

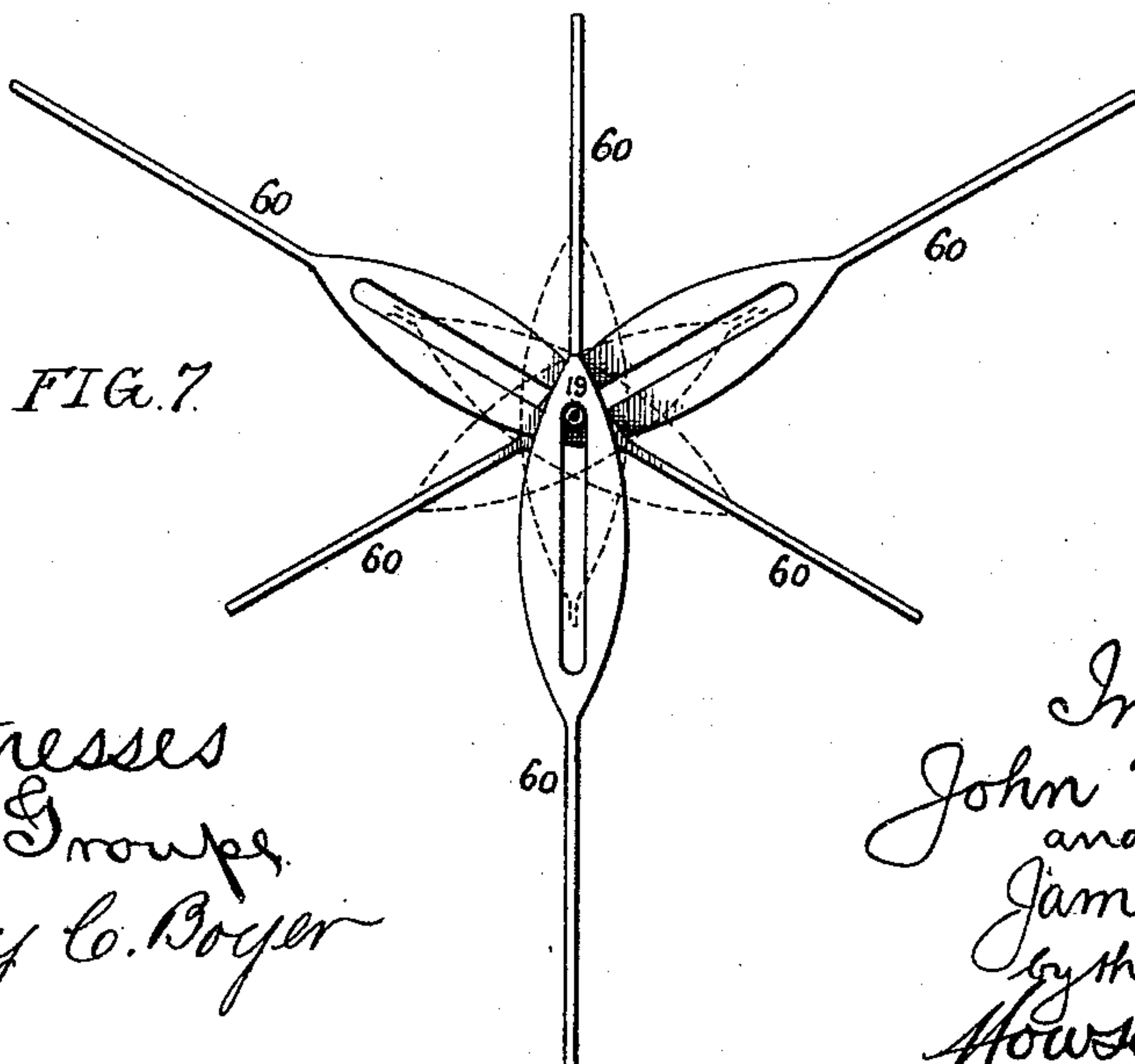
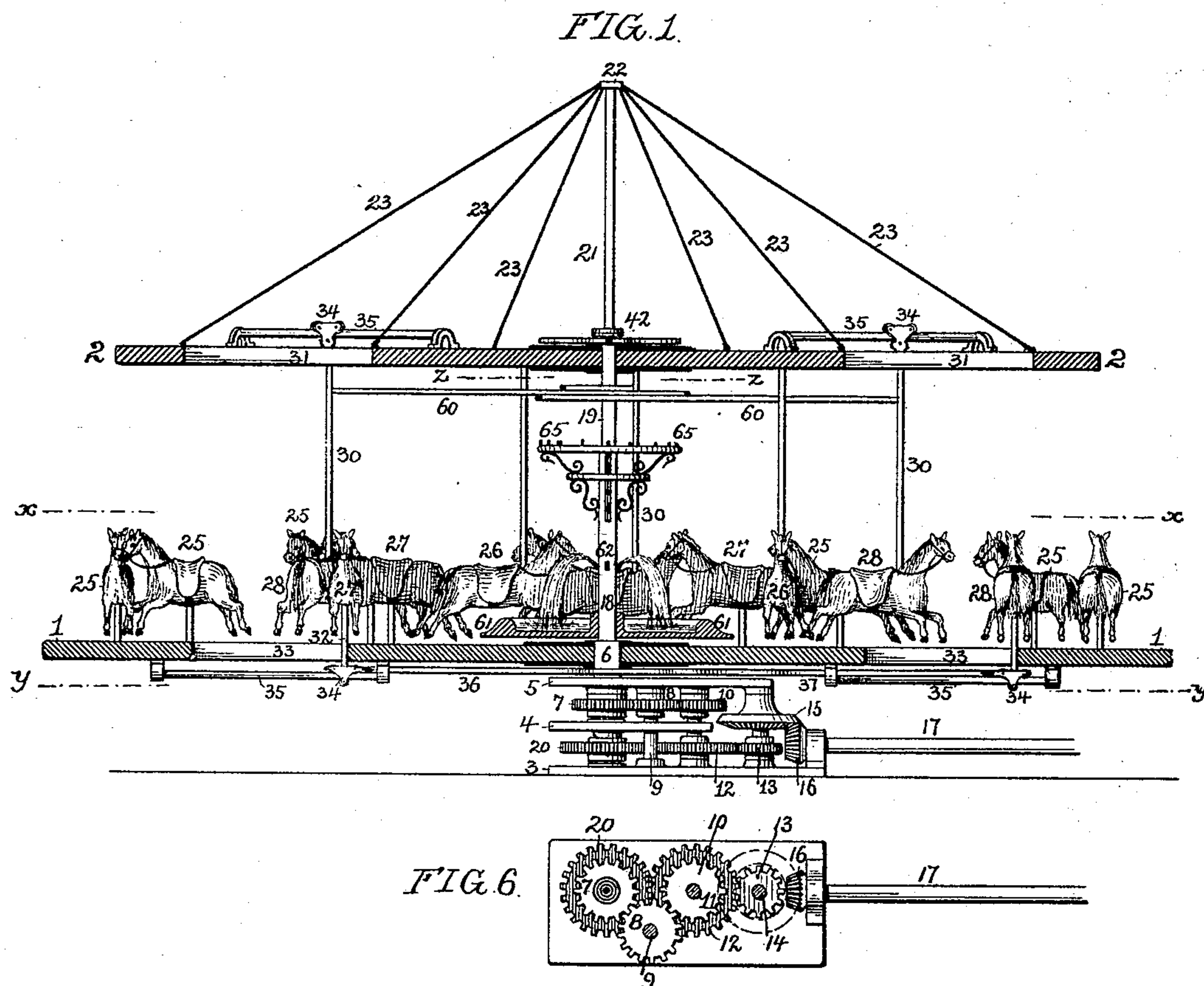
(No Model.)

