

Nov. 18, 1924.

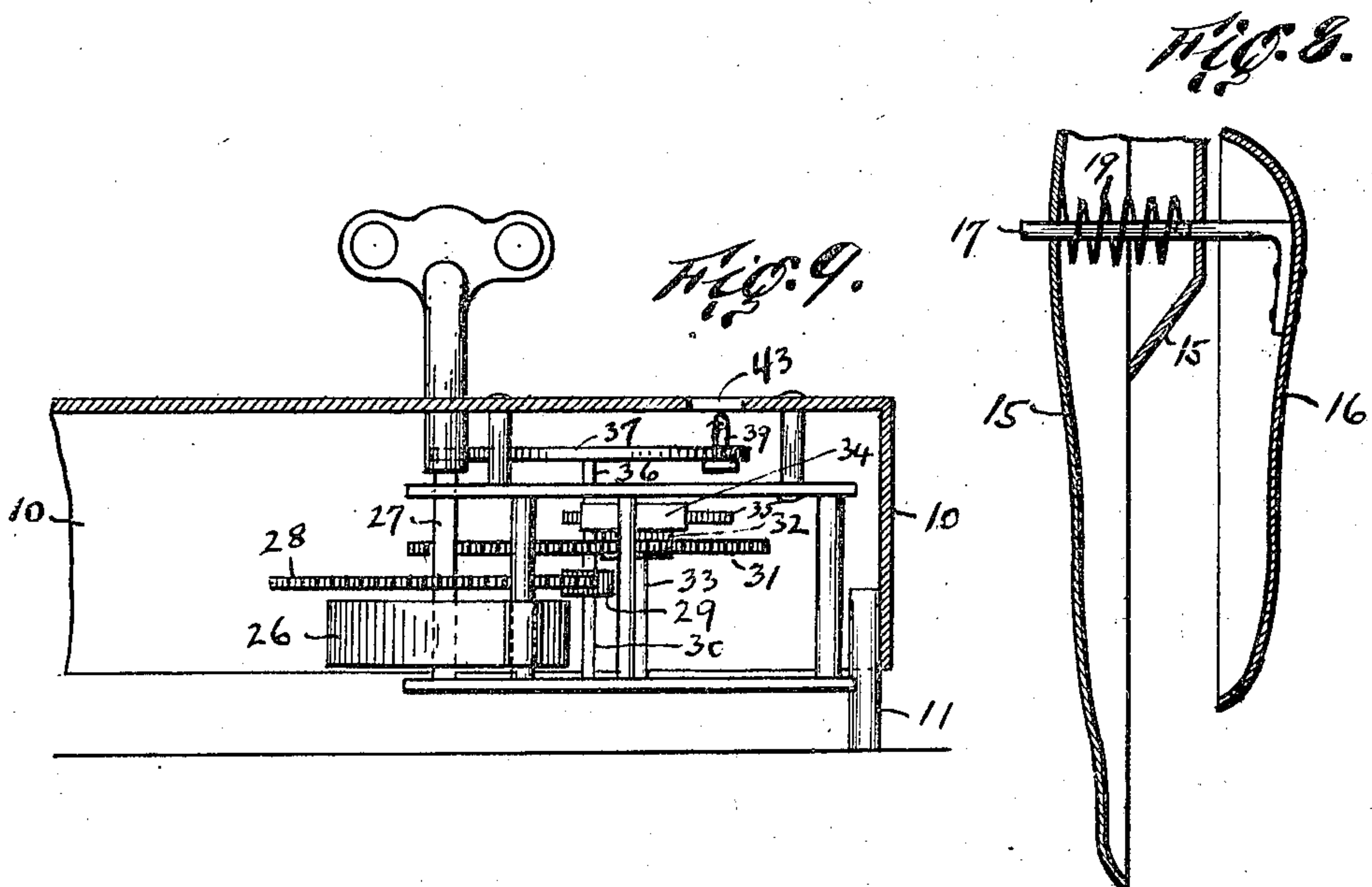
