socket pieces 10 attached to the body of the horse, and these sockets move vertically on the standards 2 in the adjusting action.

One feature of my invention concerns an arrangement of casters which are normally out of operation so as to allow the base of the apparatus to rest firmly on the floor while the vaulting horse is being used, but when it is desired to shift the apparatus from place to place, these casters are thrown into use by simply lowering the horse to its full limit downwardly, which will cause the casters to be projected beyond the base downwardly and the base thereby lifted from the floor so that the apparatus may be rolled on these casters. As shown in Fig. 2, the casters 11 are carried in suitable brackets 12, and these may be swiveled in any suitable manner at 13, ball bearings being interposed between the plates 14, 15 of the swivel. These swivel connections or supports for the casters are carried by levers or arms 16 Fig. 2ª pivotally mounted in ears 17 on the under side of the base plate, this base being of such form as to provide a suitable cavity on its under side to receive this caster mechanism. I prefer to use two sets of casters at each end of the frame, and the pivoted levers carrying the same extend toward each other from their pivots 17 and overlap at the center line of the base at 18. The downward movement of these arms or levers carrying the casters is limited by suitable stops, and as a representative form of any stop that may be used for the purpose I show a loop or arm 19 attached to the under side of the base and extending beneath the pivoted lever, one being employed for each lever. The overlapping ends of the pivoted levers underlie the lower ends of the adjusting screws 5, and the relation of the parts is such that when the horse is adjusted to position for use it is slightly raised above its extreme lower limit sufficiently to allow the casters to recede into the base and the base to rest firmly on the floor. When it is desired to move the apparatus about the floor, the horse is lowered to its extreme low position, causing the screws at each end to bear upon the uppermost one of the overlapping levers, thus forcing these levers down with their casters and elevating the base above the floor so that the apparatus will now be supported entirely upon the casters and may be shifted from place to place. It will be noted that there is a pair of these casters at each end of the apparatus, and the members of each pair lie on opposite sides of the center, thus providing a wheel base of sufficient width to maintain the apparatus in upright position while being shifted.

Another portion of my present invention

relates to the body construction and the pommel. This is shown in section in Fig. 3, the main structure of the body consisting of the wooden pieces 20, 21, 22 and 23, a covering of felt 24, and an outer covering of leather 25. The pommel is shown at 26. Ordinarily this is supported by the leather and felt covering, and my object in improving this part of the invention is to provide a support for the pommel in which no reliance is had upon the felt or leather covering as a means for sustaining the pommel, but on the contrary, it is supported from the main rigid structure of the body consisting of the wooden frame work just mentioned. For this purpose the frame of the pommel is formed with a projection 24′ on its under side, tapering downwardly, but of rectangular or other form in horizontal cross section. This projection fits into a pommel socket 25′ which is also tapered downwardly on its interior and is of rectangular cross section, as shown in Figs. 7 and 8 though it may be round. This socket is carried at the upper end of a sleeve or tube 26′, which is screw threaded into the lower part of the pommel socket, the lower end of the sleeve being also screw threaded and fitted into a nut 27, the main portion of which lies within a recess of the wooden piece 23, its flange being secured by screws to the under face of the said wooden piece. The pommel is held seated in the socket by a bolt 28 having a head 29 of downwardly tapered form, this also being of rectangular shape in horizontal cross section, as indicated in Figs. 5 and 6 though it may be round. This head fits in a socket in the upper side of the lower bar or base of the pommel, and this socket is connected with an opening, gateway or recess 29′ cut through the base part of the pommel from its upper to its lower side, so that by shifting the pommel laterally or leftward in Fig. 3, it may be lifted off from the head of the bolt, it being understood, of course, that the bolt is first loosened so that it may be raised in relation to the pommel and the main body to allow this shifting of the pommel to take place. When in position, however, this lateral shifting can not take place, because the bolt head fits in the socket. The pommel is curved on its under side to conform to the curve of the main body of the horse, and it is therefore simply necessary to draw the bolt downwardly into proper position in order to effect the holding of the pommel against movement in all directions. For the purpose of holding the bolt I provide a wing nut 30 having grips 31 pivoted thereto with their upper ends screw threaded to engage the screw thread of the bolt. These grips are held in engaging position by means of springs 32 carried by the wing nut. The upper end of the wing nut fits within a socket 33 of the nut which is secured to the wooden piece or board 23, the said upper end being retained in this socket by a retainer plate 34. The wing nut is adapted to have a certain amount of vertical movement in this socket, this movement being limited by the flanges or projections 35 thereon striking the plate 34. With the parts in the position shown in Fig. 3 it is simply necessary to turn the wing nut in order to draw the bolt downwardly and seat the pommel on the body of the horse. Should it be desired to remove the pommel, the wing nut is turned so as to move downwardly on the screw bolt 28 until the ends of the pivoted grips 31 get below the lower plane of the retainer plate 34, when, by pressing upon these grips, their threaded ends will be released from the screw thread of the bolt 28, and then this bolt may be raised and the pommel entirely removed, together with the bolt, or the bolt may be lifted sufficiently to allow the pommel to be removed by shifting it laterally to bring the enlarged recess 29′ in line with the bolt head when the pommel may be lifted from this head. The flanges or projections 35 will retain the wing nut in connection with the stationary nut when it is dropped downwardly. The pommel socket also serves to engage the leather covering this leather covering being simply split at the point where the bolt is to be passed through, Fig. 3ª, and these split ends or flaps are pressed upon by the outwardly flared walls of the pommel socket, as shown at 36, to be retained thereby.

