

(No Model.)

2 Sheets—Sheet 1.

B. W. ANNIN.
MECHANICAL TOY.

No. 564,961.

Patented Aug. 4, 1896.

Fig. 1.

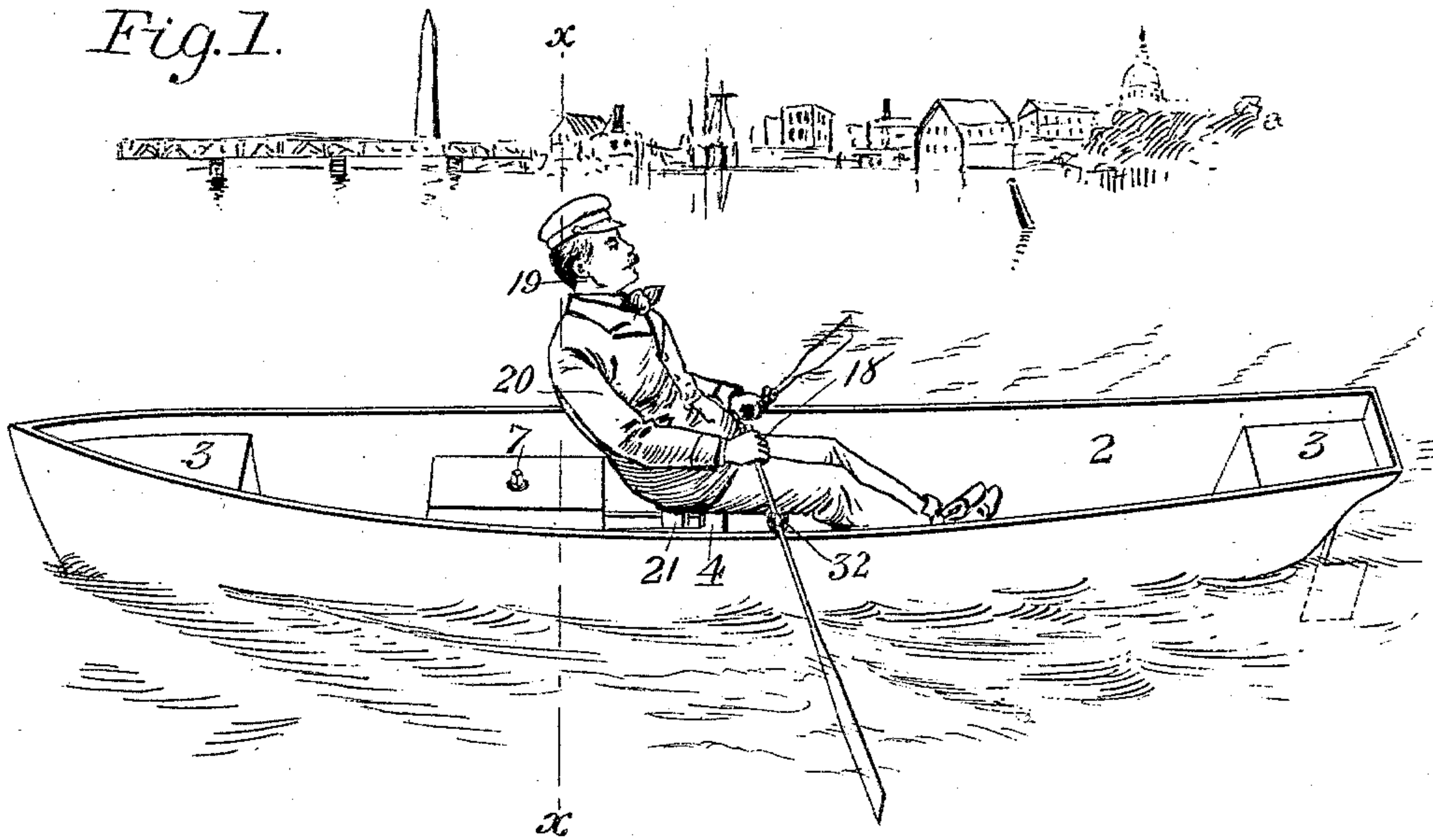
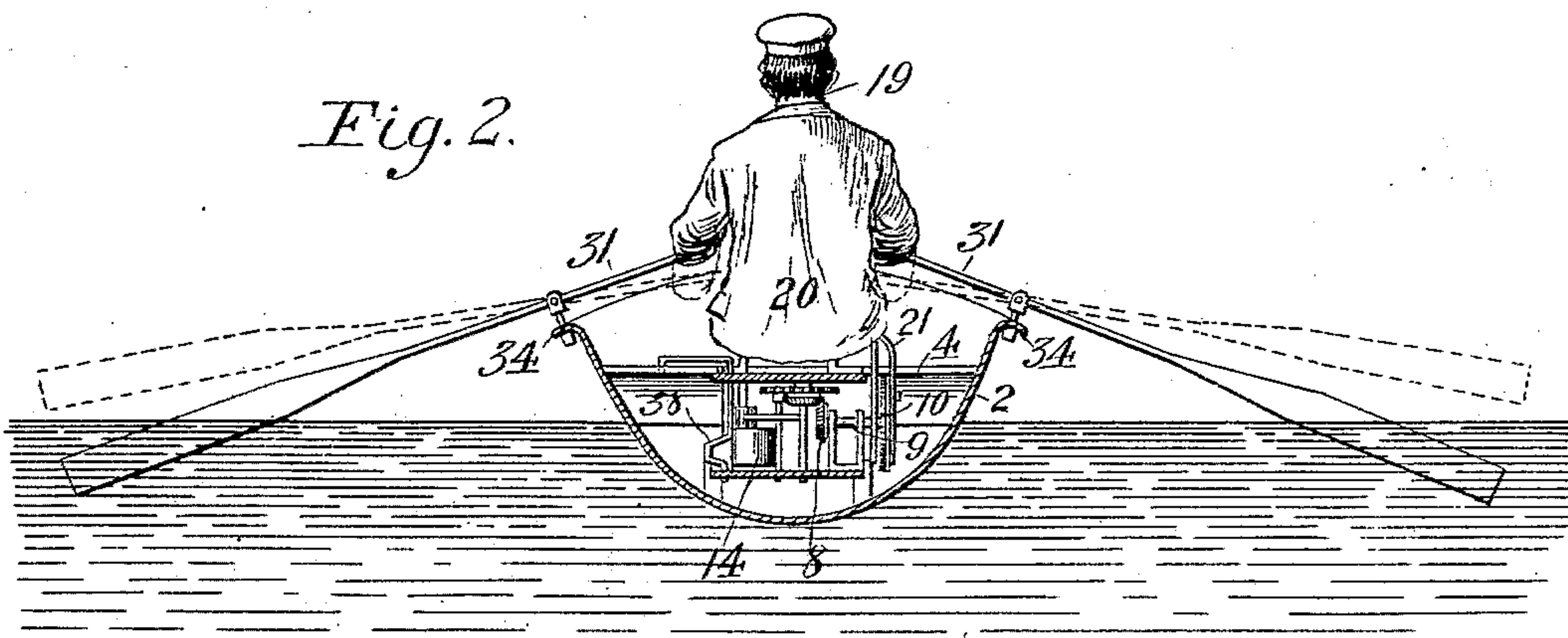


