

No. 689,418.

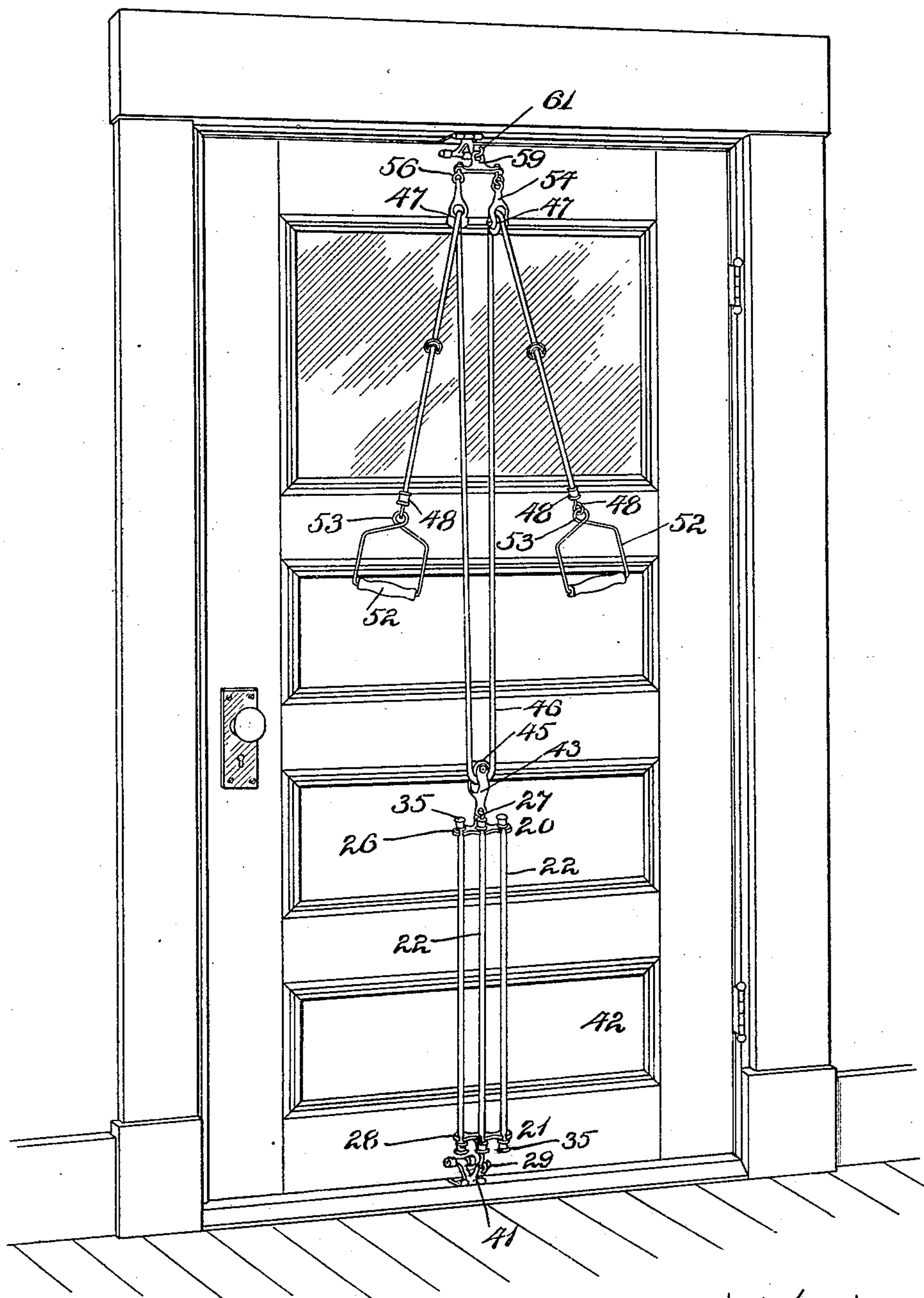
Patented Dec. 24, 1901.

M. B. RYAN.
EXERCISING MACHINE.

(Application filed Jan. 23, 1901.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

Louis A. Jones.

Sydney E. Taft.

FIG. 1.

INVENTOR:

Michael B. Ryan.

by his attorney, Charles S. Gooding.

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2 Sheets—Sheet 2.