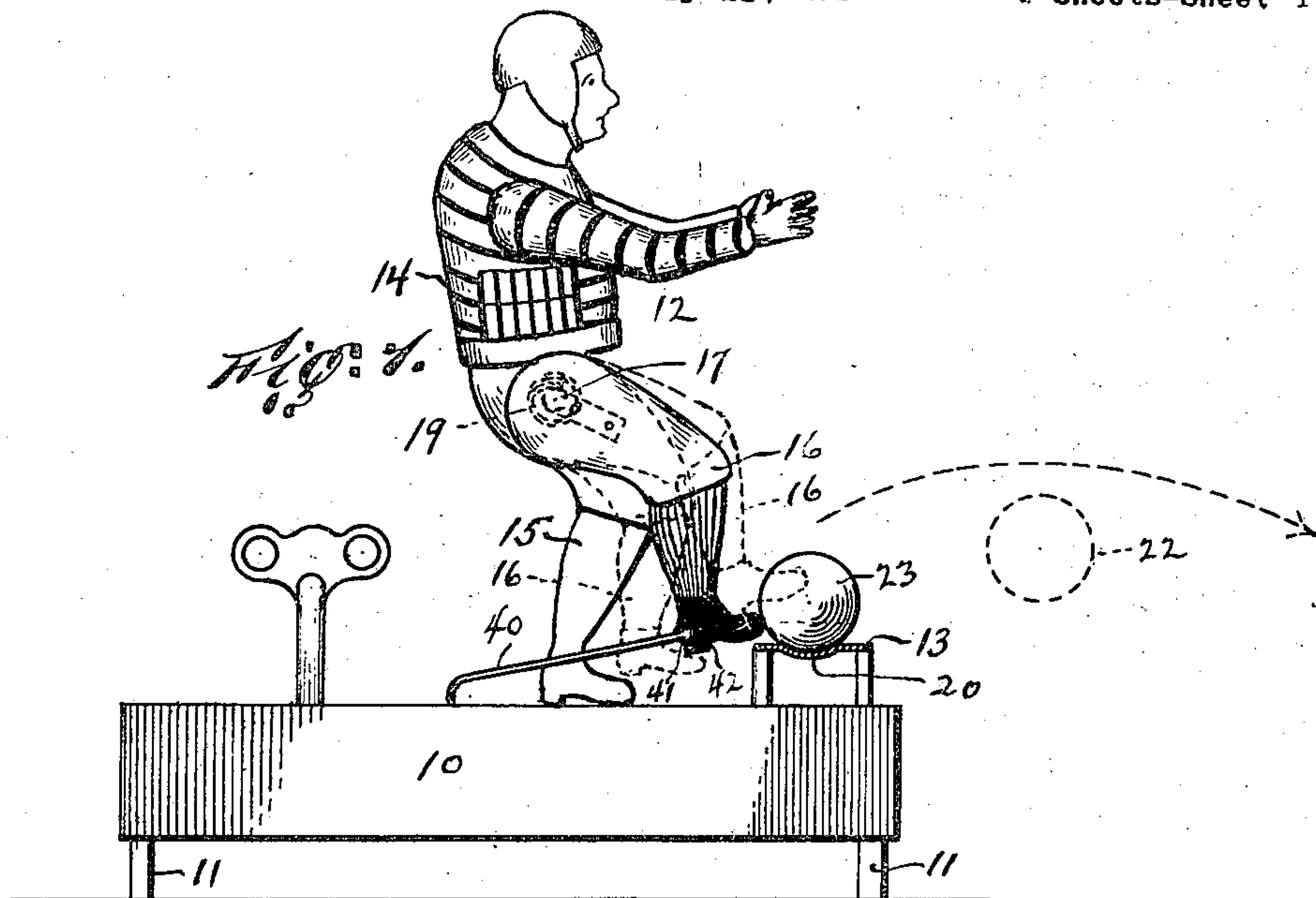
1,516,023

