No. 816,957. PATENTED APR. 3, 1906.

R. W. BLAISDELL.

EXERCISING MACHINE.

APPLICATION FILED SEPT. 2, 1904.

Fig. 1

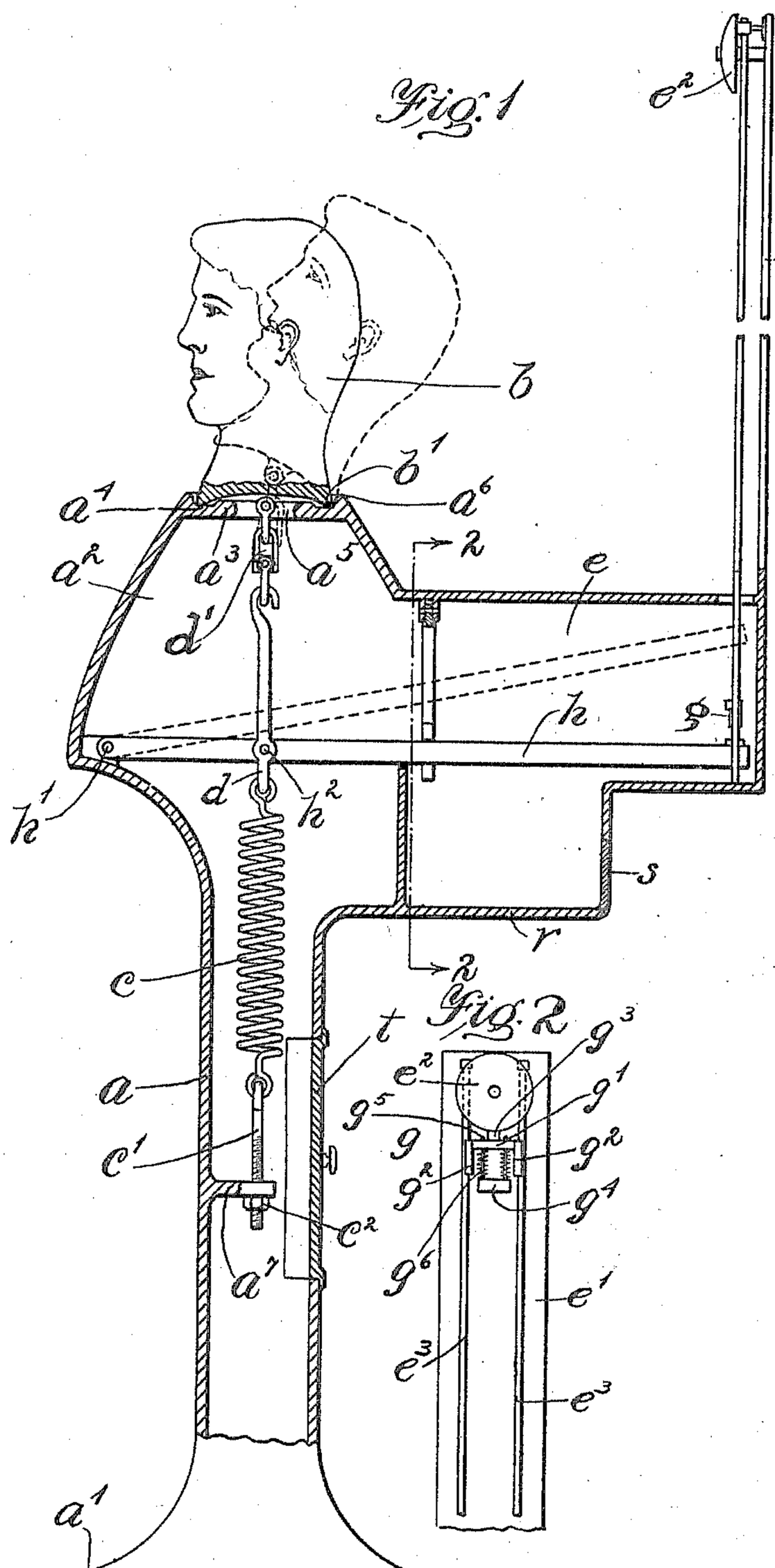

Fig. 4.