Fig. 2.



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Fig. 3.

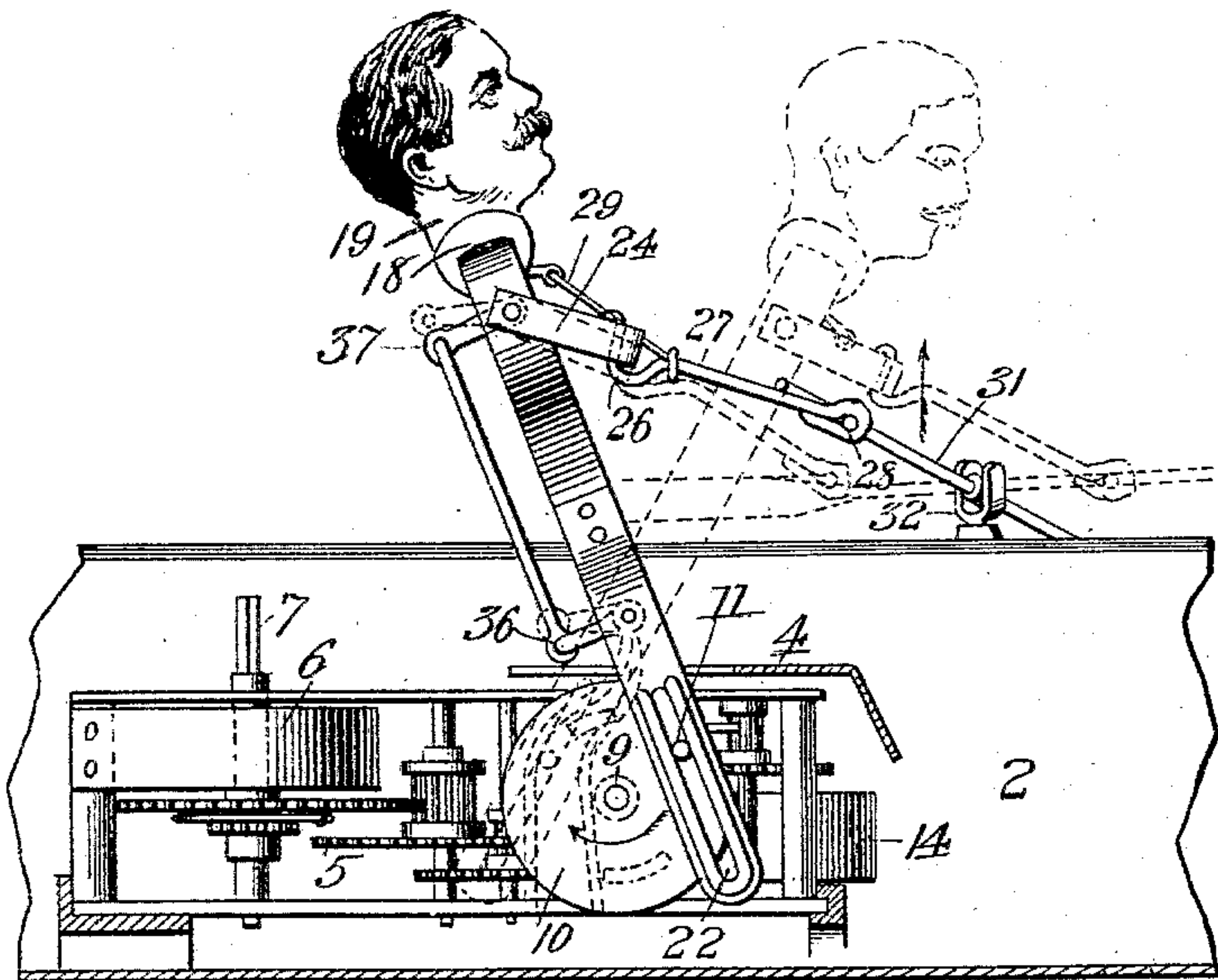


Fig. 5.