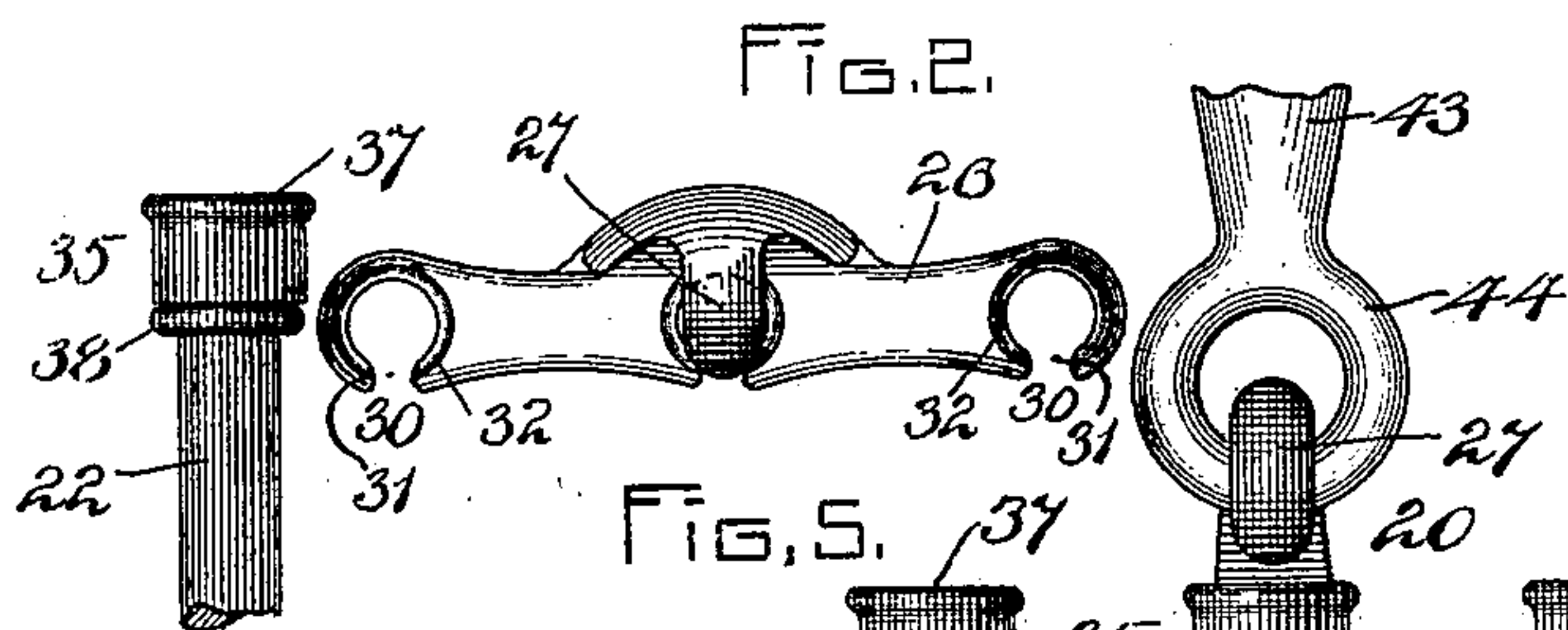
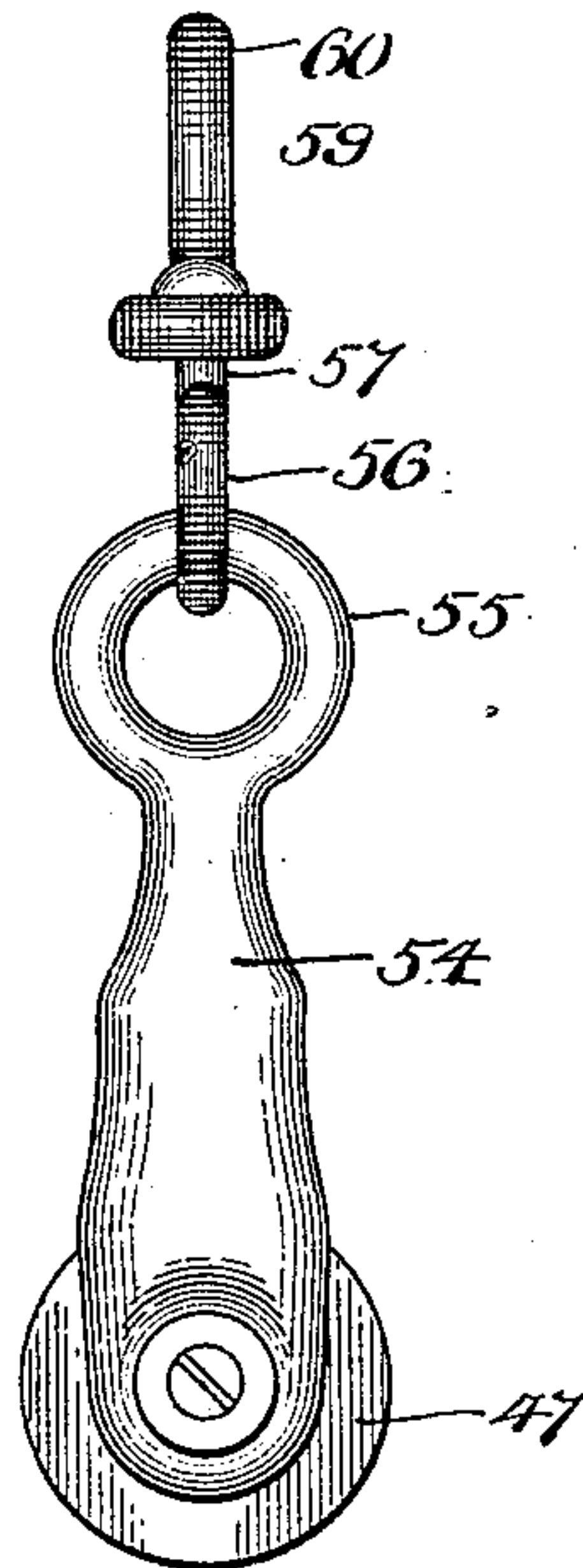