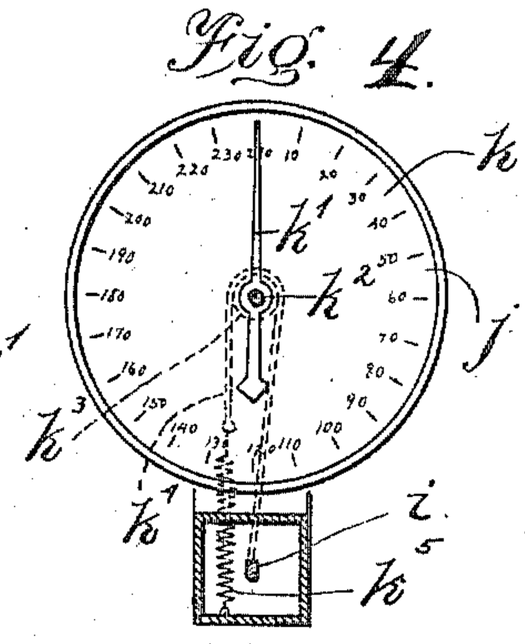

Fig. 3.

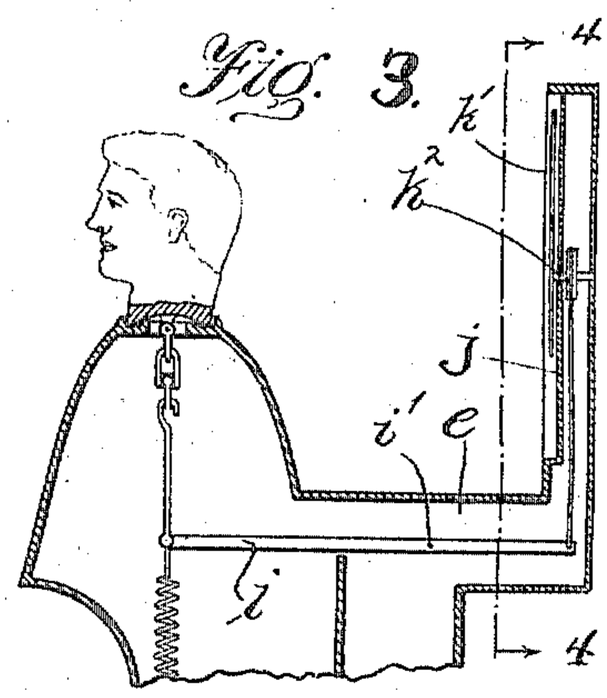

Fig. 2

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UNITED STATES PATENT OFFICE.

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EXERCISING-MACHINE.

No. 816,957. Specification of Letters Patent. Patented April 3, 1906.

Application filed September 2, 1904. Serial No. 223,130.

To all whom it may concern:

Be it known that I, ROBERT W. BLAISDELL, of Beverly, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Exercising-Machines, of which the following is a specification.

This invention has relation to coin-controlled exercising apparatus of the type termed "knock-out machines."

It has for its object to provide certain improvements therein, as illustrated in the accompanying drawings, set forth in the following specification, and pointed out in the appended claims.

Of the drawings, Figure 1 represents in partial section a machine embodying the invention. Fig. 2 represents the gong-striker as engaging the gong. Fig. 3 represents another embodiment of the invention. Fig. 4 represents a section on the line 4 4 of Fig. 3.

The machine comprises an upright standard *a*, having a base *a'*, which, if desired, may be bolted or secured to the floor upon which it rests. The upper portion of the standard is enlarged and rearwardly extended, the front portion, as at a^2, being substantially in the shape of the upper portion of the human body minus the arms to form a support. The said upper portion or support is substantially frusto-conical, being provided with a flat top a^3, with an annular groove a^4 and a central opening or aperture a^5. Resting upon the top a^3 is a movable member *b*, which is preferably in the form of a human head and neck and which may be formed of soft or cushioning material, so that it may be struck with the fist without injury to the person striking it. The neck is substantially cylindrical and its bottom is concave. The edge of the neck rests in the annular groove a^4 in an upright position, as shown in full lines in Fig. 1. It may be rocked in any direction laterally on the rim or edge *b'* at the base of the neck, the bottom wall of the groove a^4 serving as a fulcrum and the upwardly-projecting flange a^6, which encircles said groove a^4, operating to prevent bodily lateral displacement of the head or member. The said member is held in place by a straight spring *c*, which is of the helical type. The lower end of the spring is secured to a screw-eye *c'*, passing adjustably downward through a lug a^7 in the interior of the standard *a* and held by a nut c^2. The upper end of the spring is connected to a linked member *d*, the upper hooked end of which is connected to the middle of the bottom of the neck by a universal joint or coupling, (indicated as a whole at *d'*.) In virtue of this construction the head or member *b* may be knocked forward or backward or to one side or the other, the distance to which the head is knocked depending upon the force of the blow. In each case the head rocks about or on the rim *a'* and is returned to place by the spring *c*. For the purpose of indicating to the person exercising the force of the blow any suitable indicator may be utilized, such as a gong and striker or an index and scale, these two forms of indicating device being illustrated on the drawings.

