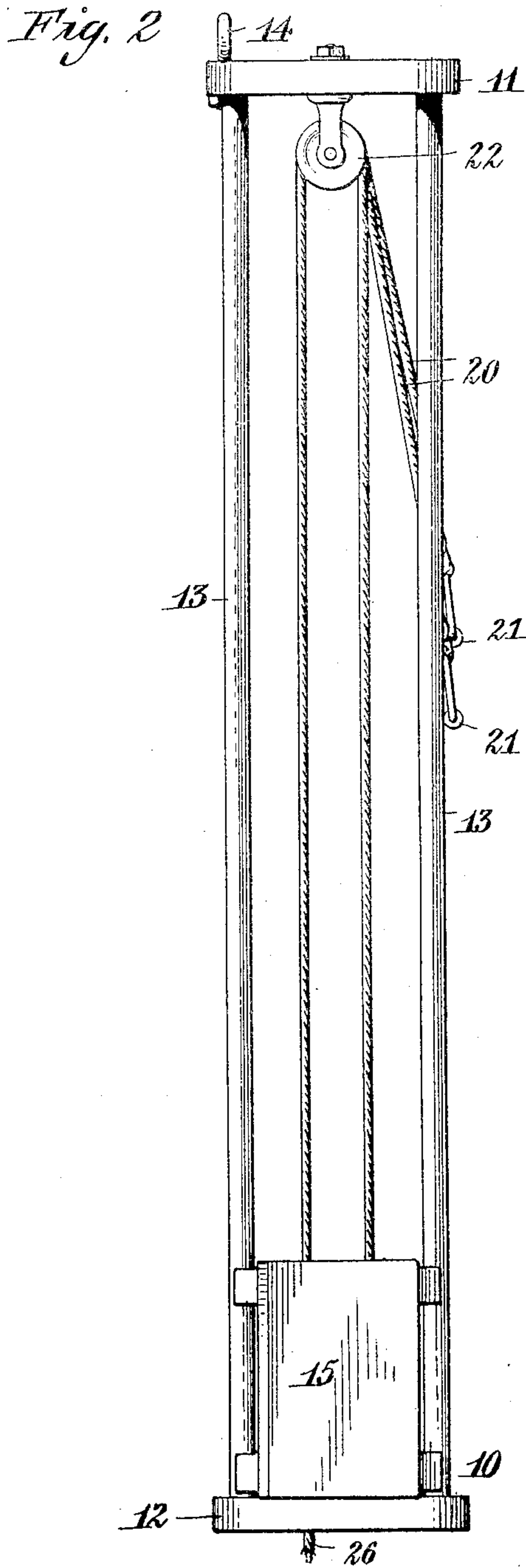
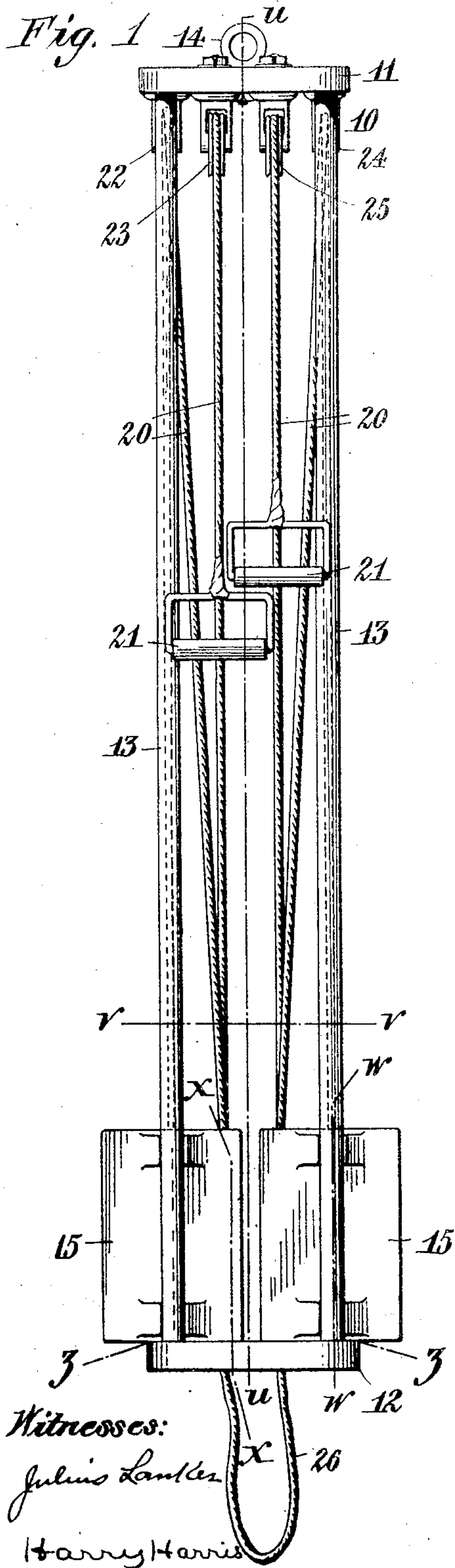


