

J. KOCH.
EXERCISING APPARATUS.
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1,098,326.

Patented May 26, 1914.

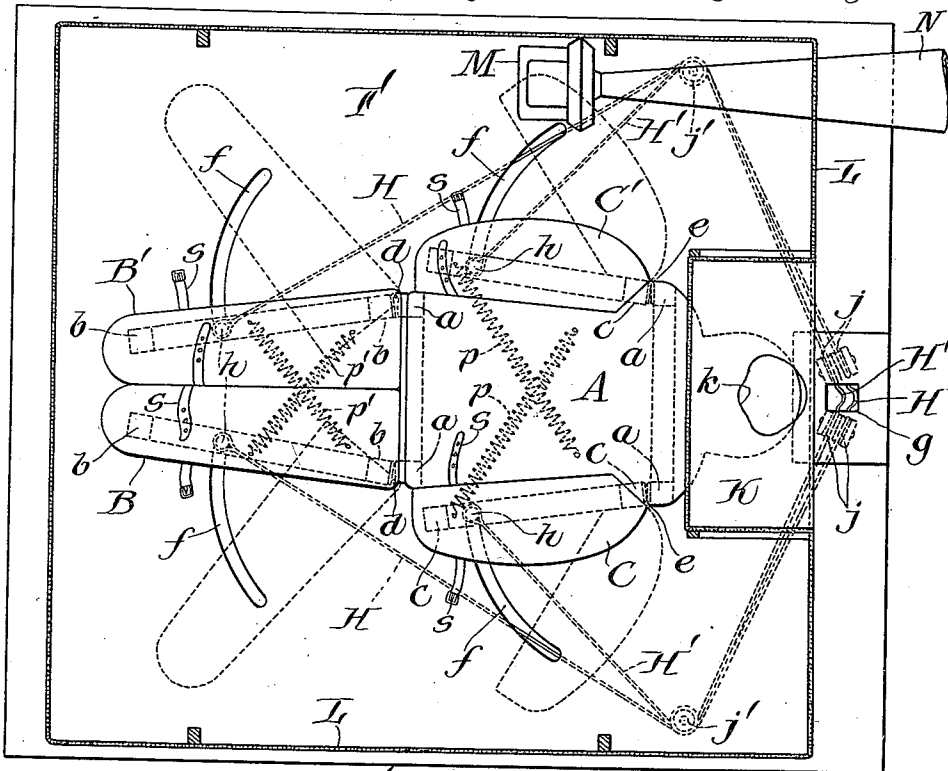
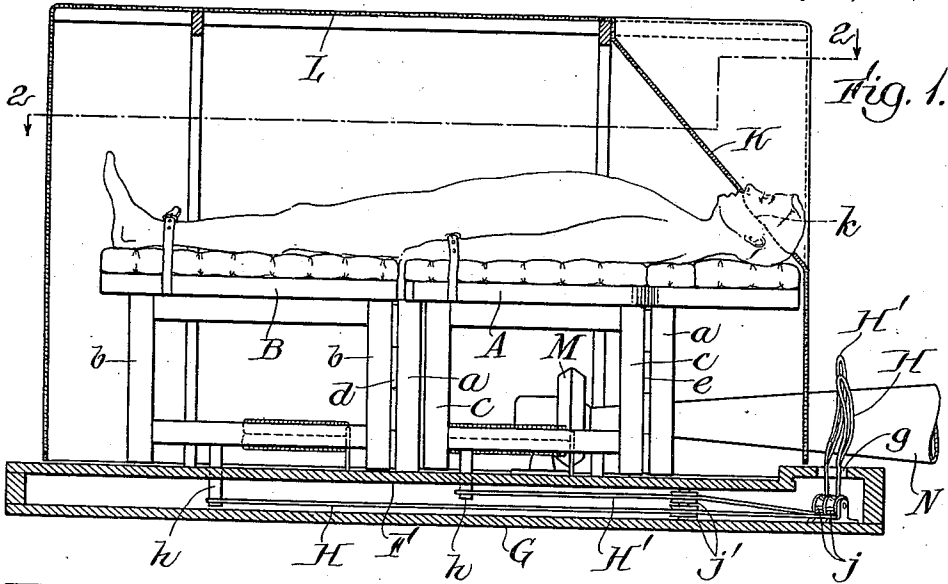


Fig. 2.

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EXERCISING APPARATUS.

1,098,326.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN KOCH, a citizen of the United States, and resident of Brookline, in the county of Norfolk and State of Massachusetts, have invented new and useful Improvements in Exercising Apparatus, of which the following is a specification.

This invention relates to exercising apparatus, and consists in the novel features of construction hereinafter described and particularly pointed out in the claims.

In the accompanying drawings which illustrate one embodiment of the invention, Figure 1 is a longitudinal section, partly in side elevation, of the exercising apparatus; and Fig. 2 is a horizontal section on line 2—2 of Fig. 1, showing the exercising devices in plan view.

The apparatus comprises a stationary body support A, a pair of leg supports B and B', hinged to the body support to swing laterally with relation thereto, and a pair of arm supports C and C', also hinged to the body support to swing laterally with relation thereto. The body support A is mounted on a frame *a*, which stands on the floor F, and the leg supports and arm supports are mounted respectively on frames *b* and *c*, which swing over the surface of the floor. The hinge connections between the body A and the leg supports, are shown at *d*, *d*, between the uprights of frames *a* and *b*; and hinge connections between the body A and the arm supports are shown at *e*, *e*, between the uprights of frames *a* and *c*.

