

No. 880,769.

PATENTED MAR. 3, 1908.

F. K. WILSON.
AMUSEMENT DEVICE.
APPLICATION FILED MAR. 26, 1907.

6 SHEETS—SHEET 1.

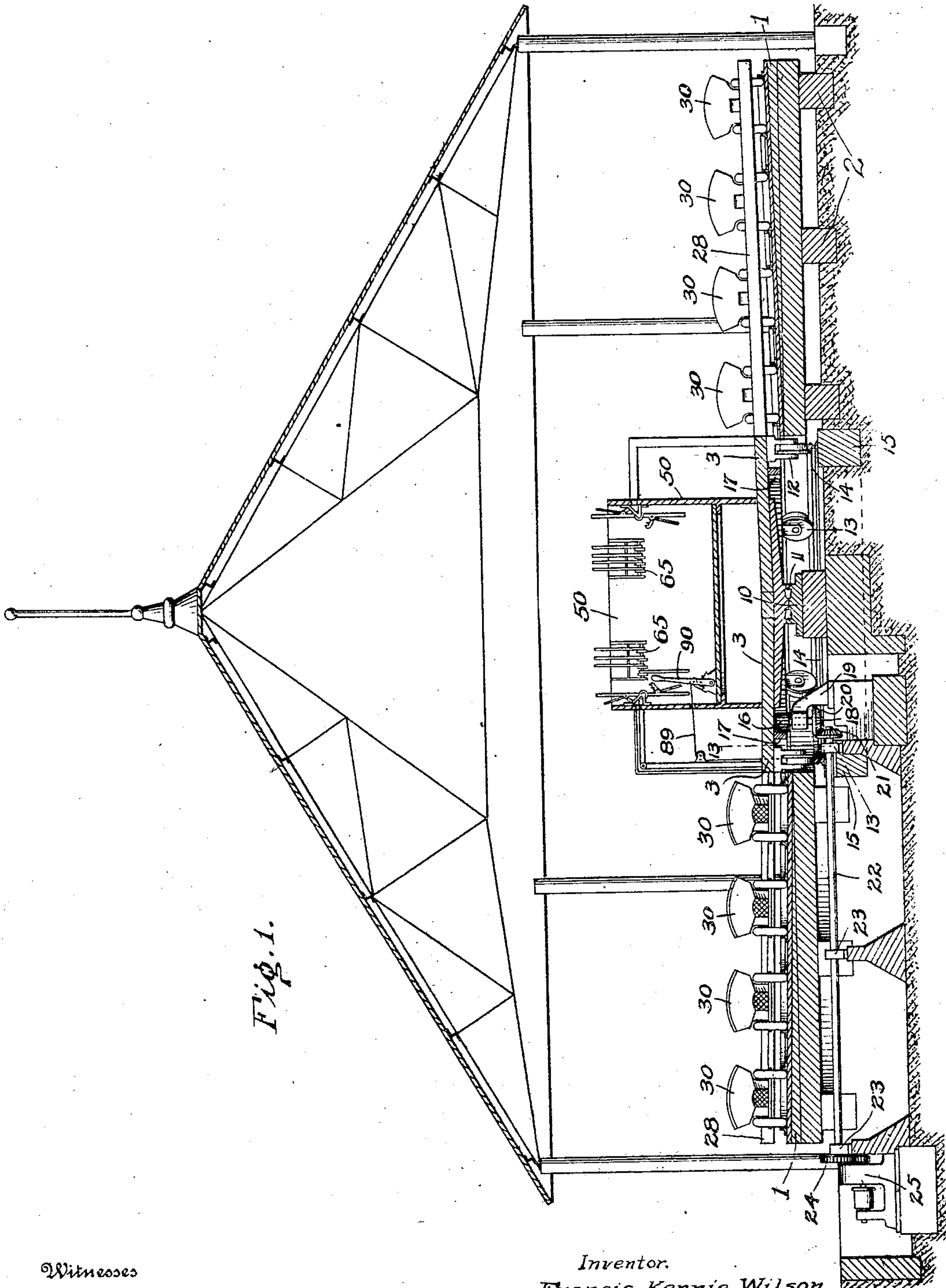


Fig. 1.