L. MARX

MECHANICAL TOY

Filed July 21, 1922

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

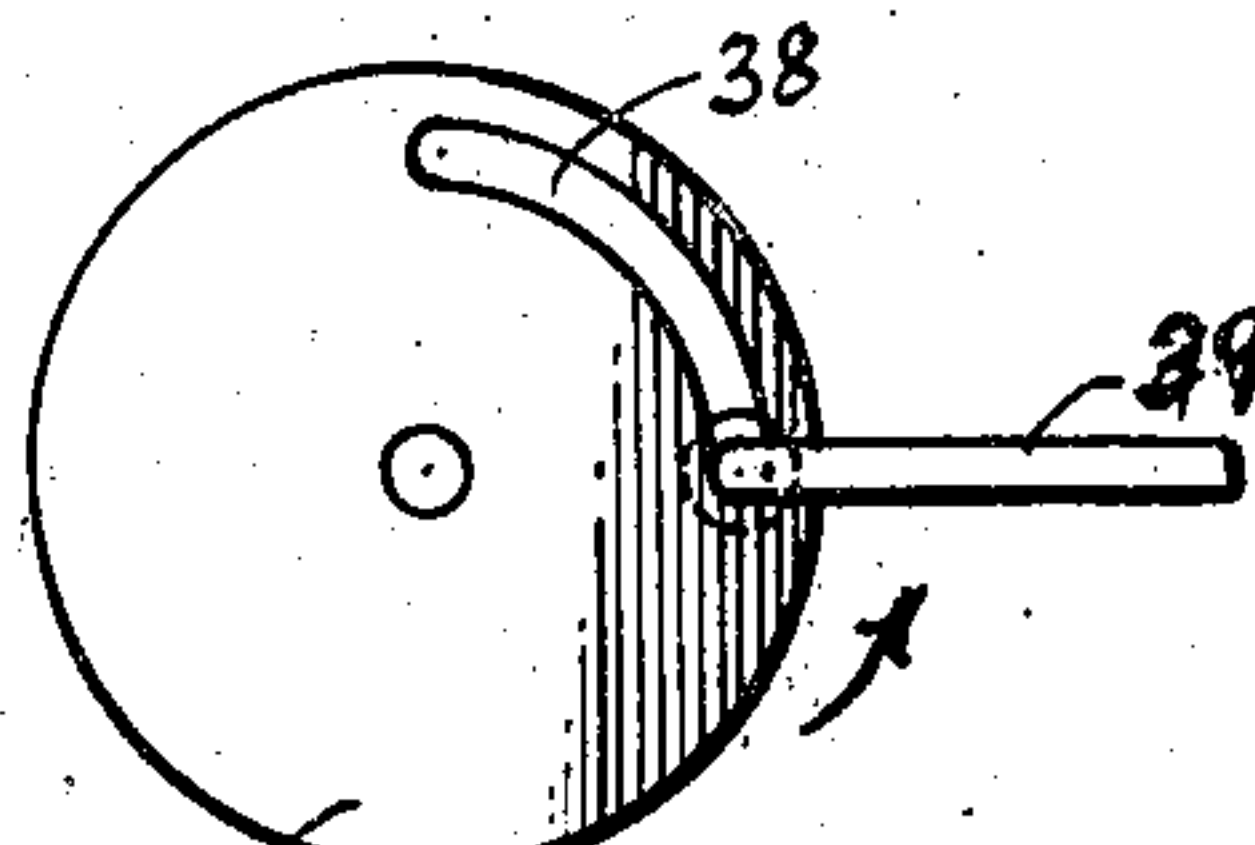
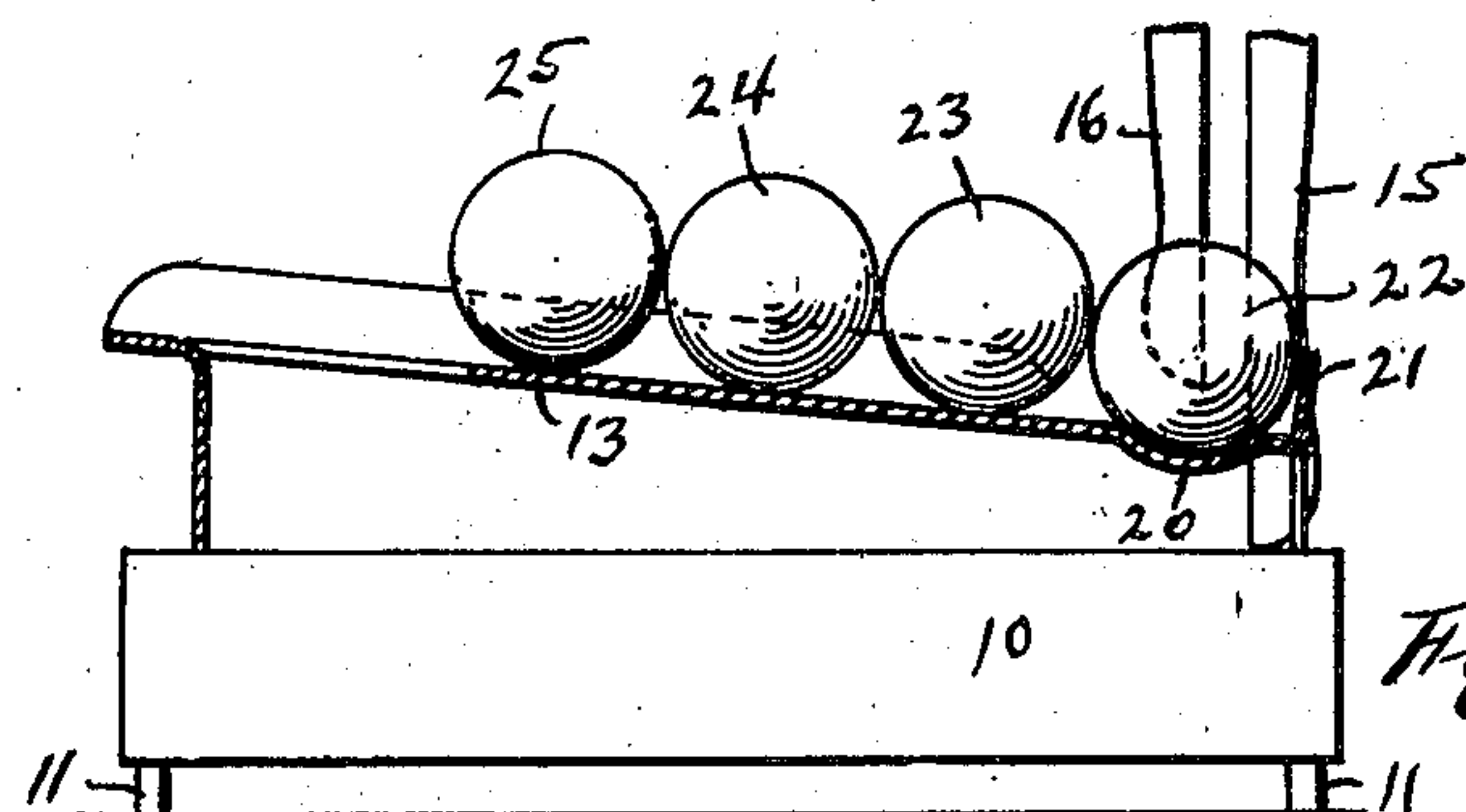