J. MOTT & J. J. FEARON.
CARROUSEL.

6 Sheets—Sheet 1.

No. 496,889.

Patented May 9, 1893.



Witnesses
A. V. Grouper
Murray C. Boyer

Inventors
John Mott
and
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by their Attorneys
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(No Model.)

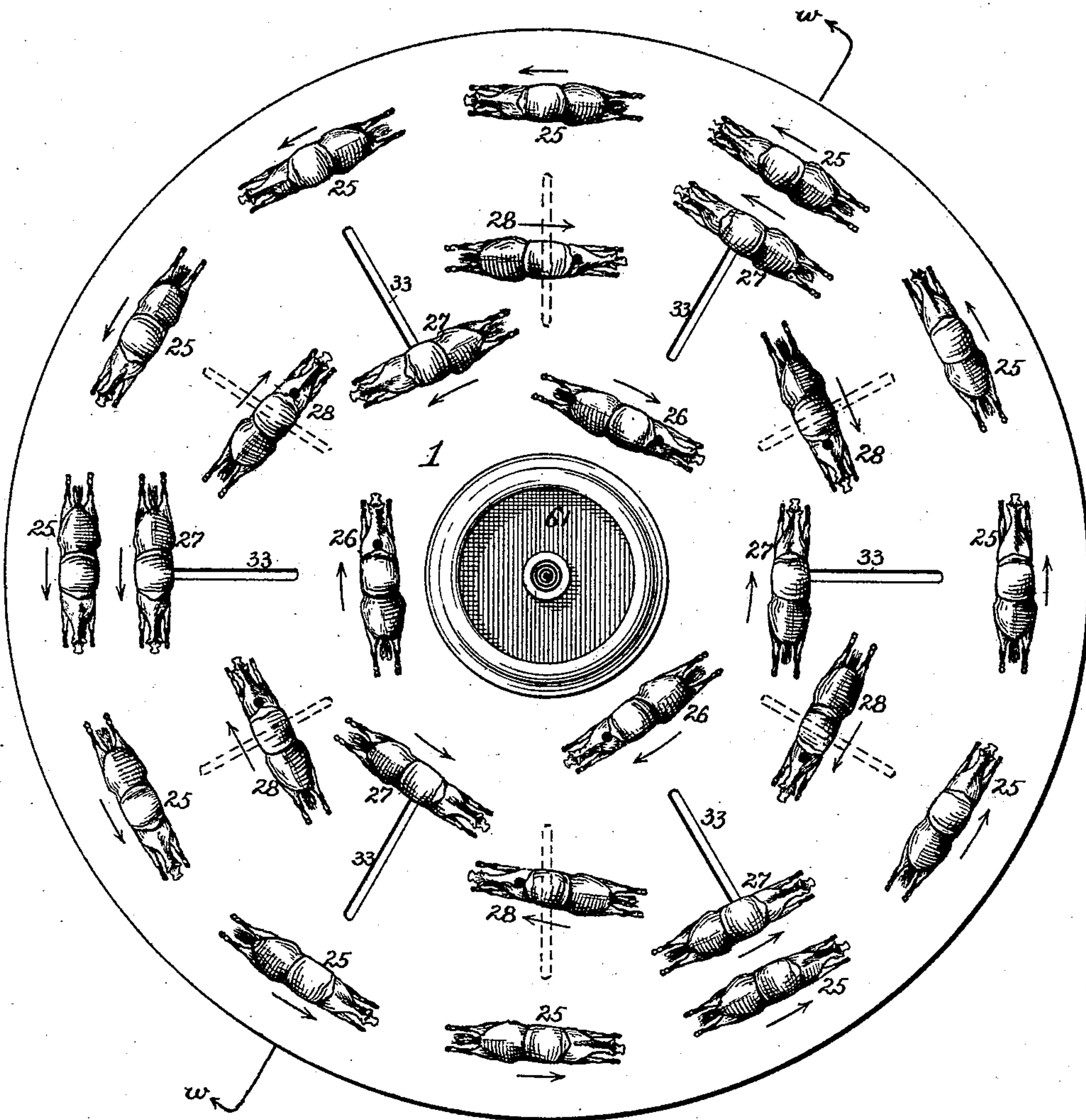
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FIG. 2.