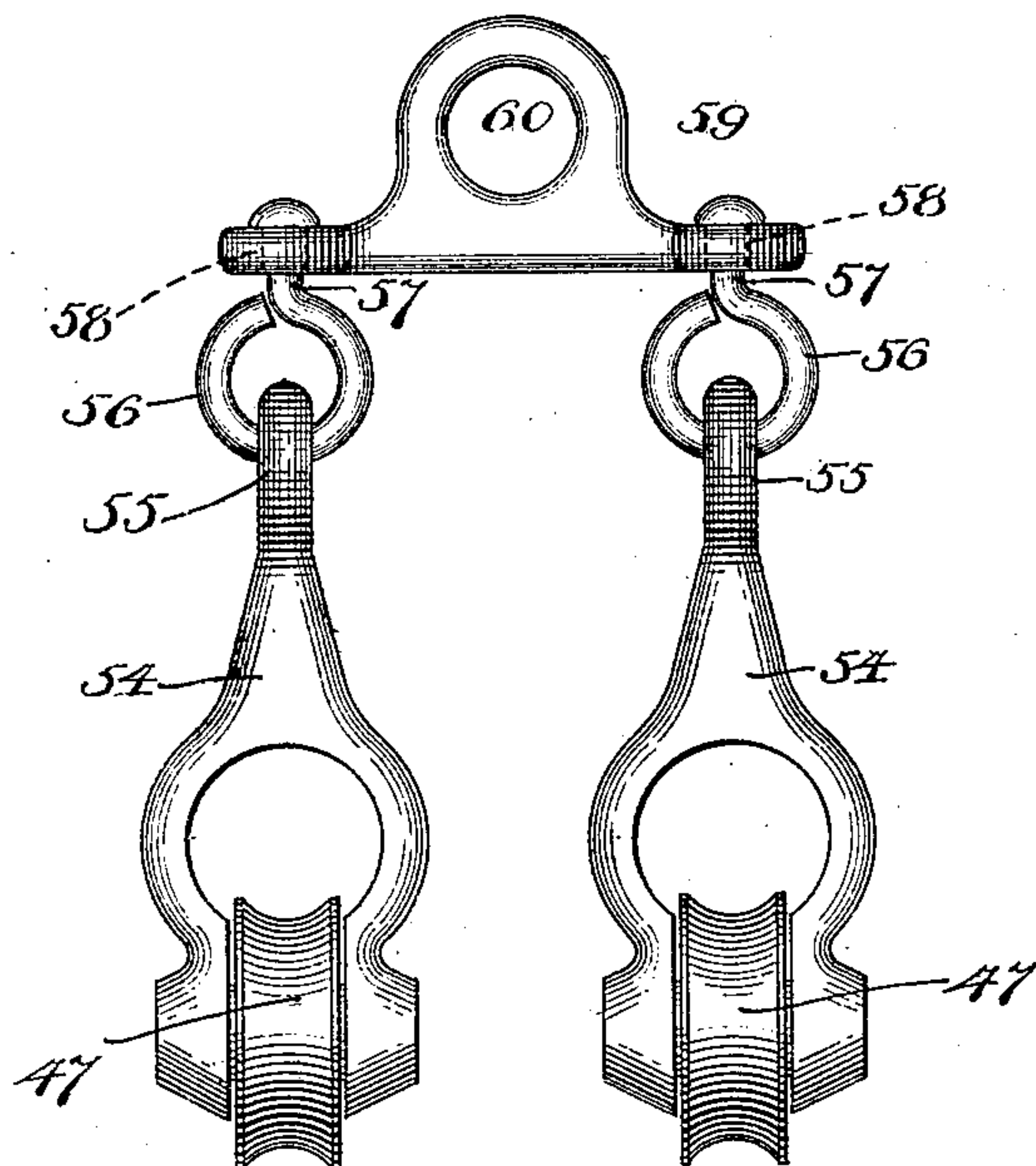