R. O. HAMMOND.

ELECTRICAL MUSCULAR EXERCISING MACHINE.

APPLICATION FILED MAY 23, 1905.

2 SHEETS—SHEET 1.



*Robert O. Hammond, Inventor.*  
*By Emil Neuhart*  
*Attorney.*

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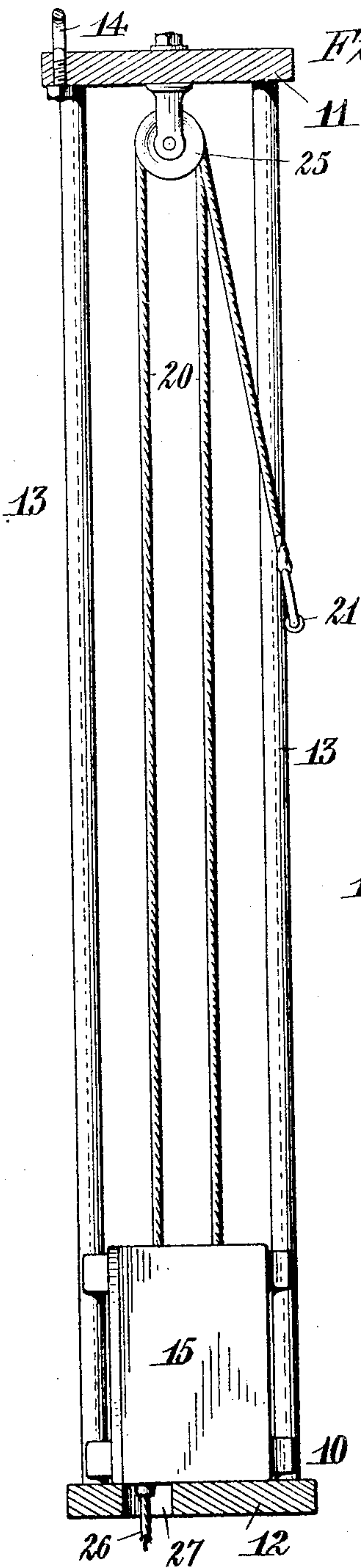


Fig. 3.