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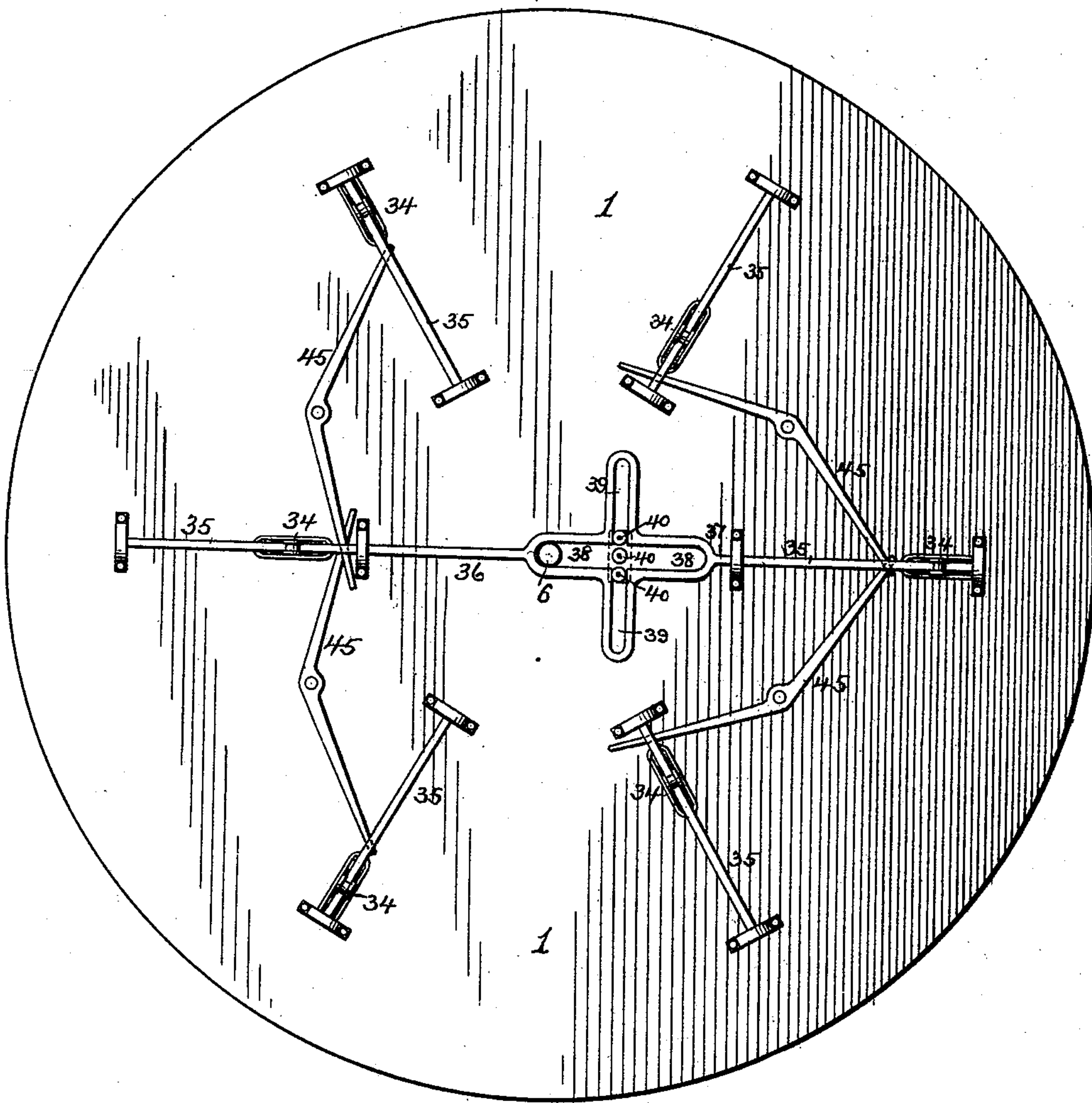
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FIG. 3.