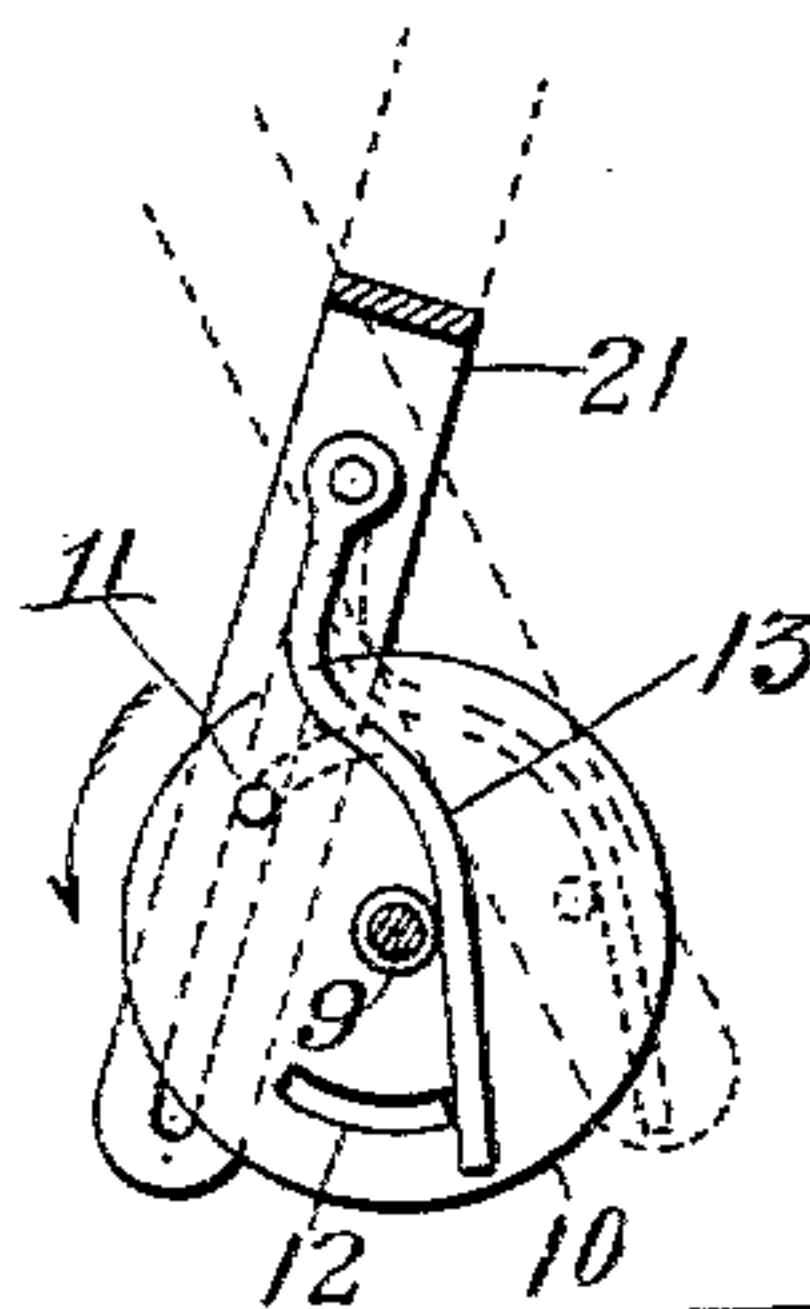


Fig. 6.