FIG. 3.

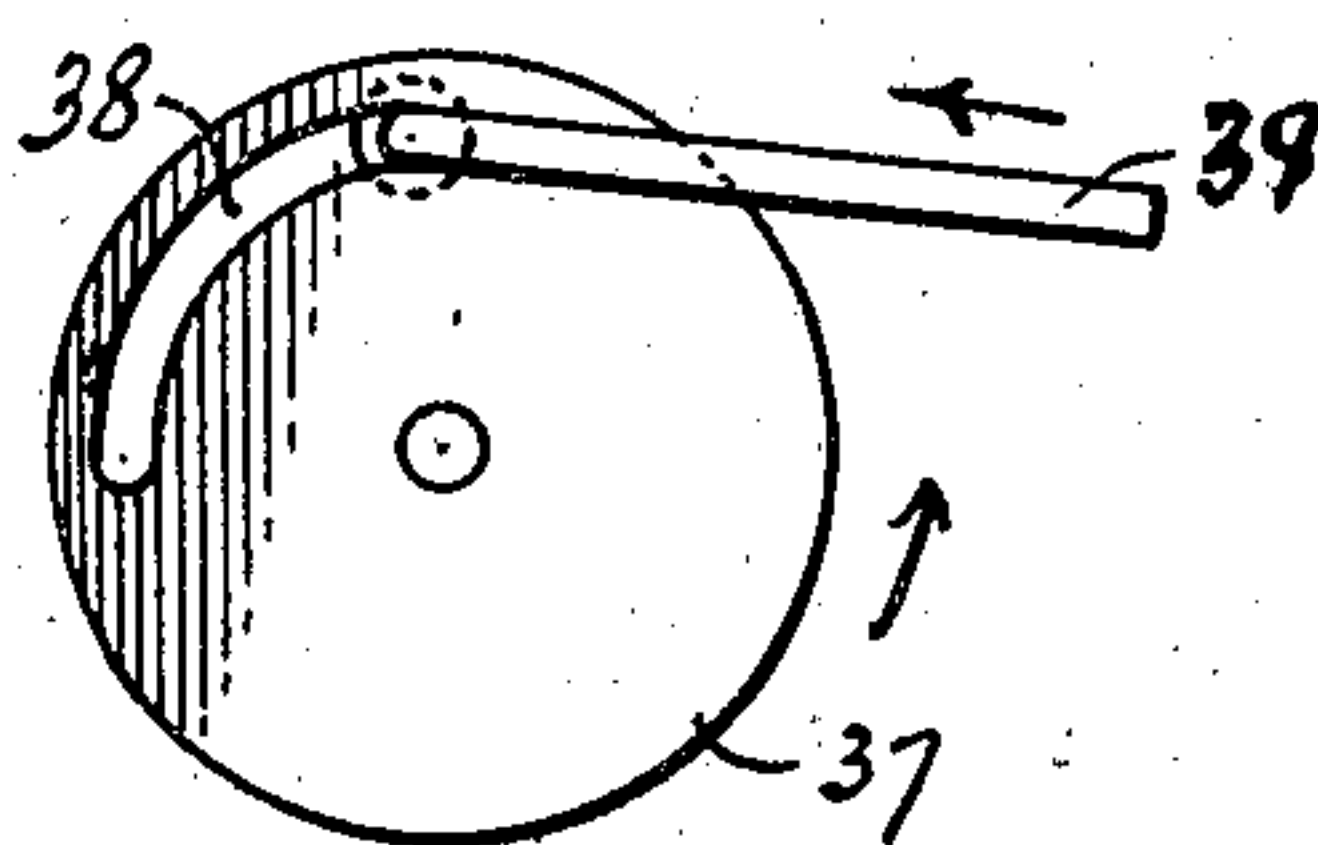


FIG. 5.