Below the several hinged members are the segmental slots *f*, formed through the floor F, each describing the arc of a circle about the axis of its own hinged member. Studs or dowels *h* on the under side of the several swinging frames, project downward through the segmental slots *f*. Below the floor F is an inclosed shallow housing or chamber formed by the bottom wall G, in which are contained the cords and pulleys for operating the hinged members.

Connected to the lower ends of projections *h* on the swinging leg supports, are the cords H, which extend around the pulleys *j'* near the outer sides of the apparatus, and thence under pulley *j* near the middle of the end of the apparatus. From pulleys *j* the cords pass upward through an aperture *g* in the top of the cord member,

and are formed into handles or loops for manipulating the leg supports. The arm supports are similarly manipulated by cords H' which extend around other pulleys *j'*, and thence under other pulleys *j*, and upward through aperture *g*.

The user lies upon the device as shown in Fig. 1, and his legs and arms are strapped to the leg supports and arm supports by straps *s*. The operator then by pulling cords H and H', swings the hinged members outward with relation to the body support, to the positions shown in dotted lines, either in unison or alternately, as preferred, thus exercising the legs, arms and chest of the user. Coil springs *p* and *p*, each connected at one end to the under side of the body support and at the other end to one of the arm supports, return the arm supports to contracted position when the tension on cords H' is released. And coil springs *p'* and *p'*, connecting the under sides of the leg supports, in a similar manner, return the leg supports to normal or contracted position. The several supporting members are preferably covered with cushions, as shown.

Associated with the body support, is a screen K, of fabric or other suitable material, provided with an aperture *k* adapted to fit the head of the user, and to engage his face between the nose and mouth. When using the apparatus the patient should inhale through the nose and exhale through the mouth, and the screen K will prevent the air exhaled from becoming mingled with the air inhaled. Preferably the screen K forms part of the walls of a casing or chamber L wholly inclosing the exercising devices and the body of the user, thus making it possible, if desired, to locate the apparatus so as to supply the user with fresh outdoor air, without unduly exposing his body. The chamber L may be of wood, sheet metal, canvas, or any suitable material.

As the user exhales into the chamber L, I provide a blower M, by which the air within the chamber may be exhausted through a pipe or funnel N, and carried away to any desired point.

I claim:

1. An exercising apparatus comprising a body support adapted to support the user in a recumbent position, a pair of leg supports

movable with relation to the body support, and a pair of arm supports movable with relation to the body support.

2. An exercising apparatus comprising a body support adapted to support the user in a recumbent position, a pair of leg supports movable with relation to the body support, a pair of arm supports movable with relation to the body support, and mechanism to operate said leg and arm supports.

3. An exercising apparatus comprising a body support adapted to support the user in a recumbent position, a pair of leg supports movable with relation to the body support, a pair of arm supports movable with relation to the body support, and mechanism adapted to operate said leg and arm supports either individually or in unison.

4. An exercising apparatus comprising a body support adapted to support the user in a recumbent position, a pair of leg supports hinged to the body support to swing laterally with relation thereto, and a pair of arm supports hinged to the body support to swing laterally with relation thereto.

5. An exercising apparatus comprising a body support adapted to support the user in a recumbent position, a pair of leg supports hinged to the body support to swing laterally with relation thereto, a pair of arm supports hinged to the body support to swing laterally with relation thereto, and cords to actuate said hinged leg and arm supports.

6. An exercising apparatus comprising a body support adapted to support the user in a recumbent position, a pair of leg supports hinged to the body support to swing laterally with relation thereto, a pair of arm supports hinged to the body support to swing laterally with relation thereto, cords to actuate said hinged leg supports, and independent cords to actuate said hinged arm supports.

7. An exercising apparatus comprising a floor, a body support resting on the floor, leg supports and arm supports hinged to swing laterally with relation to the body support, said floor having a segmental slot below each hinged member describing the arc of a circle about the axis of its hinged member, a projection on the under side of each hinged member extending through its adjacent slot, and means underneath the floor connected to said projections for actuating the hinged members.

8. An exercising apparatus comprising a floor, a body support resting on the floor, leg

supports and arm supports hinged to swing laterally with relation to the body support, said floor having a segmental slot below each hinged member describing the arc of a circle about the axis of its hinged member, a projection on the under side of each hinged member extending through its adjacent slot, and cords extending underneath the floor and connected to the several projections for actuating the hinged members.

9. An exercising apparatus comprising a floor, a body support on the floor, leg supports and arm supports hinged to swing laterally with relation to the body support, said floor having a segmental slot below each hinged member describing the arc of a circle about the axis of its hinged member, a projection on the under side of each hinged member extending through its adjacent slot, an inclosed cord chamber below said floor, pulleys in said cord chamber, and cords passing over said pulleys in said cord chamber and connected to said projections for actuating the hinged members.

10. An exercising apparatus comprising a body support and limb exercising devices, and a screen associated with the body support having an aperture adapted to engage the face of the user between the nose and mouth, whereby the air exhaled may be prevented from mingling with the air inhaled.

11. An exercising apparatus comprising a body support and limb exercising devices, and a screen associated with the body support having an aperture adapted to engage the face of the user between the nose and mouth, whereby the air exhaled may be prevented from mingling with the air inhaled, and a casing inclosing the apparatus forming a chamber of which said screen constitutes a part of the walls.

12. An exercising apparatus comprising a body support and limb exercising devices, and a screen associated with the body support having an aperture adapted to engage the face of the user between the nose and mouth, whereby the air exhaled may be prevented from mingling with the air inhaled, a casing inclosing the apparatus forming a chamber of which said screen constitutes a part of the walls, and a blower adapted to exhaust air from said chamber.

Signed by me at Boston, Massachusetts, this 11th day of December, 1913.

JOHN KOCH.

Witnesses:

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