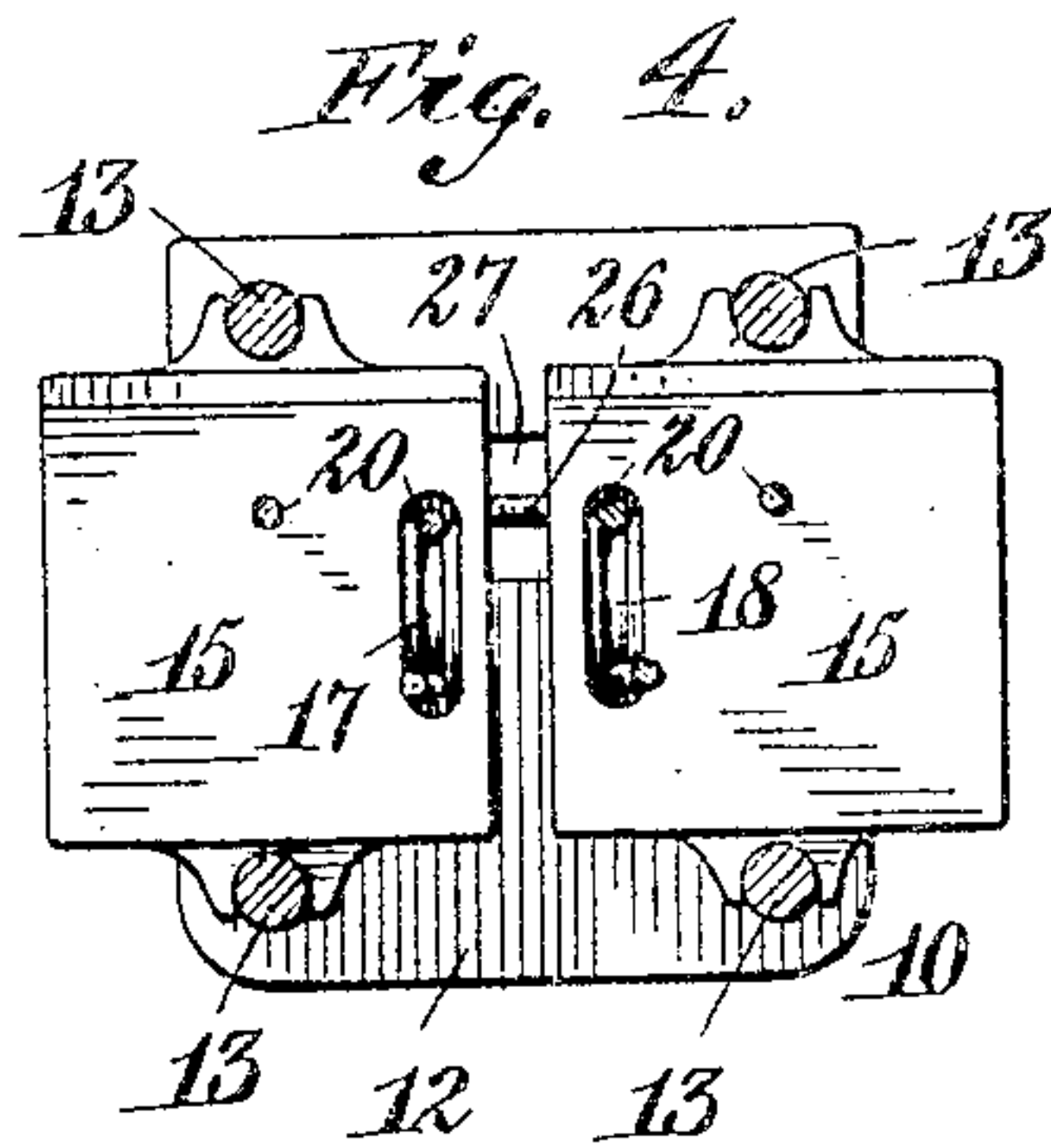


Fig. 4.