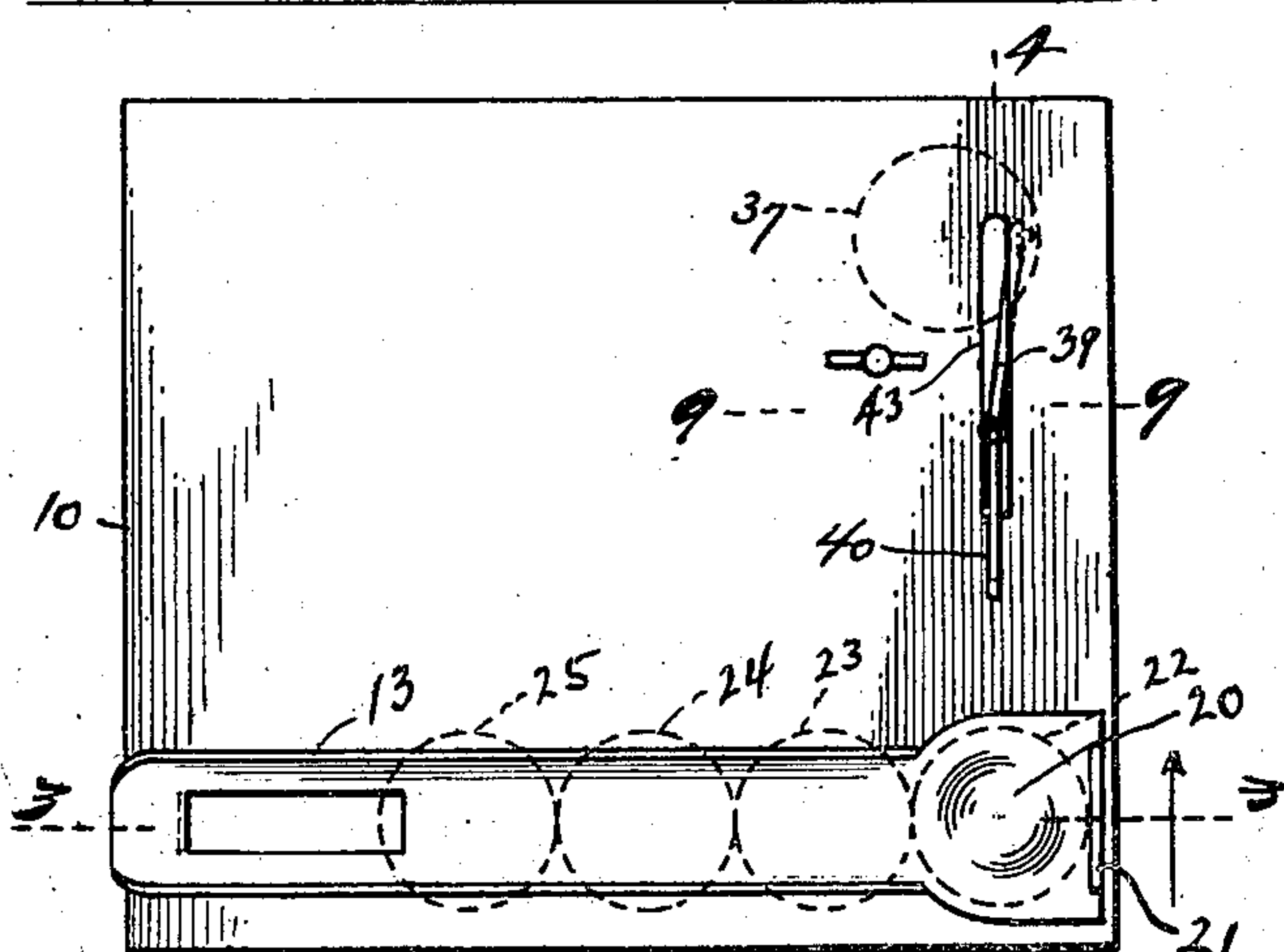


FIG. 2.