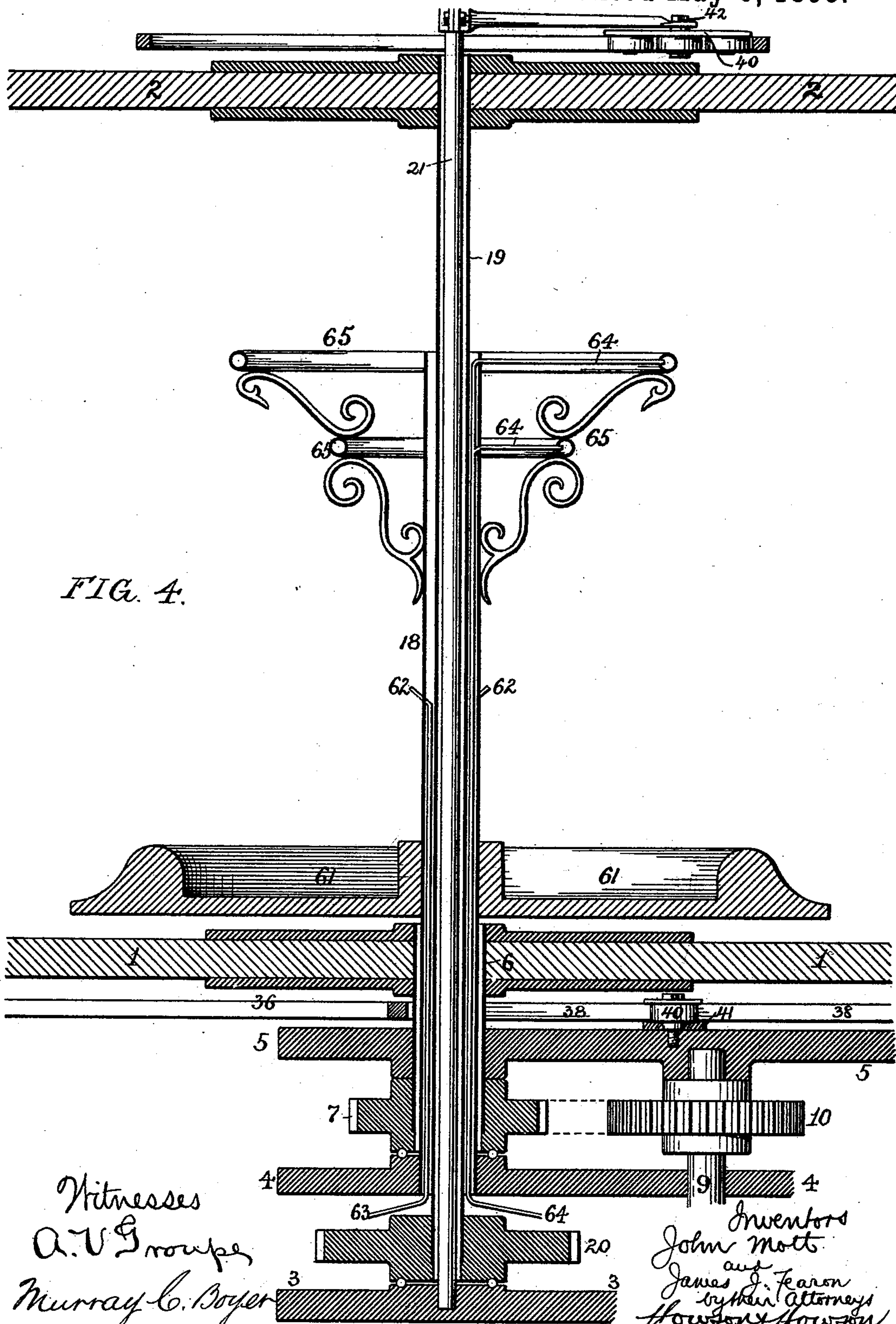


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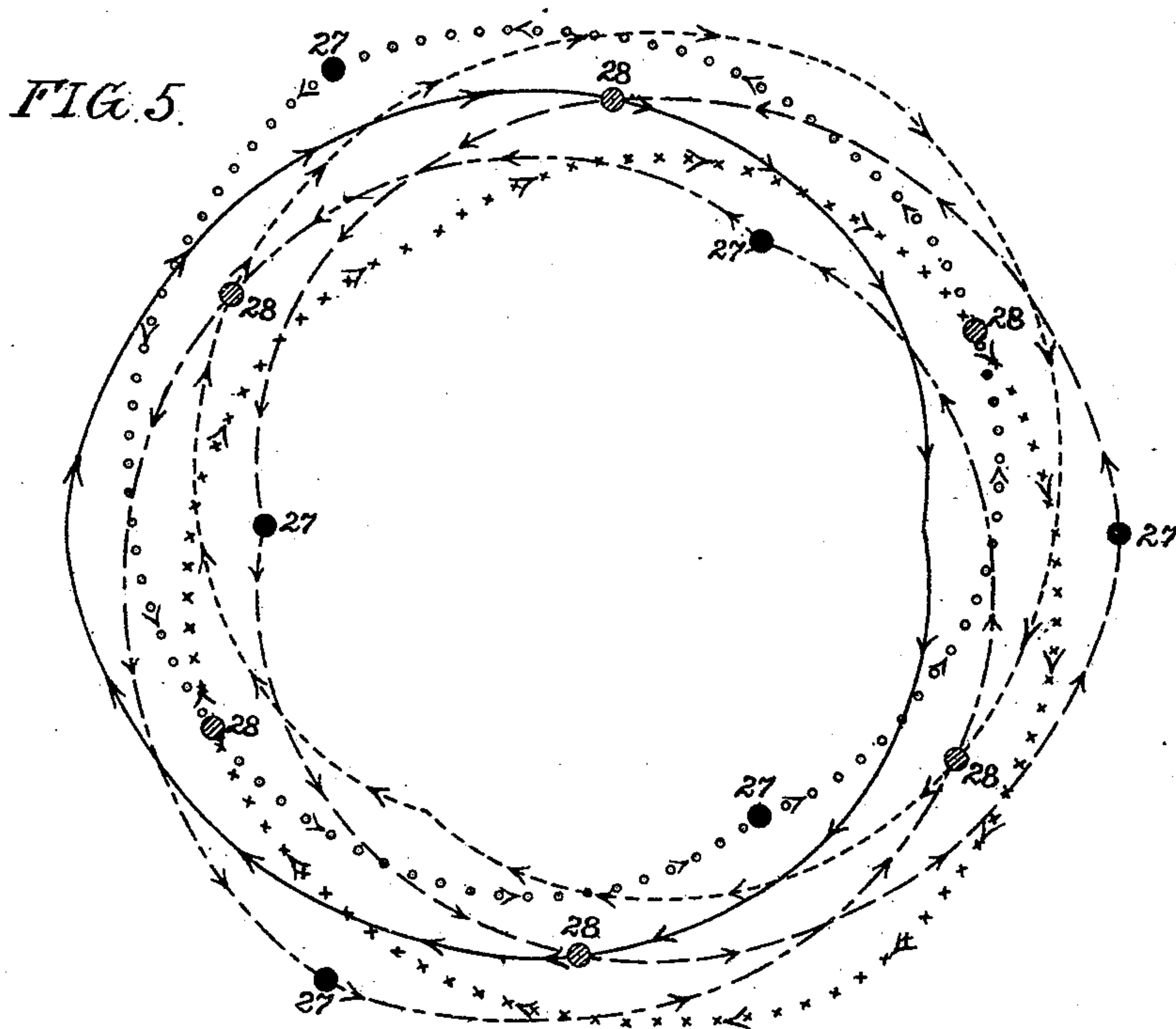