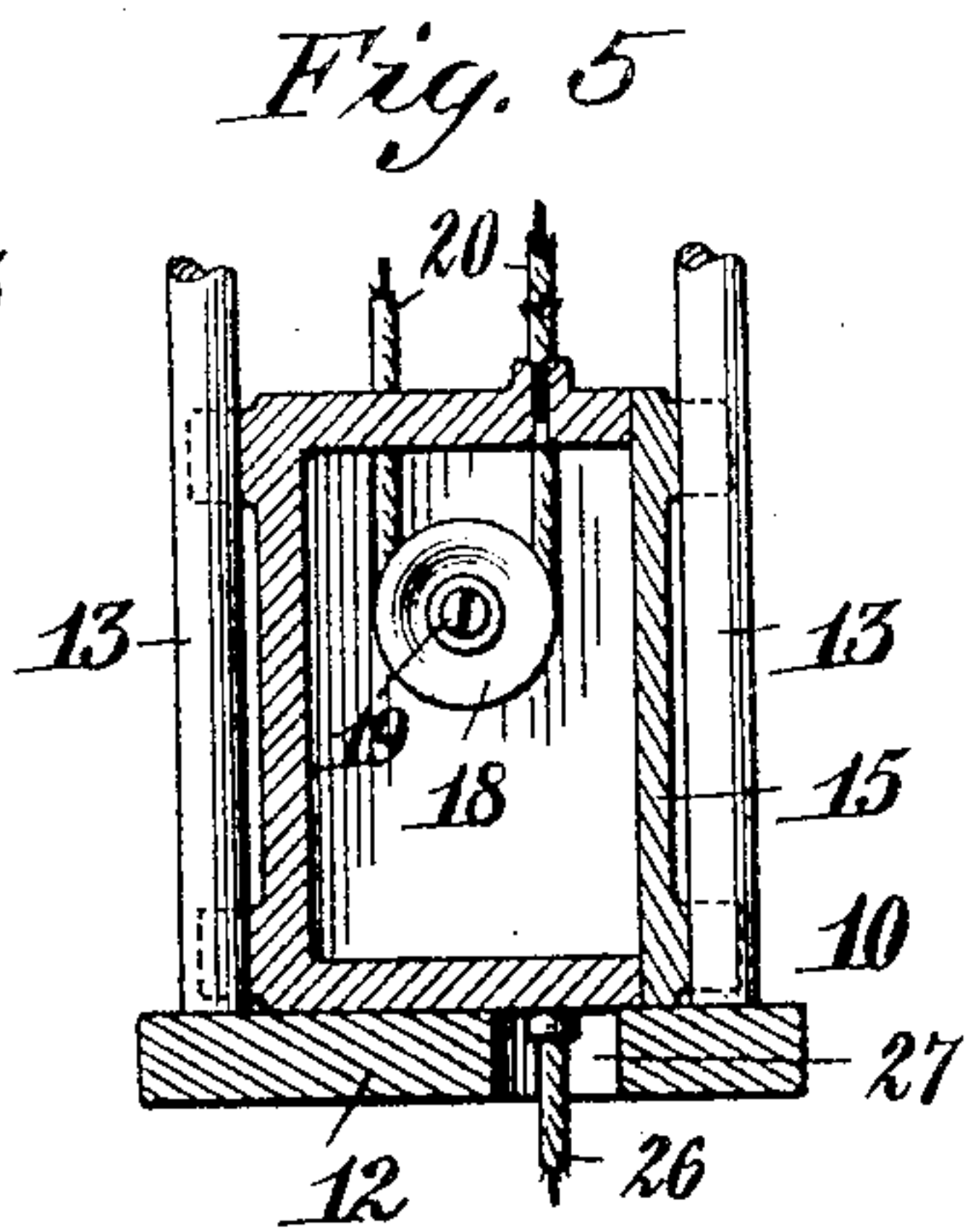


Fig. 5.