FIG. 4.

FIG. 5.

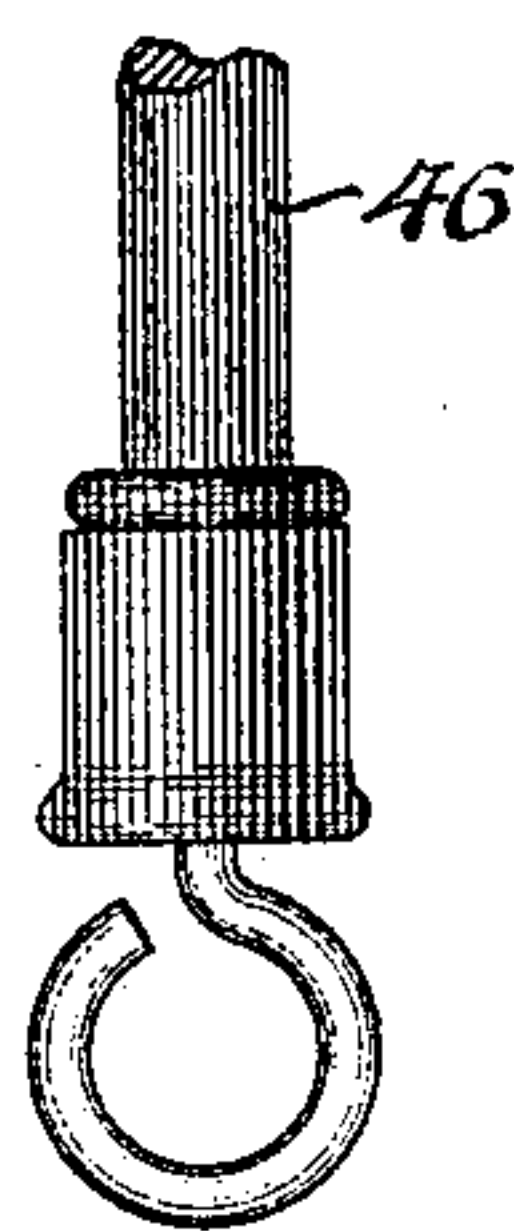
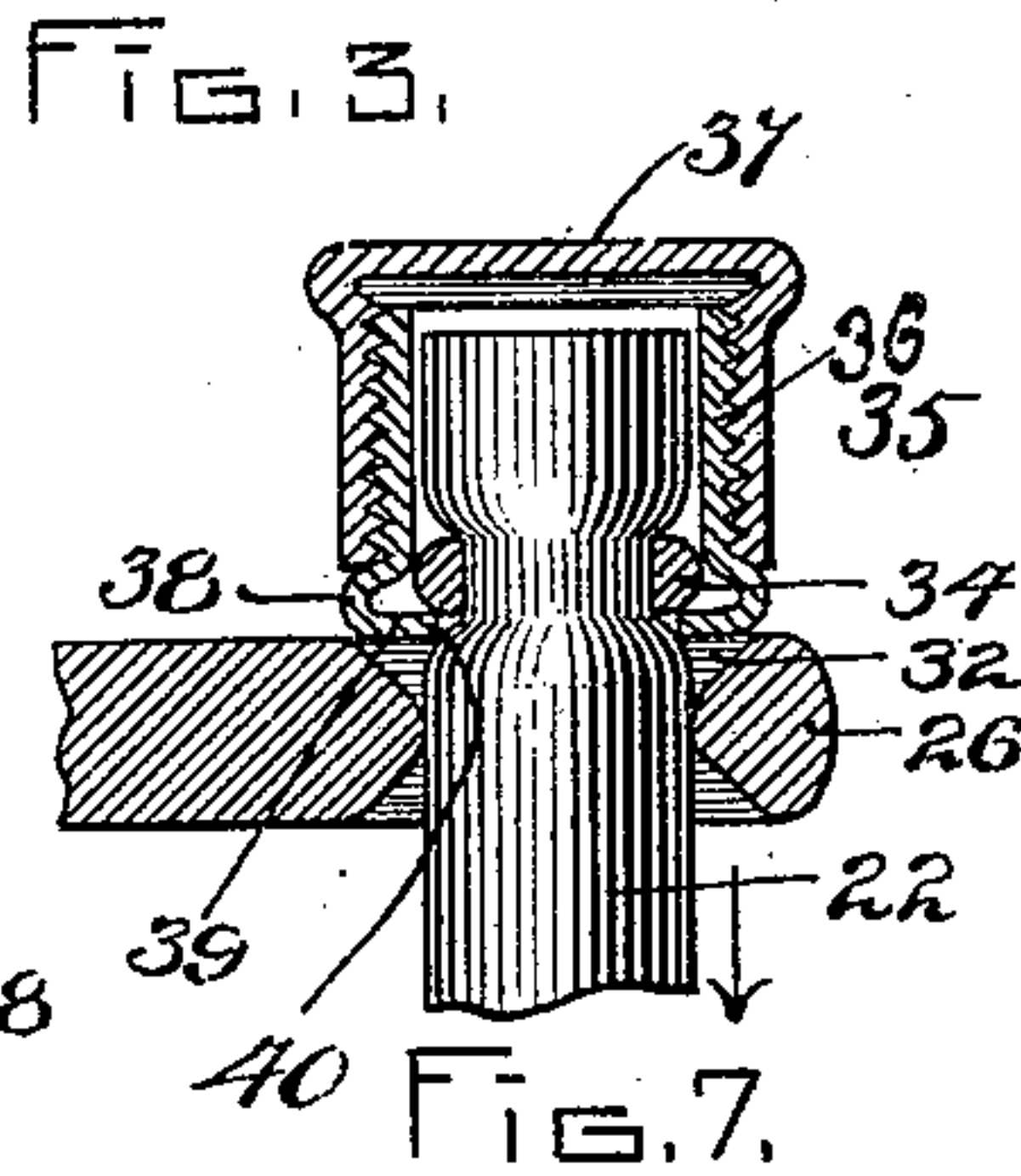