It will be seen from the above that the pommel, instead of being supported by the covering of the horse, is rigidly supported from the main rigid structure thereof, for which purpose the pommel socket is provided which is supported by the sleeve or tube 26, which in turn finds a bearing on the board 23.

It will be understood that while I have described my invention in connection with a vaulting horse, it may be used in connection with a buck, and the forms which I have described of the means for carrying out my invention are to be understood as representative of suitable elements and combinations for accomplishing the ends sought.

As shown in Fig. 3, a washer x of heavy leather or other suitable material surrounds the bolt or rather the head of the tube, and prevents the edge of the covering material from crowding into the felt, acting as a reinforce for the felt at this point.

I claim as my invention:

1. In combination in a vaulting horse, buck or the like, a body, a base, means for adjusting the body vertically in relation to the base, and casters adjusted by said means in relation to the base, substantially as described.

2. In combination in a vaulting horse,

buck or the like, a base, a body adjustable vertically in relation to the base, casters mounted on the base to lie either above or below the same, and means connected to and moving with the body for adjusting the casters in relation to the base, substantially as described.

3. In combination in a vaulting horse, buck or the like, a body, a base, casters mounted on the base, a connection extending horizontally, and connections extending vertically and operated by the horizontal connection for adjusting the body in relation to the base, said vertical connections adjusting the casters in relation to the base, substantially as described.

4. In combination in apparatus of the class described, a body, a base, supporting means between the base and body, an adjusting screw rod at or near each end of the base and connected with the body for adjusting the same vertically, and a pair of casters at each end of the base with movable supports therefor connected with the base, said casters being projected below the base by lowering the screw rods, substantially as described.

5. In apparatus of the class described, a base, a vaulting horse or the like with means for supporting the same from the base consisting of the screw rod, and a caster operated by the screw rod when lowered to project the said caster below the base, substantially as described.

6. In combination in apparatus of the class described, a base, a vaulting horse or the like, a screw rod for adjusting the said vaulting horse, and a pair of casters one on each side of the center line of the vaulting horse, said casters being projected below the base when the screw rod is lowered, substantially as described.

7. In combination with a vaulting horse or the like, a base, a screw rod for adjusting the vaulting horse, a pair of levers pivoted on the under side of the base and each carrying a caster, said levers being operated by the movement of the screw rod to project the casters below the base, substantially as described.

8. In combination with a vaulting horse or the like, a base, a screw rod for adjusting the same, a pair of levers having overlapping ends and each having a caster, said levers being operated by the screw rod at their overlapping ends to project the casters beyond the base, substantially as described.