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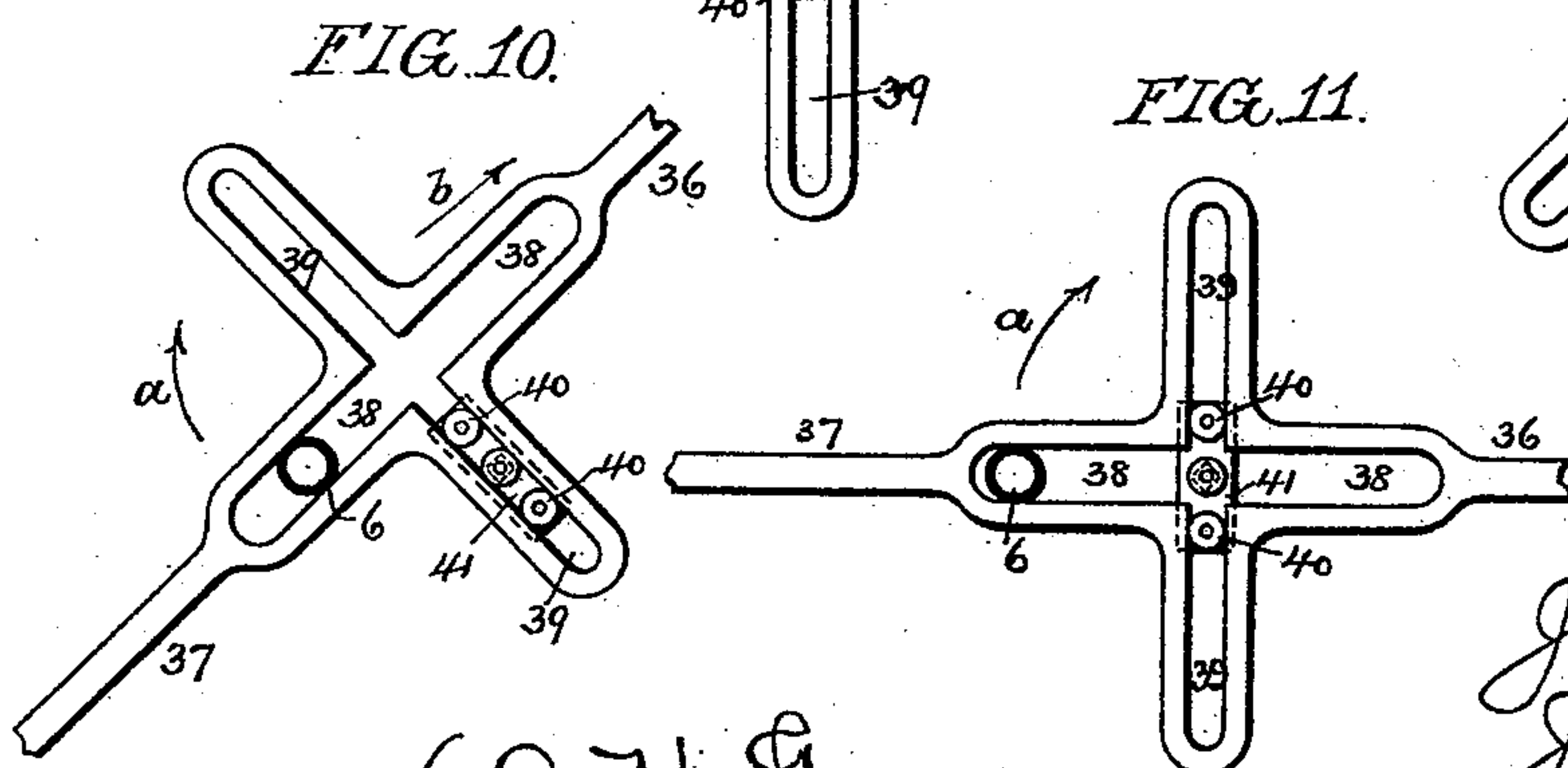
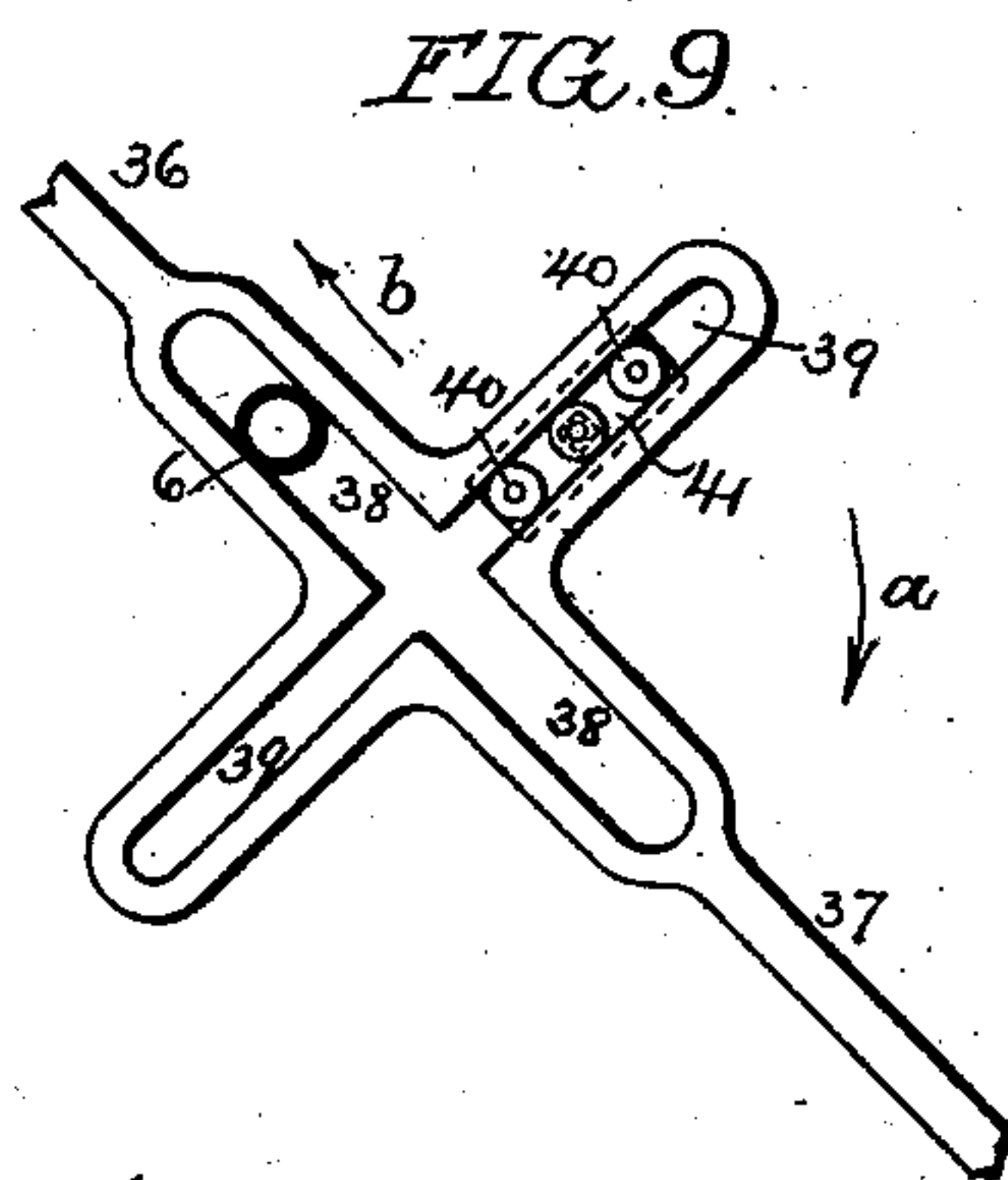