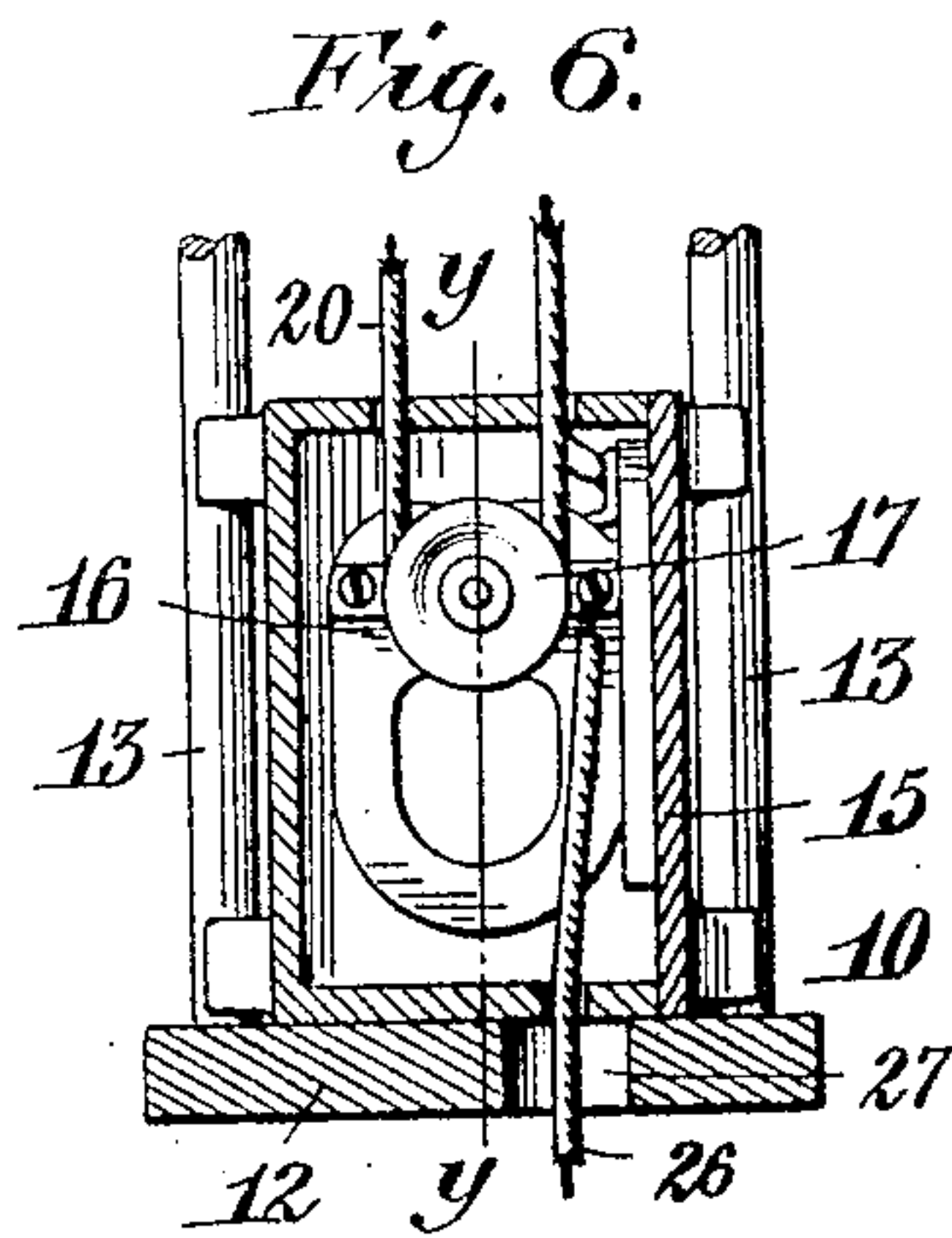


Fig. 6.