FIG. 8.

FIG. 9.

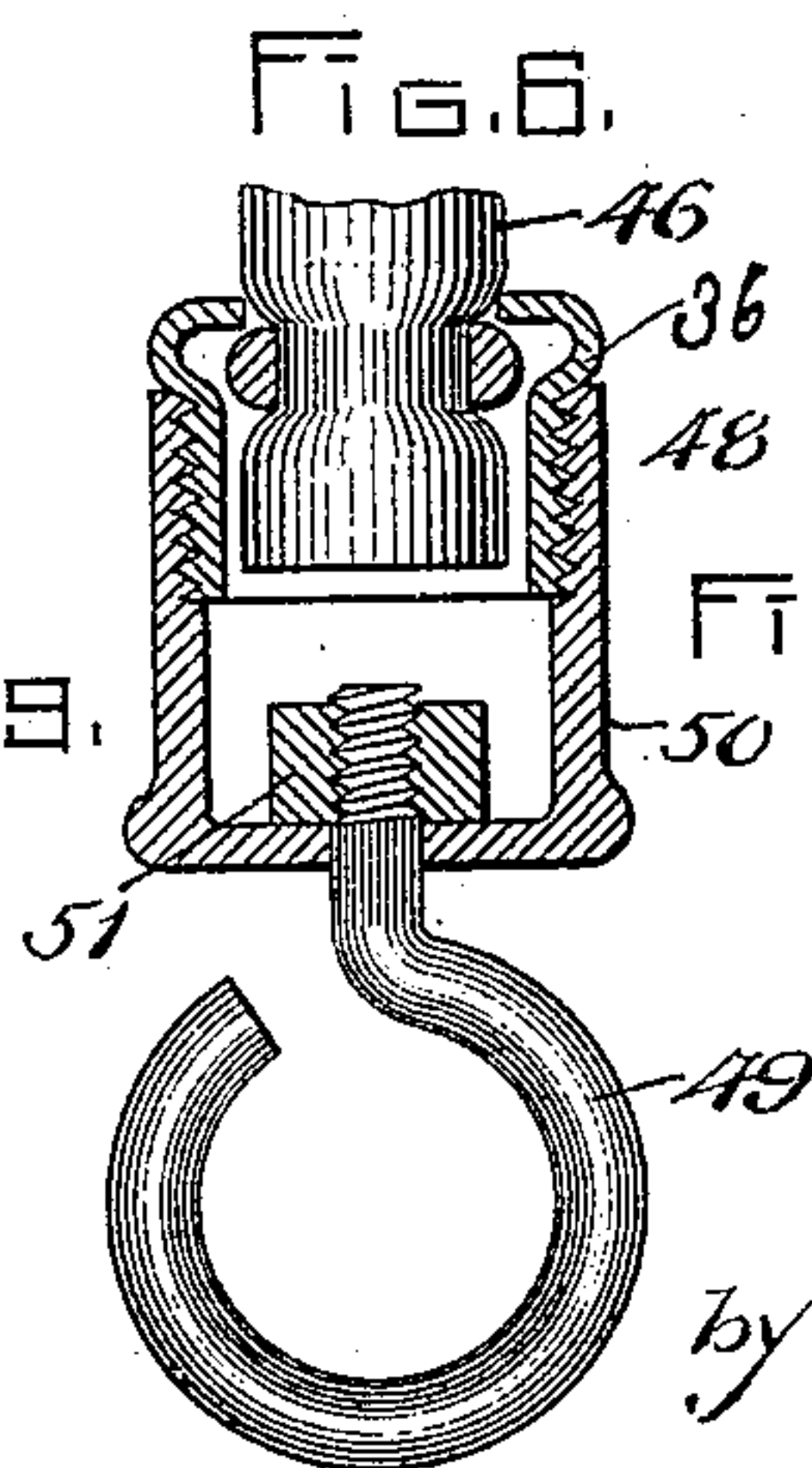


FIG. 10.

WITNESSES:
Louis A. Jones.
Sydney C. Taft.

INVENTOR:
Michael B. Ryan
by his Attorney
Charles S. Gooding.

UNITED STATES PATENT OFFICE.

MICHAEL B. RYAN, OF COLOGNE, GERMANY.

EXERCISING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 689,418, dated December 24, 1901.

Application filed January 23, 1901. Serial No. 44,360. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL B. RYAN, a citizen of the United States, residing at Cologne, in the Province of Rhenish Prussia and Empire of Germany, have invented new and useful Improvements in Exercising-Machines, of which the following is a specification.

The object of this invention is to produce an exercising-machine which may be readily adjusted in such a manner that the direction of the pull may be varied to different heights from the floor, and thus bring the pull in the same relative direction from the shoulder of an adult, a youth, and a child, and also from a point near the floor, and in these respects is substantially the same as the invention for which I have made application for Letters Patent of the United States, Serial No. 10,587, for an exercising-machine.

The invention has, further, for its object to improve the details of construction and operation of certain parts of said exercising-machine in order to render the same more durable, convenient, and smooth in operation without increasing the cost of production.

The invention consists in certain improvements in the manner of attaching and connecting different parts of the machine together.