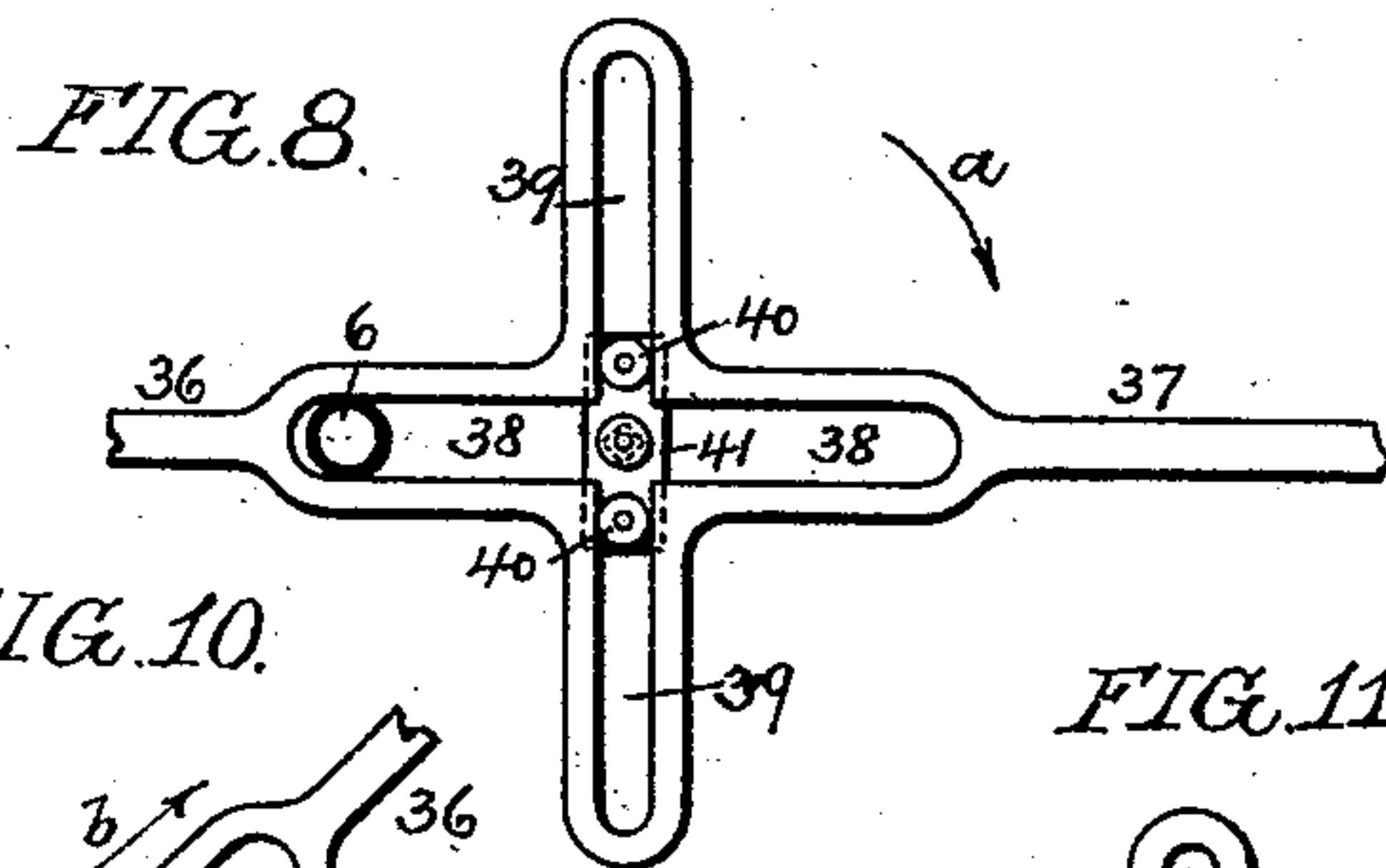
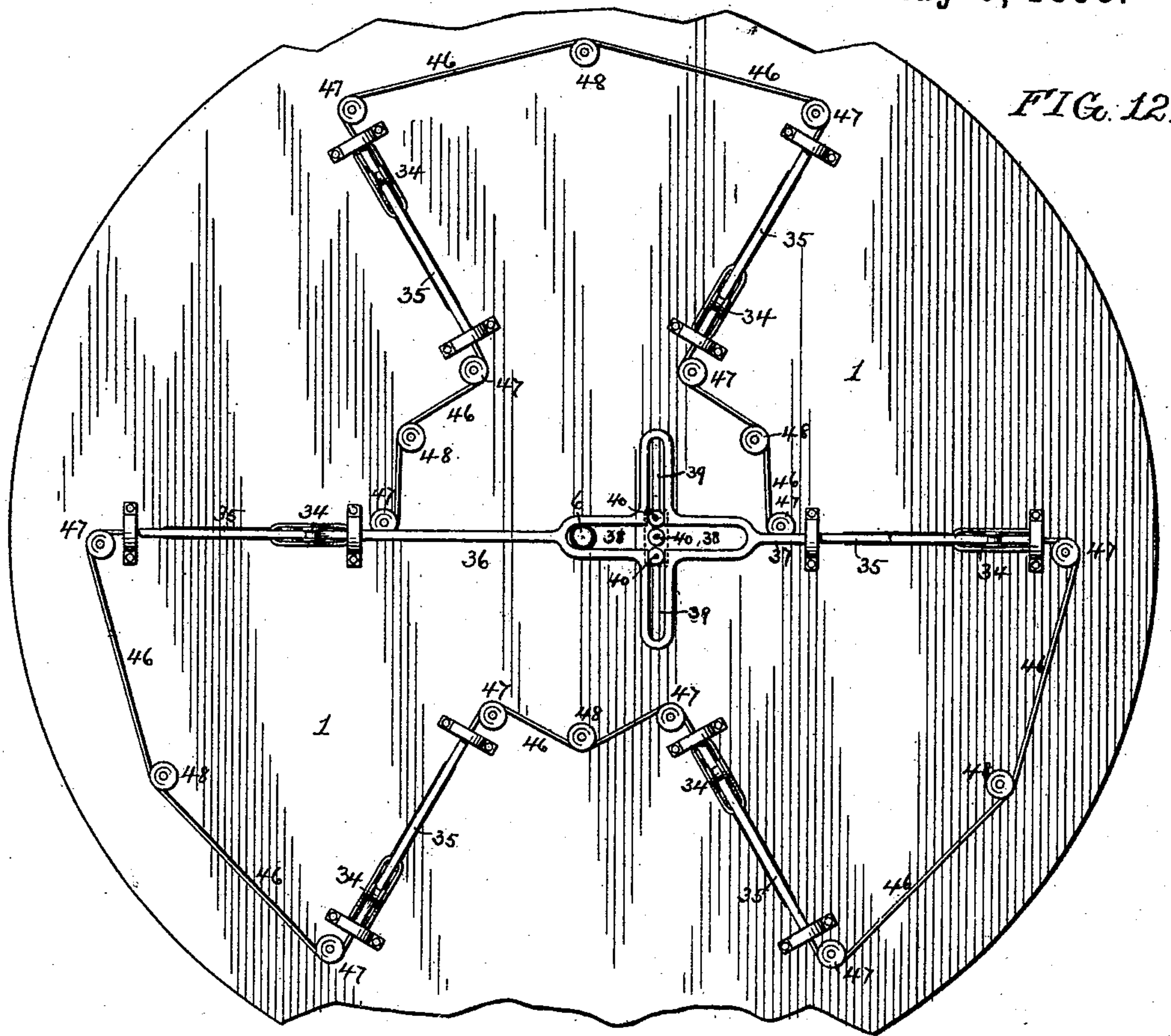
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UNITED STATES PATENT OFFICE.