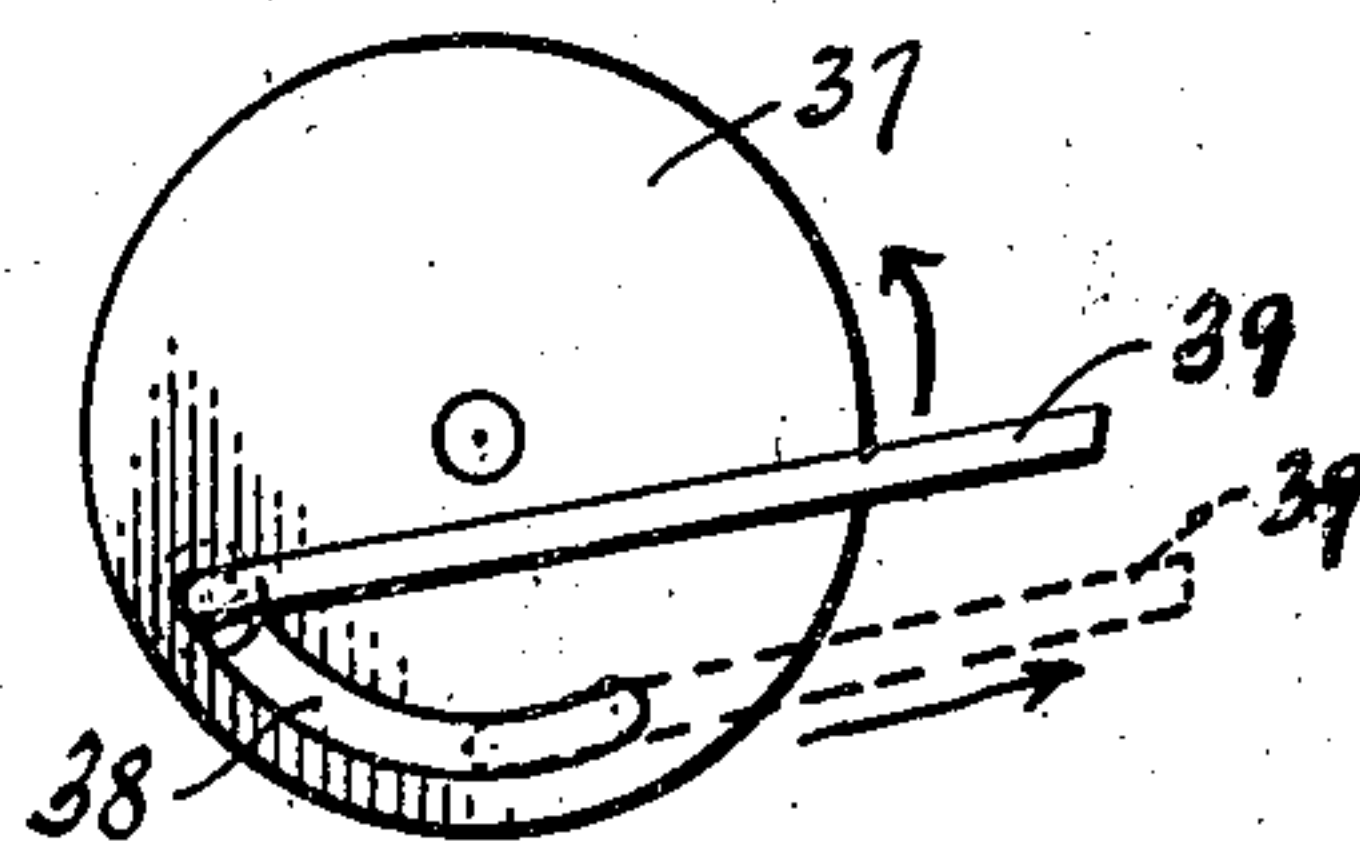


FIG. 6.