In Fig. 1 the rear portion *e* of the standard has an upright *e'*, to the upper front of which is affixed a gong e^2. Parallel guides e^3 extend from the interior of the said rear portion *e* of the standard to the top of the upright *e'*, so as to provide a guideway for a striker *g*. The striker consists of a cross-bar *g'*, having side pieces g^2, which are grooved to slide on the guides e^3. The cross-bar has a projection g^3, which may engage the edge of the gong, and it has also a member g^4, slidingly connected with it by guide-pins g^5, there being springs g^6 interposed between said member and the cross-bar, as shown. The striker is adapted to rest upon the free end of a lever *h*, which is fulcrumed at *h'*, near the front of the machine, and which extends rearwardly through the rear portion *e* to a point between the guides e^3 e^3. This lever is pivoted at h^2 to the link *d*, so that each time the head or member *b* is rocked the lever will be drawn upward to a greater or less extent from its prone position, (indicated in full lines in Fig. 1.) The spring-tensioned member g^4 of the striker rests upon the free end of the said lever, and when the head *b* is struck with the proper degree of force the striker will be thrown upwardly along the guides e^3 and caused to impinge upon the gong e^2. The strength of the spring *c* may be such that when a blow is given to the head *b* with the

force necessary to cause the gong to be sounded it will indicate to the person exercising that the same blow, if given to a human head, would serve to "knock out" the recipient of the blow. It may be desirable in some instances, however, to indicate the strength of the blow by means of a pointer and graduated scale, and in Figs. 3 and 4 I have illustrated an embodiment of the invention in which these devices are employed. The lever i, which in this case corresponds to that at h in Fig. 1, is fulcrumed at i'. The rear portion e of the standard is extended upwardly and is provided with a large dial j, having a graduated scale k. An index or pointer k' is secured upon an arbor k^2, journaled in the dial, said arbor being provided with a sprocket-wheel k^3. A light sprocket-chain k^4 is passed around said wheel k^3, one end of said chain being connected with the lever i and the other end of said chain being connected with a relatively light helical spring k^5, the only function of which is to keep the chain properly tracked on the wheel and to return it to initial position when the lever i returns to normal position. In this case the rocking of the member or head b effects the lowering of the rear end of the lever i, which in turn draws upon the sprocket-chain k^4 and rotates the arbor k^2 to an extent proportionate to the rocking of the head or member b.

In order that the tension-regulating nut c^2 may be readily accessible, the standard is provided with a removable door t near the projection or lug a^7.

It is evident that the herein-described machine may be varied in the details of construction without departing from the spirit and scope of the invention.

Having thus explained the nature of the invention and described a way of constructing and using the same, although without attempting to set forth all of the forms in which it may be made or all of the modes of its use, I declare that what I claim is—

1. An exercising-machine comprising a support, and a spring-tensioned head or member, said head or member having a neck portion resting upon said support and constructed and arranged whereby said head may be rocked in any direction about the outer edge of the neck.

2. An exercising-machine comprising a support having a top, a laterally oscillatory member having an annular outer edge resting on said top, and a spring exerting a pull on said member to hold it against said top, whereby, by a blow, said member may be rocked about its outer edge.

3. An exercising-machine comprising a support having a recessed top, a member having a concave bottom resting in said top, and a spring connected to said member through an aperture in said top.

4. An exercising-machine comprising a body-shaped support, a rocking member supported thereon, a lever pivoted on said body, a universal joint connecting said lever with said member, a spring exerting its tension to maintain said member on said body, and an indicating device in operative relation to the free end of said lever.

5. A machine of the character described comprising a support, a laterally-rocking member thereon, a lever connected to said member and raised by the rocking thereof, a spring which opposes the rocking of said member, a gong, and a free striker resting on the free end of said lever and adapted to be thrown thereby toward said gong.

In testimony whereof I have affixed my signature in presence of witnesses.

ROBERT W. BLAISDELL.

Witnesses:
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Robert Reid,
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