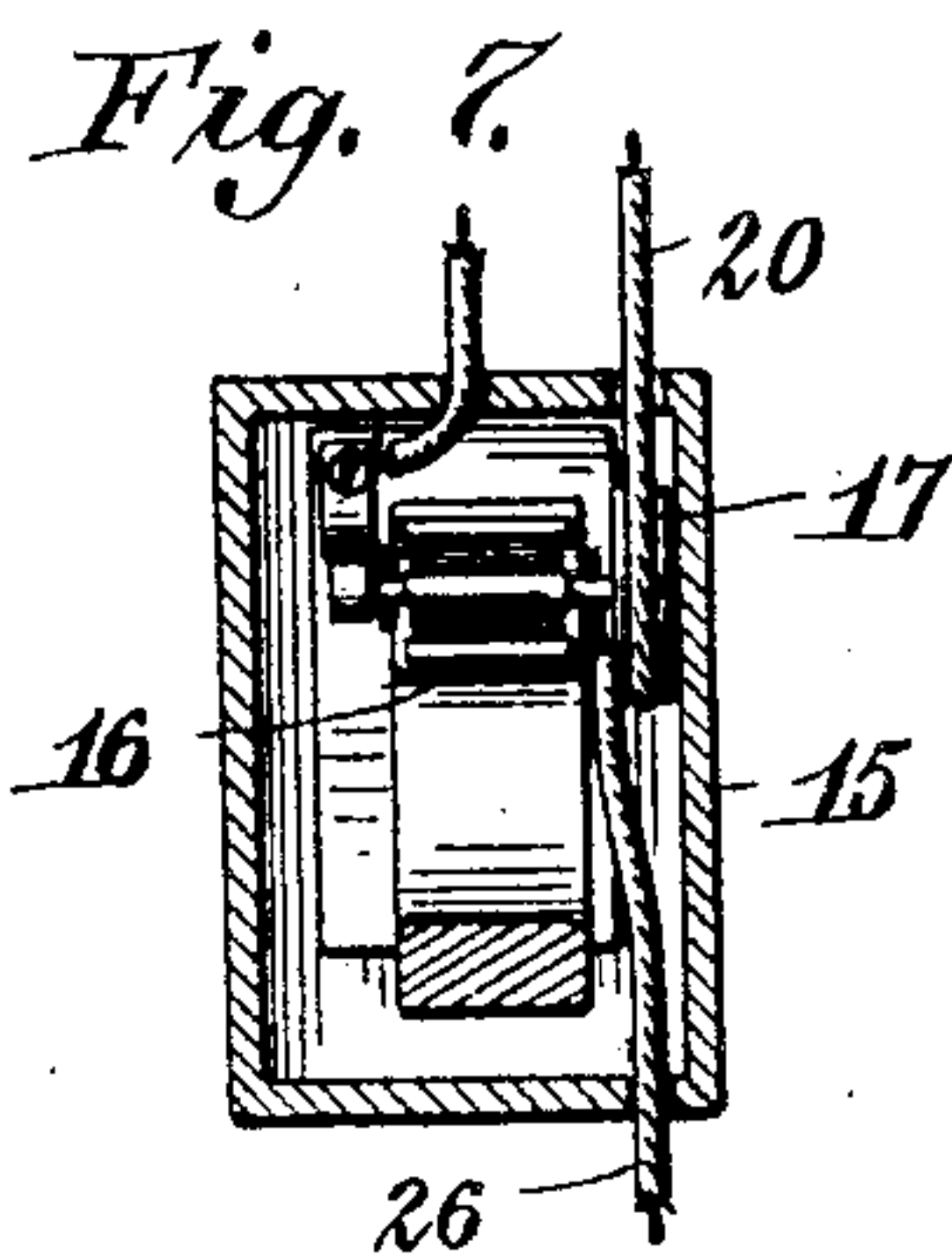


Fig. 7.