The invention further consists in the improved construction of certain parts of the machine.

The invention still further consists in the combination and arrangement of parts set forth in the following specification and particularly pointed out in the claims thereof.

Referring to the drawings, Figure 1 is a perspective view of my improved exercising-machine, showing the same attached to a door. Fig. 2 is a front elevation of the pulley-supporting cross-bar with two pulleys attached thereto. Fig. 3 is a side elevation of the parts shown in Fig. 2. Fig. 4 is a side elevation of a cord-cap, (for which I have made application for Letters Patent of the United States of even date herewith,) showing the same attached to a piece of cord. Fig. 5 is a detail plan view of one of the elastic-connection holders. Fig. 6 is a front elevation of an elastic-connection holder with three cord-caps

and cords attached thereto and a portion of the pulley-block by which it is supported. Fig. 7 is an enlarged central section of a cord-cap, showing the cord to which it is attached in elevation and a portion of the holder by which said cord and cord-cap are supported in section. Fig. 8 is a side elevation of a cord-cap fast to a cord and having a swivel-hook attached thereto. Fig. 9 is an enlarged central longitudinal section of the cord-cap shown in Fig. 8 with the cord and hook in elevation. Fig. 10 is an enlarged section of the screw-cap forming a part of the cord-cap shown in Fig. 9 with a swivel-hook in elevation attached thereto.

Like numerals refer to like parts throughout the several views of the drawings.