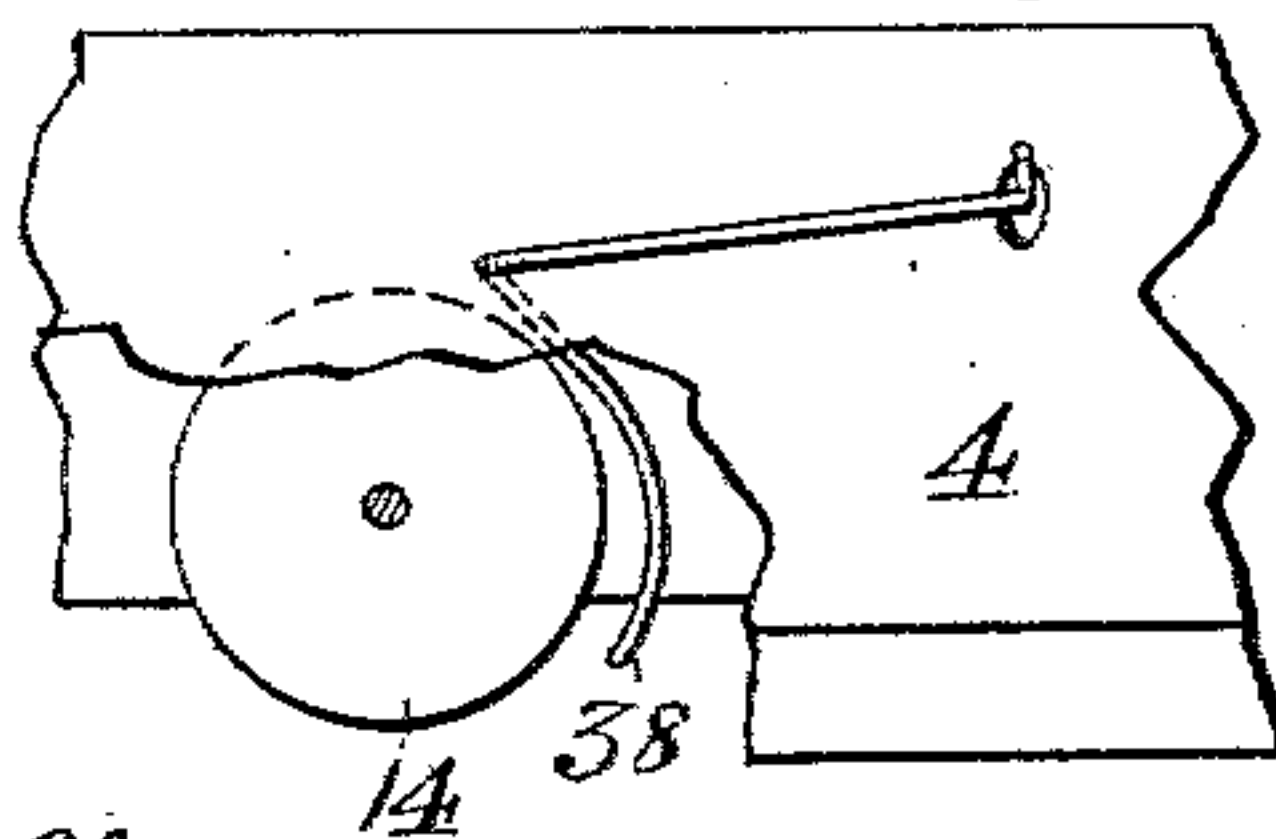
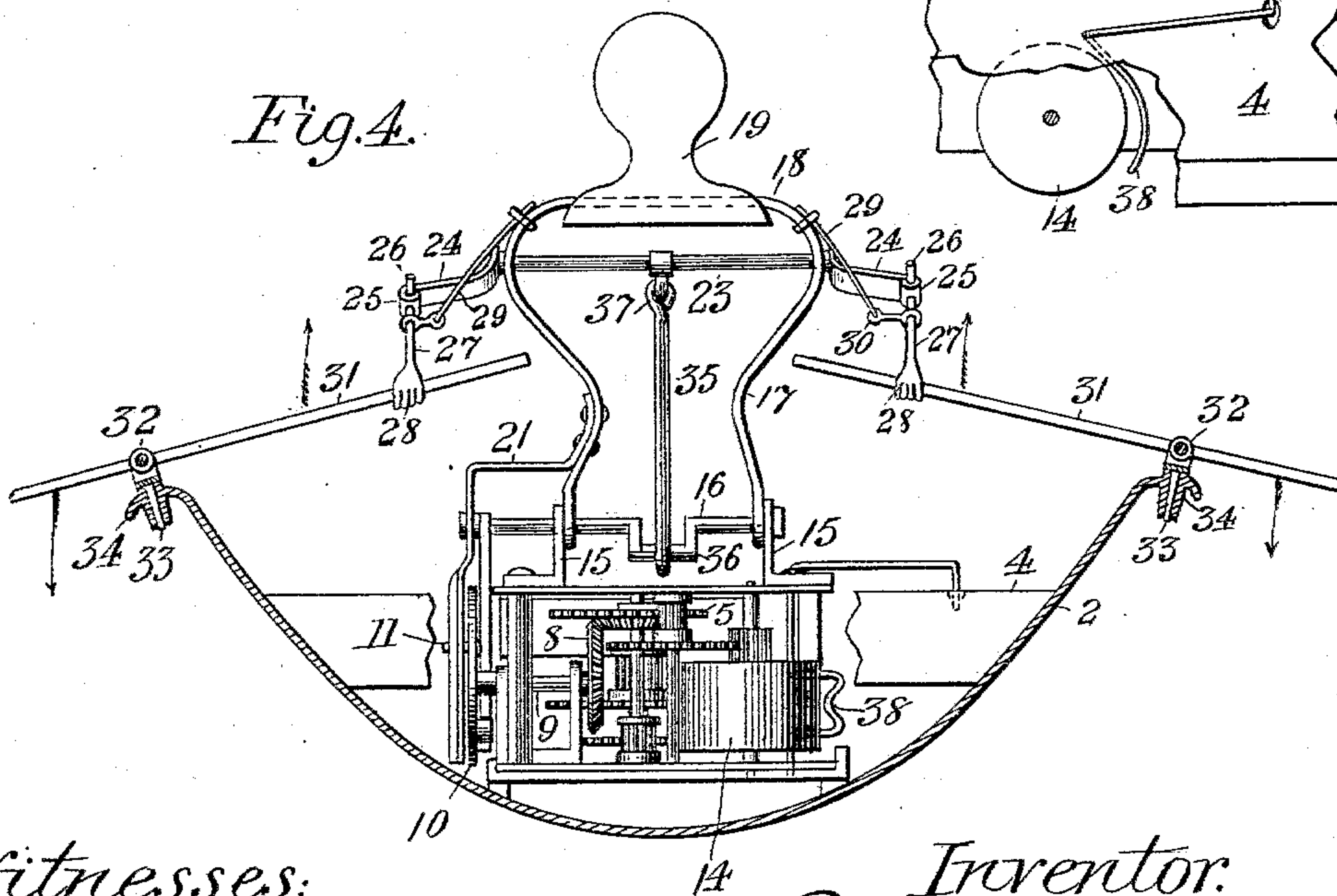