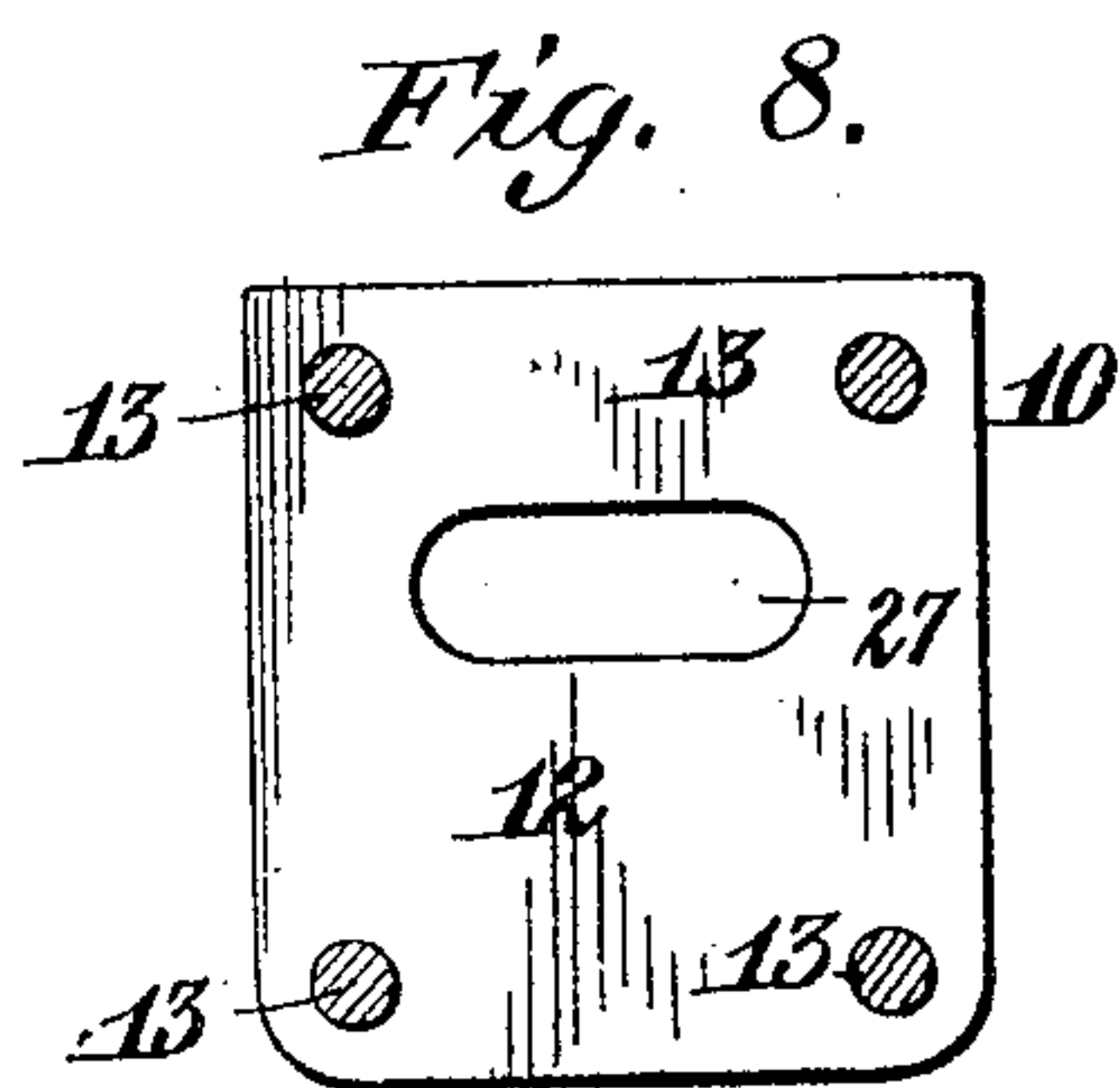


Fig. 8.

Witnesses:

Julius Lankes  
Harry Harris

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Attorney.



# UNITED STATES PATENT OFFICE.

ROBERT O. HAMMOND, OF BUFFALO, NEW YORK, ASSIGNOR TO JOSIAH S. ANDREWS, OF BUFFALO, NEW YORK.

## ELECTRICAL MUSCULAR EXERCISING MACHINE.

No. 805,952.

Specification of Letters Patent.

Patented Nov. 28, 1905.

Application filed May 23, 1905. Serial No. 261,847.

*To all whom it may concern:*

Be it known that I, ROBERT O. HAMMOND, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Electrical Muscular Exercising Machines, of which the following is a specification.

This invention relates to improvements in electric muscular exercising machines in which an electric current or succession of electric impulses are passed through the body of a person operating the machine.

The object of my invention is the production of a machine of this character in which chest-weights are provided that are movable on suitable guides and serve as the power-resisting medium of the machine and one of which contains a magneto-electric generator arranged to be actuated when the weight containing the same is reciprocated.

Another object of my invention is to provide an electric chest-weight exerciser which resembles the chest-weight exercisers now so commonly in use and in which the presence of an electric generator and the electric conducting means cannot be detected by the appearance or design of the machine.

Still further objects are to provide a movable electric generator which serves as a weight or forms part of a weight and which is actuated by reason of the pulley on the armature-shaft riding along a cord or other flexible element, which may serve as the current-conductor; to provide a simple, economical, and effective device of this kind in which the parts are reduced to a minimum, and to otherwise improve on electric exercising-machines now in use.

The invention, considered in broad terms, consists of a magneto-electric generator movable as a resisting force or part of a resisting force and actuated to generate an electric current or electric impulses during its movements, and it further consists in the construction, arrangement, and combination of parts to be hereinafter described, and particularly pointed out in the appended claims.

In the drawings, Figure 1 is a front elevation of an exercising-machine, showing a representative embodiment of my invention. Fig. 2 is a side elevation of the same. Fig. 3 is a vertical section taken on line *u u*, Fig. 1. Fig. 4 is a horizontal section taken on line

*v v*, Fig. 1. Fig. 5 is a vertical section taken on line *w w*, Fig. 1. Fig. 6 is a vertical section taken on line *x x*, Fig. 1. Fig. 7 is a vertical section taken on line *y y*, Fig. 6. Fig. 8 is a horizontal section taken on line *z z*, Fig. 1.

Referring to the drawings in detail, corresponding numerals of reference refer to corresponding parts in the several figures.