In the drawings, 20 and 21 are holders connected together by elastic cords 22. Said cords may be detached at will, as hereinafter set forth, from said holders 20 and 21, so that the pull exercised by a person using the apparatus may be varied as desired. The number of elastic cords 22 may be varied as desired, and it will be readily understood that by removing one or more of the same the power required to pull the two holders 20 and 21 away from each other may be varied to suit the particular requirements.

The holder 20 consists of a cross-bar 26 with a hook 27 thereon, and the holder 21 of a cross-bar 28 with a hook 29 thereon. Each of the cross-bars 26 and 28 is provided with slots 30, preferably formed with an entrance-channel 31 and a circular seat 32 of a diameter substantially equal to the diameter of the elastic cords 22. Each of the cords 22 is encircled, near each end thereof, by a ferrule 34, preferably of soft metal and tightly bound around said cord. The ferrule 34 serves a double purpose—namely, to bind the strands forming the cord 22 together and, further, to prevent the cord-cap from coming off said cord.

The cord-cap 35 is made in two parts—a sleeve 36, screw-threaded upon its exterior, and a screw-cap 37, screw-threaded upon its interior to enable it to be screwed upon said sleeve. The sleeve 36 has a rim 38 at one end thereof semicircular in cross-section and having an outer diameter approximately

equal to that of the screw-cap 37. At one end of the sleeve 36 is an annular flange 39, projecting inwardly and having a hole 40 therein, which is about the same diameter as the diameter of the cord 22 and of a less diameter than the outside diameter of the ferrule 34 and of a less diameter than the interior diameter of the bore in the sleeve 36.

The cord-cap 35 is attached to the cord 22 as follows: The sleeve 36 is first placed upon the cord 22 with the screw-threaded portion thereof turned in the direction of that end of the cord to which the cord-cap is to be attached. If a cord-cap is to be attached to each end of a cord, two sleeves 36 must be placed upon said cord, each sleeve having its screw-threaded portion turned toward the end to which it is to be attached, or in opposite directions to each other and with the flanges 39 toward each other. The ferrule 34 is then bent around the cord 22 and firmly clasped thereon. The sleeve 36 is next drawn over said ferrule until the flange 39 comes in contact with the ferrule 34, and the screw-cap 37 is then screwed on said sleeve. The cords 22, being elastic, are forced into the circular aperture 32 through the entrance-channel 31. When the holders 20 and 21 are drawn apart, the flange 39 upon each of the sleeves 36 will be drawn against the cross-bars 26 and 28 at the portion thereof which surrounds said circular aperture and forms a seat for said sleeves.

In Fig. 7 is shown an enlarged section of one of the cord-caps 35 and a portion of the cross-bar 26 in its relative location thereto, and it will be seen that when force is applied to the cord 22 in the direction of the arrow in said figure the rim 38 and the flange 39 on the sleeve 36 will be drawn against the seat 23 on the cross-bar 26 by the ferrule 34, which is fast to the cord 22 and is drawn by said cord against the flange 39 on said sleeve.

The holder 21 is attached by the hook 29 thereon to the detachable hook 41, fast to the bottom of the door 42, Fig. 1, and the holder 20 is attached by the hook 27 thereon to the pulley-block 43 by inserting said hook in the eye 44 on said pulley-block. It will be seen that in order to disconnect the pulley-block 43 from the holder 20 the central cord 22 and the cap 35 thereon must first be disconnected from the cross-bar 26 by pulling said cord out sidewise through the entrance-channel 31. Said cord-cap therefor forms a lock to prevent the pulley-block 43 from becoming accidentally disconnected from the holder 20, which in machines of the character described is of common occurrence.

Upon the pulley-block 43 is mounted a pulley 45, around which passes a cord 46. Said cord passes from the pulley 45 around two pulleys 47 and has a cord-cap 48 fast to each end thereof. The cord-cap 48 is shown in elevation in Fig. 8 and in enlarged section in Fig. 9, said cord-cap being constructed in all respects like the cord-cap 35, except

that a hook 49 is attached to the screw-cap 50 by means of a nut 51, so that said hook may swivel thereon. To each of the swivel-hooks 49 is attached a handle 52 by means of a ring 53 formed thereon. The pulleys 47 are mounted upon pulley-blocks 54, having an eye 55 thereon, to which is attached an eye 56, having a shank 57, which passes through a hole 58 in the pulley-supporting cross-bar 59 and swivels thereon. The pulley-supporting cross-bar 59 has an eye 60, in which is inserted the detachable hook 61, fast to the top of the door 42, thus supporting said pulley cross-bar and the parts attached thereto.