Fig. 4.



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UNITED STATES PATENT OFFICE.

BRYANT W. ANNIN, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR OF ONE-HALF
TO CHARLES A. PHELPS, OF SAME PLACE.

MECHANICAL TOY.

SPECIFICATION forming part of Letters Patent No. 564,961, dated August 4, 1896.

Application filed February 12, 1895. Serial No. 538,141. (No model.)

To all whom it may concern:

Be it known that I, BRYANT W. ANNIN, of the city of Minneapolis, in the county of Hennepin and State of Minnesota, have invented a certain new and Improved Mechanical Toy, of which the following is a specification.

My invention relates to mechanical toys, and particularly to a toy row-boat having oars to be operated by a toy man or figure actuated by a suitable motive power.

The object of my invention is to provide a toy row-boat and an automaton adapted to move the oars thereof through the water and to lift and return the oars after each stroke thereof.

A further object of the invention is to provide means for the easy regulation of the device.

My invention consists generally in a mechanical toy of the construction and combination of parts hereinafter described, and pointed out in the claim.

The invention will be more readily understood by reference to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a perspective view showing an automatic or toy row-boat embodying my invention. Fig. 2 is a vertical sectional view thereof on the line *xx* of Fig. 1. Fig. 3 is an enlarged longitudinal side elevation of the mechanical parts. Fig. 4 is a front view thereof. Fig. 5 is a detail view showing the inner side of the crank-wheel. Fig. 6 is a plan view of the fly-wheel and brake-lever.

As shown in the drawings, 2 represents a small boat of any suitable or preferred construction and made of any suitable material, but preferably of tin, and having air-tight compartments 3 in its opposite ends, the same being adapted to float the boat in case it fills with water.