9. In combination with a vaulting horse or the like, a body frame, yielding material, a pommel supported from the rigid body frame, said yielding material extending over the surface of the body and beneath the pommel, and a covering for said yielding material, substantially as described.

10. In combination in a vaulting horse, a rigid body frame, a socket carried thereby centrally of the frame, a pommel, yielding material covering the body frame and extending beneath the pommel, and means for holding the pommel in the socket and thereby supporting the same from the body frame, said pommel conforming substantially to the cover of the yielding material and bearing thereon at points laterally beyond the central socket, substantially as described.

11. In combination a body frame, a socket tapered downwardly rectangular in cross section, said socket being supported by the body frame, a covering for the frame, and a pommel beneath which the covering extends, said pommel having a tapered rectangular projection to fit the socket, and curving to conform to the covering and resting thereon whereby the pommel is held against turning, with means contained in the body for holding the said projection in the socket, substantially as described.

12. In combination with a vaulting horse body, a bolt having a head, a pommel having a recess to receive said head, and a gateway or opening connected with said recess of different size in respect thereto and adapted to permit the passage of the bolt when the pommel is shifted, substantially as described.

13. In combination with the body of a vaulting horse, a bolt having a head, a pommel to be engaged by the said head, and having an opening for the passage of the bolt, said pommel having also a laterally disposed opening connected with the bolt hole for the passage of the head of the bolt to permit the removal of the pommel by a lateral movement thereof in relation to the bolt, substantially as described.

14. In combination with the body of the vaulting horse, a socket, a tube connected therewith extending downwardly through the body and connected to said body, a bolt extending through the tube, a pommel supported by said socket and held therein by the bolt, and a nut on the lower end of the bolt for drawing the same into place, substantially as described.

15. In combination with the body of a vaulting horse, a socket, a tube connected therewith and passing through the body, a nut supported by the body and connected with the lower end of the tube for adjustably holding it in place, a bolt for holding the pommel to the supporting piece, and a nut on the lower end of the said bolt, substantially as described.

16. In combination with the body of the vaulting horse, a pommel, a bolt detachably connected with the pommel, a nut on the lower end of the said bolt, said nut having a releasable member to disengage from the thread of the bolt, and means for holding

the nut to the body of the horse, substantially as described.

17. In combination with the body of the vaulting horse, a pommel, a bolt detachably connected with the pommel, a nut on the lower end of the said bolt, and means for holding the nut to the body of the horse, substantially as described.

18. In combination a body frame, a pommel, a supporting piece for the pommel connected with the frame, and a covering for the body having an opening for the passage of the bolt, the said opening being formed by slitting the material leaving flaps which are drawn down and held by said supporting piece, substantially as described.

19. In combination the rigid body frame, a socket piece supported thereby, and flaring upwardly and outwardly, a pommel having a projection to fit the socket piece, and covering material having an opening, the material at the said opening being held by the flaring walls of the said socket piece, substantially as described.

20. In combination the body frame, a pommel, the felt covering, the leather cover slit to provide flaps, and a holding member for the pommel having a portion to engage and press upon said flaps, said holding member passing through the opening between the flaps, substantially as described.

21. In combination in a vaulting horse or buck, the body frame, covering material, a pommel, a bolt for attaching the pommel to the body frame, a tube extending through the body and surrounding the bolt, said tube having an enlarged upper end to act as a clamp, and means for clamping the lower end of the tube in place, substantially as described.

22. In combination in a vaulting horse, a body, a pommel, a bolt, said pommel being detachable from the bolt by a lateral shifting movement in respect thereto, and means for connecting the bolt with the body, substantially as described.

23. In combination in a vaulting horse, a body, a covering therefor, a pommel, a bolt for holding the pommel, and a washer surrounding the bolt and lying between the pommel and the covering for reinforcing the same, substantially as described.

In testimony whereof, I affix my signature in presence of two witnesses.

MILTON B. REACH.

Witnesses:

BEATRICE BARTLETT,

E. P. FINIGAN.