The numeral 10 designates the supporting-frame, comprising a head-piece 11, a foot-piece 12, and guide-rods 13, which connect the head and foot pieces. This frame may of course be otherwise constructed, its construction being immaterial, so long as it provides a support and suitable guides for a purpose to be presently described. The head-piece may have an eye 14 or other suitable device for suspending the machine on a wall or other object.

Vertically movable on the guide-rods 13 are weights 15, commonly termed "chest-weights," owing to their being connected to pull-cords, and designed particularly to develop the chest of the operator. These weights are preferably hollow and made in the form of a casing, one of said weights containing a magneto-electric generator 16 of any common construction.

A pulley 17 is secured to the armature of the generator, and in the other weight a pulley 18 is revolvably mounted on a stub-shaft 19 or otherwise. The walls of the weight in which the generator is located are somewhat lighter than those of the other weight; but the combined weight of the generator and the casing in which it is held equals that of the other weight.

Combined electric conducting and operating cords 20 are provided for the weights and are fitted with suitable handles 21, which are electrically connected therewith, and when both handles are grasped by the operator and the machine operated an electric current or electric impulses pass through the body of the operator. One of said operating-cords is connected to one of the poles of the generator and passes up over a pulley 22, secured to the head-piece, thence down into the casing and around the pulley 17 on the armature, thence up and over a swivel-pulley 23 on the head-piece, and finally down, the free end being provided with one of the handles 21. The other of said operating-cords is se-



cured to the other weight and likewise passes over pulleys 24 25 on the head-piece and over the pulley 18 in said weight, the free end having the other handle 21 secured thereto. To the other pole of the generator one end of a current-conductor 26 is secured, which has its other end secured to the weight containing the pulley 18. In this manner a complete circuit is formed when both handles are grasped by the operator and the machine operated by the pulling of the cords to revolve the generator-armature. Any other suitable way of securing the current-conductor may be employed, as I lay no claim to the particular arrangement shown.

The foot-piece 12 is provided with an opening 27, through which the current-conductor 26 may play as the weights are being raised and lowered.

As the foregoing merely describes a representative way of applying my invention, I do not wish to limit myself to the exact construction and arrangement shown, but hold myself at liberty to make any changes and modifications desired in which is employed a traveling magneto-electric generator set into action for generating an electric current or a succession of electric shocks when causing said generator to travel by the exercise of manual effort.

Having thus described my invention, what I claim is—

1. The combination with a suitable frame, of an electric generator movable on said frame, and electric conducting and operating cords arranged in circuit and connected to operate the generator and convey the current through the operator when moving the generator on the frame.

2. The combination with a suitable frame, of a weight guided on said frame, an electric generator in said weight, and electric conducting and operating cords for operating said weight and said generator and having suitable electric connection with said generator to convey the current through the operator.

3. The combination with a suitable frame, of a pair of movable weights guided on said frame, an electric generator movable with one of said weights, and combined electric conducting and operating cords for operating said weights and said generator and having suitable

electric connection with the generator to convey the current through the body of the operator.

4. The combination with a suitable frame, of a magneto-electric generator movable on said frame and having a pulley on the armature thereof, and electric conducting and operating cords in circuit, one of said cords passing over said pulley to simultaneously cause the generator to move on the frame and revolve the armature of said generator.

5. The combination with a suitable frame having guides, of a pair of weights movable on said guides, a magneto-electric generator within one of said weights and having a pulley on the armature thereof, a pulley within the other weight, suitable pulleys on the frame, electric conducting and operating cords passing over said pulleys and provided with handles, and an electric conducting-cord between the generator and the last-mentioned weight, said cords being arranged in circuit to convey the current through the operator.

6. The combination with a suitable frame, of a weight guided for movement on said frame, an electric generator, and electric conducting and operating cords connected to said weight and to said generator to operate both and having electric connection with the generator to convey the current through the operator.

7. The combination with a suitable frame having guides, of a pair of weights movable on said guides, a magneto-electric generator within one of said weights and having a pulley on the armature thereof, a pulley within the other weight, suitable pulleys on the frame, electric conducting and operating cords passing over said pulleys and provided with handles, and an electric connection between the generator and the last-mentioned weight, said electric connection and said cords forming a circuit to convey the current through the operator.

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

ROBERT O. HAMMOND.

Witnesses:

JULIUS LANKES,  
MAY F. SEWERT.