4 represents a suitable seat, whereon the rower is represented as sitting. Beneath this seat and in front of the same I arrange the clockwork. This consists of a train of wheels 5, adapted to be driven by a strong spring 6, secured upon a winding-stem 7. The train ends in a bevel-gear 8, provided upon a transverse shaft 9, on the outer end of which is a crank-wheel 10, provided with the crank-pin

11. This pin extends from the outer side of the wheel, while upon the inner side of the wheel a small cam 12 is provided, the same to engage the lever-arm 13. A comparatively heavy fly or balance wheel 14 is preferably introduced into the clock-train to overcome the momentum of the automaton at the end of each stroke. On the seat 4 are small brackets 15 to receive a small crank-shaft 16, on the end of which the main lever or body part 17 is pivoted. This main lever is preferably made up of a loop of flat sheet metal, as shown, the same conforming to the shape of the body and shoulders of a person. Upon the straight upper portion 18 of this loop the bust 19 is firmly secured. The remainder of the mechanism is covered by the coat 20, preferably of cloth, as shown in Figs. 1 and 2.

The part 17 is provided with the lever extension 21, secured upon one side thereof, and for stability may be pivoted on the outer end of the crank-shaft 16. The lower end of this extension 21 is provided with a long slot 22, equal in length to the throw of the crank-pin on the wheel 10, which pin is confined within the slot. As the crank-wheel revolves it is obvious that the main lever will be thrown alternately forward and back, thereby accomplishing the main movement of a person rowing. In the upper part of the loop 17 I provide a crank-shaft 23, rotatable therein and having in its ends fixed arms 24, extending outwardly and downwardly. The outer ends of these arms 24 are provided with small loops or eyes 25, which are to receive the upwardly-turned ends 26 of the lower arms 27, which are thus pivoted therein and adapted for a return movement. The arms 27 terminate in loops or small hands 28. The inward and forward throw of the hand as of a person rowing is obtained by the use of the links 29, extending from the shoulder portions of the main loop of the lever to the inwardly-extending parts 30 of the lower arm portions, these links forcing the hands outwardly along the handles of the oars 31 as the figure moves forward or drawing them inwardly as the figure returns. The oars are provided with small lugs 32, the shanks 33 of which are accommodated in sockets 34 in the edges of the boat. Two movements required

are thus attained. The third movement, namely, the vertical drop and lift of the oars, is provided for in the connecting-link 35, extending from the backwardly-extending crank 36 on the shaft 16 to the crank-arm 37, projecting from the shaft 23. The crank-shaft is free from connection with the main lever and is controlled by the arm 13. Hence as the arm 13 is moved in or out by its engagement with the cam-section 12 on the crank-wheel the crank-shaft 16 will be operated to lift or drop the link 35 and thus partially rotate the shaft 23 and either depress or lift the arms and thereby raise or lower the oars. This movement is accommodated to the main movement of the figure, the oars being depressed or dropped to the water-level at the end of the forward movement and lifted at the instant the main lever accomplishes its full return. Thus the movements of a human rower are precisely imitated. The lower part of the body may be represented in any suitable manner. To prevent the action of the clockwork except when desired, I preferably provide the same with a

brake-lever 38, adapted to engage the fly-wheel 14, and which may be released when the boat is placed in the water. A small rudder is preferably provided on the boat to control the direction of its movement.

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

The combination, with the boat and the oars thereof, of a motor provided in said boat, an upright pivoted lever, arms 24, forearms 27, and connecting-links 29 carried by said main lever, and connecting the same with said forearms, said forearms engaging the oars, and crank and rocking shafts provided in connection with said motor, and whereby the described movements are imparted to said lever and to said arms, substantially as described.

In testimony whereof I have hereunto set my hand this 28th day of January, A. D. 1895.

BRYANT W. ANNIN.

In presence of—

C. G. HAWLEY,

FREDERICK S. LYON.