JOHN MOTT AND JAMES J. FEARON, OF PHILADELPHIA, PENNSYLVANIA.

CARROUSEL.

SPECIFICATION forming part of Letters Patent No. 496,889, dated May 9, 1893.

Application filed October 15, 1891. Serial No. 408,808. (No model.)

To all whom it may concern:

Be it known that we, JOHN MOTT and JAMES J. FEARON, both citizens of the United States, and residents of Philadelphia, Pennsylvania, have invented certain Improvements in Carrouseles, of which the following is a specification.

The object of our invention is to construct a carrousel of a more attractive character than usual, and this object we attain in the manner hereinafter set forth, reference being had to the accompanying drawings, in which:—

Figure 1, is a vertical section of a carrousel constructed in accordance with our invention, the section being taken on the line *w—w*, Fig. 2. Fig. 2, is a sectional plan view on the line *x—x*, Fig. 1. Fig. 3, is an inverted plan view on the line *y—y*, Fig. 1. Fig. 4, is an enlarged vertical section of part of the structure. Fig. 5 is a diagram illustrating one of the features of the invention. Fig. 6, is a sectional plan view illustrating the driving gearing. Fig. 7, is a sectional plan view on the line *z—z*, Fig. 1, but on an enlarged scale. Figs. 8, 9, 10 and 11, are diagrams illustrating the operation of part of the apparatus; and Fig. 12 is a plan view illustrating modifications of parts of the invention.

The carrousel has a lower platform 1 and an upper platform 2, the lower platform being caused to rotate in one direction, and the upper platform in the opposite direction, and said lower platform being slightly elevated so as to provide, beneath the same, space for the fixed supporting structure which carries the driving gearing. This fixed structure comprises a base plate 3, an intermediate plate 4, and a top plate 5, and the lower platform 1 is carried by a tubular shaft or sleeve 6, which passes through the upper plate 5 and has a bearing upon the central plate 4, this bearing being preferably provided with rollers or balls to lessen the friction. The lower end of the tubular shaft 6 is provided with a spur wheel 7 which meshes with a spur wheel 8, turning on a fixed shaft or spindle 9, and said spur wheel 8 meshes in turn with a spur wheel 10 on a vertical shaft 11, which has another spur wheel 12, engaging with a pinion 13 on a vertical shaft 14, the latter having a bevel wheel 15, meshing with a bevel pinion 16 on the

driving shaft 17, which extends laterally to any desired point at which power can be applied to it.

Within the tubular shaft 6 is a stationary tube 18 secured at its lower end to the central plate 4 of the fixed base structure and projecting some distance above the lower platform 1, and within this stationary tube is a tubular shaft 19 which passes through the central plate 4 of the fixed base structure and has a bearing upon the bottom plate 3 of said structure, said tubular shaft 19 carrying, at its upper end, the upper platform 2 and having, at its lower end, a spur wheel 20, which meshes with the spur-wheel 12.

Extending from the base plate 3 up through the tubular shaft 19 is a stationary rod 21 and mounted upon the top of this rod is a cap 22, free to turn on the rod. From the cap 22 to the upper platform 2 extend a series of guys or braces 23, which aid in the support of said upper platform.

Secured to and rotating with the lower platform, adjacent to the outer edge of the same, in the usual manner, are a series of figures 25, and depending from the upper platform 2 at the inner portion of the same are a series of figures 26, so that the outer series of figures travel in one direction in a path concentric with the axis of rotation of the platform 1, while the inner series travel in the opposite direction, in a path likewise concentric with the axis of rotation of the platform 2.

Between the inner and outer series of figures are two intermediate series, one comprising figures 27 and the other comprising figures 28, and these not only have movements of rotation, around the axis, but also radial movements from and toward said axis of rotation, the series of figures 27 being carried by the lower platform and moving around the axis in one direction, while the series of figures 28 is carried by the upper platform and moved around the axis in the opposite direction.

The effect of the combined rotating and radial movement imparted to the figures 27 and 28 is to cause each of the same to travel in an elliptical, or, to be more exact, a heart shaped path eccentric in respect to the axis of rotation of the platforms, these eccentric paths being illustrated in Fig. 5, on reference to

which it will be observed that the figures cross each other in following their respective paths.

By reason of the radial travel of the figures 27 and 28 the speed of each of said figures is constantly varying as it approaches or recedes from the axis of rotation, but owing to the fact that the figures 27 and 28 travel in opposite directions, their actual speed is to the riders apparently doubled, and because of the varying speed, the doubling of the speed and the crossing of the paths of the figures, the ride is rendered much more attractive than a ride upon an ordinary carrousel in which all of the figures rotate in the same direction and in concentric paths.

The means for imparting radial movement to the figures 27 and 28, as they are carried around by their respective platforms, is shown in Figs. 1, 3, 8, 9, 10 and 11, on reference to which it will be observed that each figure 28 is carried by a rod 30 passing through a radial slot 31 in the upper platform, and each of the figures 27 is carried by a rod 32 passing through a radial slot 33 in the lower platform.

The means adapted for effecting the radial movement of the figures of both the upper and lower platforms is the same, hence we will describe particularly only the mechanism used in connection with the lower platform and shown in Fig. 3.

Each rod 32 is secured to a truck 34 which has rollers running upon a rail 35 suitably supported beneath the platform 1, there being, in the present instance, in each series of figures 27 or 28, six figures arranged in pairs, the figures of each pair being diametrically opposite and the six figures of the series being located equi-distantly so that they follow six equi-distant radial paths.

The trucks 34 of two opposite figures of one pair of the series are connected to the opposite bars 36 and 37 of a frame which has at the center a cruciform slot comprising two right angled portions 38 and 39, the portion 38 receiving the central axial shaft or sleeve 6 of the platform 1, and the portion 39 receiving anti-friction rollers 40 carried by a pivoted block 41, which is hung to the upper plate 5 of the fixed base structure. In the case of the upper platform the block 41 is hung to an arm 42 projecting from the central fixed rod 21 and the slot 38 receives said rod.