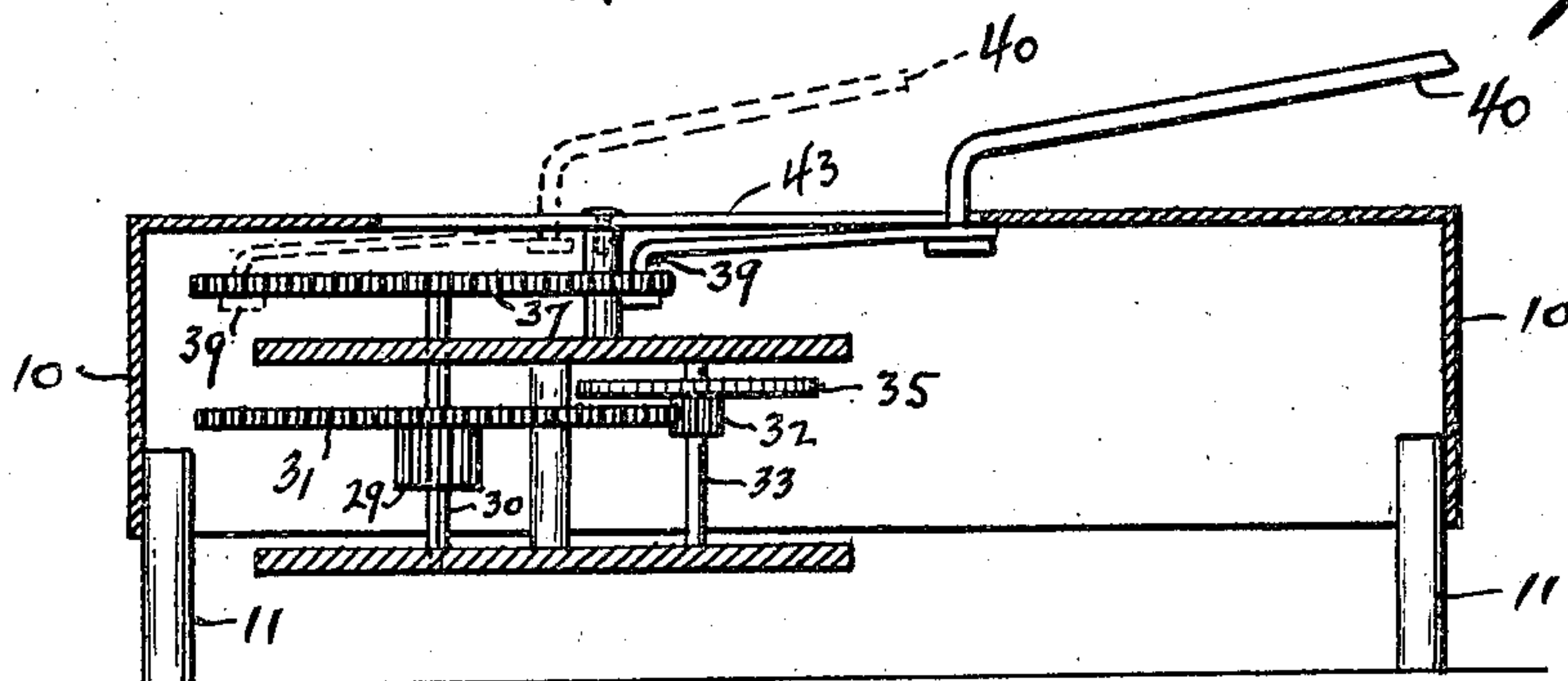


FIG. 4.

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Patented Nov. 18, 1924.

1,516,023

UNITED STATES PATENT OFFICE.

LOUIS MARX, OF BROOKLYN, NEW YORK.

MECHANICAL TOY.

Application filed July 21, 1922. Serial No. 576,437.

To all whom it may concern:

Be it known that I, LOUIS MARX, a citizen of the United States, and a resident of the borough of Brooklyn, in the county of Kings, city and State of New York, have invented certain new and useful Improvements in Mechanical Toys, of which the following is a specification, reference being made to the accompanying drawings, forming a part thereof.

My invention relates to that type of mechanically operated toys in which means are employed for imparting movements to various members in the figures supported on a platform or standard containing the motor mechanism, and the object of my present invention is, among other things, to provide an improved toy of this class in which a spring-impelled member of a toy human figure is intermittently retracted against the tension of the spring by a motor mechanism, and thereafter suddenly released at a certain point in the normal operation of such motor mechanism. In the present embodiment the figure of a football player is positioned upon a platform in which a hinged leg is normally forwardly impelled by a spring coiled at the hip joint in combination with a spring motor to withdraw such leg against the coil spring and thereafter release such leg when withdrawn to the limit, which is quickly swung forwardly by the spring to kick a ball arranged in the arc of movement of the foot at the end of the hinged leg. My improved toy also embodies an inclined run-way mounted on the platform for automatically feeding a plurality of balls to be successively struck from the "kick-off" position in the normal operation of the toy.

A preferred embodiment of my invention is shown in the drawings in which—

Figure 1 is an end elevation showing the toy football player as mounted on the standard, showing the successive movements of the hinged leg in kicking the ball from its position at the lower end of the run-way;

Figure 2 is a top plan view of the standard and run-way;

Figure 3 is a sectional view taken on the line 3—3 of Figure 2;

Figure 4 is an enlarged fragmentary cross-sectional view of the spring motor mechanism looking from the front and taken on the line 4—4 of Figure 2;

Figures 5, 6 and 7 are detail views show-

ing different positions of the operating disk connected with the spring motor;

Figure 8 is an enlarged fragmentary vertical section of the lower portion of the toy kicker showing the mounting of the hinged leg; and

Figure 9 is an enlarged fragmentary cross-sectional view of the spring motor mechanism looking from the side, taken on the line 9—9 of Figure 2.