It will be seen that by the improved means of attaching the handles 52 to the cord 46 and the pulleys 47 to the cross-bar 59 the machine is rendered very smooth in its action and that no twist can be brought upon the cord 46, with its consequent undesirable action upon the user of the machine, but that the machine will be entirely responsive in its action to the different positions and motions of the operator. It will again be seen that by the construction and application of the cord-cap 35 to the elastic cords 22 said cords may be very quickly disconnected from or connected to the cross-bars 26 and 28 for the purpose specified, and when so connected no danger of becoming disconnected therefrom by accident is possible on account of the formation of the slots 30.

The apparatus shown in Fig. 1 is arranged so that the pull upon the handles by the operator is from the top of the door; but by reversing said apparatus and attaching the cross-bar 59 to the hook 41 and the holder 21 to the hook 61 said pull will be from the bottom of the door. The direction of the pull may be brought to a point one-third of the height of the door from the bottom thereof by disconnecting the pulley-block 43 from the hook 27 on the holder 20 and the cross-bar 59 from the hook 61 and attaching said pulley-block to the hook 61 and said cross-bar 59 to said hook 26. In the latter case it will be seen that the cross-bar 59 will be prevented from becoming accidentally detached from the hook 27 by the central cord-cap 35 upon the cross-bar 26. Having the parts of the apparatus connected as last set forth, the pull may be brought to a height two-thirds of the height of said door from the bottom thereof by again reversing the machine bodily.

The apparatus may be adapted for use as a chest-expander by attaching the handles 52, by means of the rings 53 thereon, to the hooks 27 and 29 on the holders 20 and 21, respectively.

Having thus described my invention, what I claim, and desire by Letters Patent to secure, is—

1. An exercising-machine comprising two holders, an elastic cord connecting said holders together, a sleeve fast to one end of said cord, one of said holders having a slot therein to receive and hold one end of said cord,

and a hook thereon extending over said slot, substantially as described for the purpose specified.

2. An exercising-machine comprising two
5 holders, an elastic cord connecting said holders together, a ferrule fast to said cord, a sleeve formed to encircle said cord, and a flange on said sleeve to engage said ferrule; one of said holders having a slot therein to
10 receive and hold said cord, and a hook thereon extending over said slot, substantially as described for the purpose specified.

3. In an exercising-machine a holder, a slot therein to receive and hold a cord, said slot
15 open from one side of said holder and a hook on said holder extending over said slot, substantially as described for the purpose specified.

4. In an exercising-machine a holder, a slot
20 therein to receive and hold a cord, said slot having a circular portion 32 of substantially the diameter of said cord and an entrance-channel 31 leading from said circular portion to one side of said holder, and a hook on said
25 holder extending over said slot, substantially as described for the purpose specified.

5. An exercising-machine comprising two
holders, a cord connecting said holders together, a sleeve fast to said cord, a hook fast
30 to one of said holders, a pulley-block attached to said hook, and a slot in said holder, located beneath said hook, and holding said cord, whereby said pulley-block is prevented from becoming detached from said hook, substan-
35 tially as described for the purpose specified.

6. An exercising-machine, comprising two holders, a cord connecting said holders together, a sleeve fast to said cord, a hook fast to one of said holders, a pulley-supporting

cross-bar attached to said hook, and a slot in
40 said holder located beneath said hook and holding said cord, whereby said pulley-supporting cross-bar is prevented from becoming detached from said hook.

7. An exercising-machine, comprising two
45 holders, a cord connecting said holders together, a sleeve fast to said cord, a hook fast to one of said holders, a pulley-supporting cross-bar attached to said hook, a pulley, a pulley-block on which said pulley is mounted,
50 an eye attached to said pulley-supporting cross-bar, arranged to swivel thereon, and attached to an eye formed upon said pulley-block; and a slot in said holder located beneath said hook, and holding said cord, where-
55 by said pulley-supporting cross-bar is prevented from becoming detached from said hook.

8. An exercising-machine, comprising two cross-bars, connected together by two or more
60 elastic connections, a pulley-supporting cross-bar, a pair of pulleys mounted thereon, means for attaching said pulley cross-bar to one of said elastic cross-bars, and means for locking said pulley-supporting cross-bar to said elastic
65 connection cross-bar; a single pulley located at a distance from said pair of pulleys and means for supporting said single pulley, and a cord fitted with handles, said cord running over said pair of pulleys to said single
70 pulley.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

MICHAEL B. RYAN.

Witnesses:

CHARLES S. GOODING,
SYDNEY E. TAFT.