As the slotted frame is caused to rotate with the platform and as the block 41 always occupies a fixed distance radially from the axis of rotation of said platform, said slotted frame is caused to move radially as it is rotated; for instance, when the frame is at one extreme of its movement, as shown in Fig. 8, the central shaft 6 is at one end of the slot 38, and the block 41 occupies a position at the intersection of the two slots 38 and 39, but as the frame rotates in the direction of the arrow *a*, the engagement of the slot 39

with the rollers of the block 41 causes said frame to move in the direction of the arrow *b*, until, by the time one-eighth of a rotation has been completed, the central shaft 6, occupies a position midway between the end and the center of the slot 38, as shown in Fig. 9, and, by the time three-eighths of a rotation has been made, the shaft 6, occupies a position between the center and the opposite end of the slot 38, as shown in Fig. 10, a half rotation bringing the frame to the position shown in Fig. 11, that is to say, to a position the reverse of that shown in Fig. 8, so that the effect of this half rotation has been to cause the figure at one end of the frame to pass from the outer to the inner end of its slot in the platform, while the figure at the opposite end has passed from the inner to the outer end of its slot. On the next half turn the positions are again reversed, each figure being caused to re-traverse its slot to the point of starting, so that on each rotating movement of the platform there is a complete inward and outward, or outward and inward reciprocation of the figures 27 or 28 carried thereby.

Various means may be adopted for transmitting the movement of those figures which are positively actuated by the reciprocating frame to the remaining figures of the series, the means which we prefer for the purpose being levers 45 hung to the platform 1 and engaging with the arms 36 and 37 of the reciprocating frame and also with arms upon the trucks 34 of the figures upon each side, as shown in Fig. 3. Another effective means for the purpose, however, is that represented in Fig. 12, in which the various trucks 34 are connected by a cord 46 passing over pulleys 47 situated on the platform 1 at the inner and outer ends of the slots therein and over intermediate pulleys 48 on the said platform, so that the motion imparted to the positively actuated trucks by the reciprocating frame is transmitted through the cord to the trucks on each side.

In order to prevent swaying of the depending rods 30 which carry the series of figures 27, we provide each of said rods with a radial brace 60 which is enlarged and slotted at the inner end so as to embrace the shaft 19, which carries the upper platform, the enlarged inner ends of said brace rods being preferably curved and pointed as shown in Fig. 7, so that, as they are advanced and retracted, a star-shaped figure will be formed thereby, as shown by dotted lines.

Carried by the fixed shaft 18, which projects above the lower platform 1 of the structure, is the basin 61 of a fountain, and the jets 62 of this fountain are supplied by a pipe 63 passing up between the shaft 18 and the shaft 19, which carries the upper platform, as shown in Fig. 4, and through the space between these two shafts also passes a pipe 64 for conveying gas to a chandelier 65 at the upper end of said shaft 18, so that the foun-

tain and chandelier are stationary, while the two platforms are rotated, one by a hollow shaft surrounding the fixed shaft 18, and the other by a shaft inside of the same.

5 The central fountain lends an additional element of attractiveness to the carrousel, ordinary structures of this class having no provision for any such arrangement.

It will be observed that the pair of figures 10 connected to the arms 36 and 37 of the actuating frame move together and thus constitute a unit in the series of figures which have a radial movement upon the rotating platform, and the four other radially moving figures of 15 each platform are also arranged in pairs, each pair moving together, and consequently constituting a unit in the series and each of these units traverses in a path which is eccentric in respect to the axis of rotation of the plat- 20 form and is different from the path traveled by each of the other units of the series.

It should be understood that in the term figures, as used in this specification, is included any of the ordinary conveyances used 25 upon the present forms of carrousels.

We are aware that it has been proposed to mount figures upon radial arms projecting from a rotating head, and acted upon by cams which raise and lower the outer ends 30 of the arms as they are rotated, so as to cause the figures to run in and out upon the arms by gravity, but our invention, even when used in connection with a single rotating platform, is distinct from this in that the radial movement of the figures is positive and not hap- 35 hazard, as it must be when the movement of said figures is dependent wholly upon gravity.

Having thus described our invention, we claim and desire to secure by Letters Patent—

40 1. A carrousel having a rotating platform, a figure radially guided thereon, and means for imparting radial movement to said figure, said means comprising a frame connected to the figure and rotating with the platform, said 45 frame having a cruciform slot, one portion of which receives the axial shaft and the other portion a guide located at a fixed distance from said shaft, substantially as specified.

2. A carrousel having a rotating platform, 50 a series of figures rotating therewith and guided so as to move radially from and toward the axis of rotation of the platform, a frame directly connected to one or more of

the figures of the series and rotating with the platform, said frame having a cruciform slot, 55 one portion of which receives the axial shaft and the other portion a guide located at a fixed distance from said shaft, and means for transmitting the movement of the directly 60 actuated figure or figures to the other figures of the series, substantially as specified.

3. A carrousel having a rotating platform, a series of depending figures rotating with said platform and having radial movement from 65 and toward the axis of rotation of the same, and slotted braces connected to the supports for said figures, and embracing the axial shaft of the platform, substantially as specified.

4. A carrousel having a rotating platform 70 and a series of figures rotating with said platform and having a radial movement from and toward the axis of rotation of the same, means for directly moving one or more of said fig- 75 ures in a radial direction and levers hung to the platform and connecting said directly actuated figure to other figures of the series so as to cause simultaneous movement of the series of figures, substantially as specified.

5. A carrousel having a rotating platform 80 with figure radially guided thereon and means for causing radial movement of said figure, said means comprising a frame connected to the figure and rotating with the platform, and having a cruciform slot, one portion of which 85 embraces the axial shaft of the platform, and a pivoted block carrying anti-friction rollers adapted to the other portion of the slot, substantially as specified.

6. A carrousel having upper and lower plat- 90 forms carried by rotating shafts, one within the other, and a fixed shaft or casing interposed between the two rotating shafts and projecting above the outer rotating shaft, said fixed shaft being provided with pipes for 95 conveying fluid to objects mounted upon said fixed shaft, substantially as specified.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

JOHN MOTT.
JAMES J. FEARON.

Witnesses:

EUGENE ELTERICH,
HARRY SMITH.