Similar numerals refer to similar parts throughout the several figures.

My improved toy preferably comprises the rectangular box or platform 10 mounted on supports 11 which box 10 contains the spring motor mechanism and upon which the toy figure 12 and inclined run-way 13 are mounted, as shown in Figure 1. The football player figure 12 comprises the body portion 14 and left leg 15 which is soldered or otherwise secured to the top of the platform box 10 to support the figure 12; the right leg 16 is mounted on the stub-shaft 17 pivoted to the leg 15 as shown in Figure 8. The spring 19 is coiled about the shaft 17, one end being secured to the shaft and the other to the leg 15, such spring 19 normally holding the leg 16 in forward position at the lower end of the run-way 13 as shown in full lines in Figure 1.

Referring to Figures 2 and 3, the run-way 13 is downwardly inclined and is disposed at right angles to the line of movement of the swinging leg 16 with a depression 20 and stop 21 at the lower end to properly hold the first hollow ball 22 in "kick-off" position. A plurality of balls, 23, 24 and 25, are preferably used and are formed of celluloid or other light material to avoid injuring the toy. These hollow balls are placed at the upper end of the runway 13 and they automatically and successively arrange themselves in "kick-off" position at the lower end of the run-way 13.

The motor mechanism may be widely varied in construction; in the present embodiment (Figs. 4 and 9) such mechanism comprises the main spring 26 which rotates the key-operated shaft 27 carrying the gear 28 meshing with the pinion 29 on the shaft 30. The shaft 30 rotates the gear 31 in mesh with the pinion 32 on the shaft 33, controlling the escapement 34 for the gear 35 mounted on the shaft 36, carrying the leg-operating revolving disk 37. Referring to Figures 5, 6 and 7, the disk 37 has cut there-

in the segmented slot 38 which holds the
slidable pin 39 to which is pivoted the link
40 pivotally secured at 41 to the heel por-
tion 42 of the leg 16. As the disk 37 is re-
volved in an anti-clockwise direction by the
motor mechanism from Figure 5 to Figure
6 position, the pin 39 and link 40 are drawn
backwardly through the elongated slot 43
formed in the top of the standard 10, there-
by causing the hinged leg 16 to be slowly
retracted against the tension of the coil
spring 19. As the disk 37 rotates from Fig-
ure 6 to Figure 7 position, the pin 39 and link
40 pass over center and release the spring
19 which causes the pin and link to move
quickly in an opposite direction through
the slot 38 from full line to dotted line po-
sition (Fig. 7) in the direction of the arrow
with the result that the hinged leg 16 is
pivotally swung forward with a kicking
movement under the tension of the spring
19 and strikes the ball 22 which is impelled
forwardly as shown in dotted lines in Fig-
ure 1. The continued rotation of the disk
37 repeats the retraction and subsequent re-
lease of the leg 16 in similar manner, and
during the retraction of the leg 16 the sec-
ond ball 23 rolls downwardly to the lower
end of the runway 13 into "kick-off" po-
sition.

It will be observed that my improved toy
is capable of imparting the desired kicking
movement to the leg to propel the balls a
considerable distance, thereby providing an
attractive toy capable of furnishing to a
child an unlimited amount of amusement.

Various changes may be made in the con-
structions shown without departing from the
scope of the claimed invention which is not

to be confined to the details of construction
herein described and shown in the drawings.

I claim as my invention:

1. In a mechanical toy, a figure having a
swinging hinged member, a spring connect-
ed therewith normally to press same into its
forward position, and a motor mechanism
comprising a revoluble disk having a seg-
mental slot, and means slidable in said slot
and connected with said member to retract
said member against the tension of said
spring and thereafter quickly release same
during the continued rotation of said disk.

2. In a mechanical toy, a figure having a
swinging hinged member, a spring connect-
ed therewith normally to press same into its
forward position, a motor mechanism com-
prising a revoluble disk having a segmental
slot formed therein, and an operative con-
nection between said member and disk slid-
able in said slot to retract said member
against the tension of said spring and there-
after release same when said connection
passes over center of said disk in the con-
tinued movement of the latter.

3. In a mechanical toy, a figure having a
swinging hinged member, a spring connect-
ed therewith normally to press same into its
forward position, a motor mechanism com-
prising a revoluble disk having a segmental
slot formed therein, and a link and pin con-
nection between said member and disk slid-
able in said slot to retract said member
against the tension of said spring and there-
after release same when said link and pin
connection passes over center of said disk
in the continued movement of the latter.

LOUIS MARX.