Witnesses

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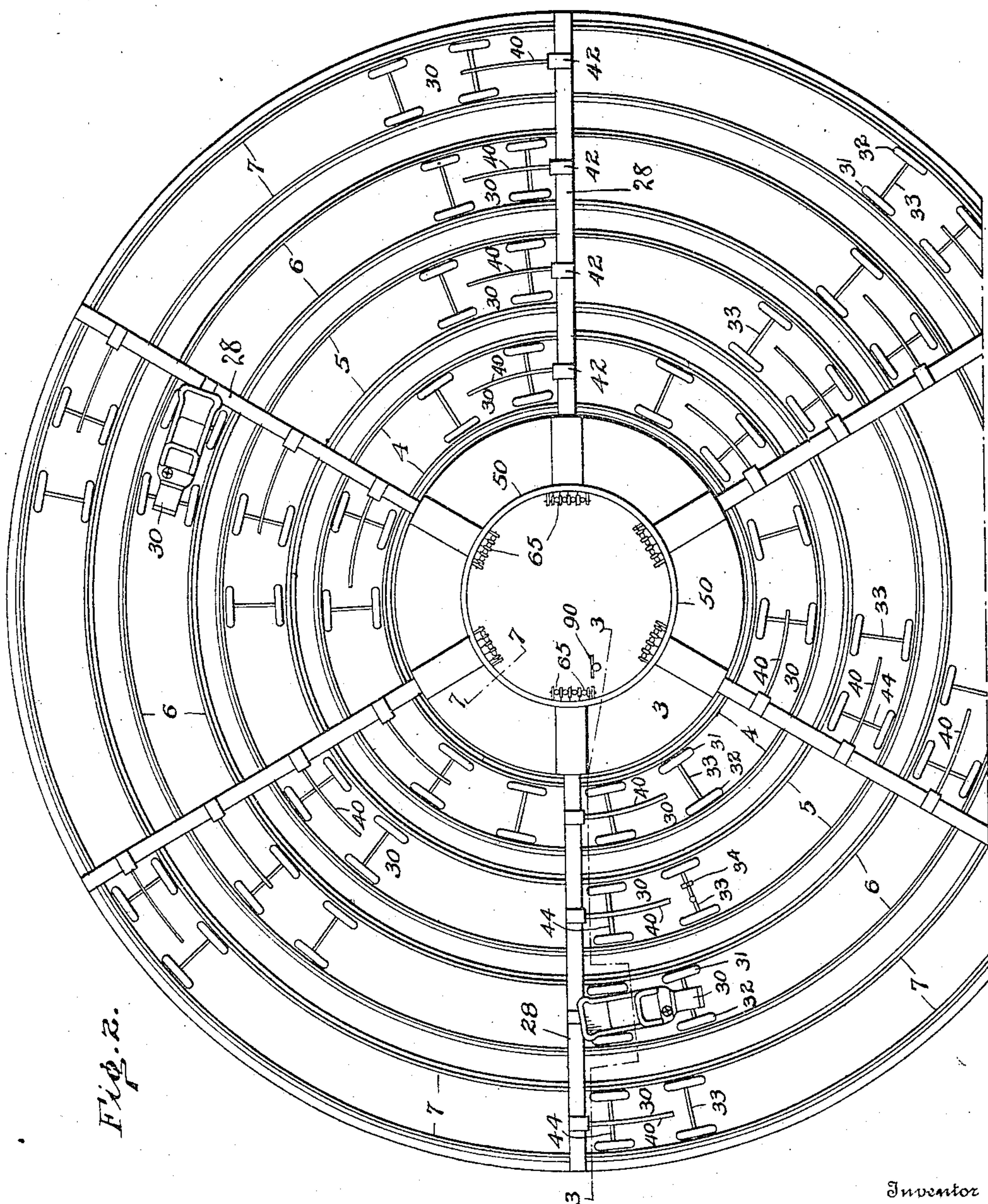


Fig. 2.

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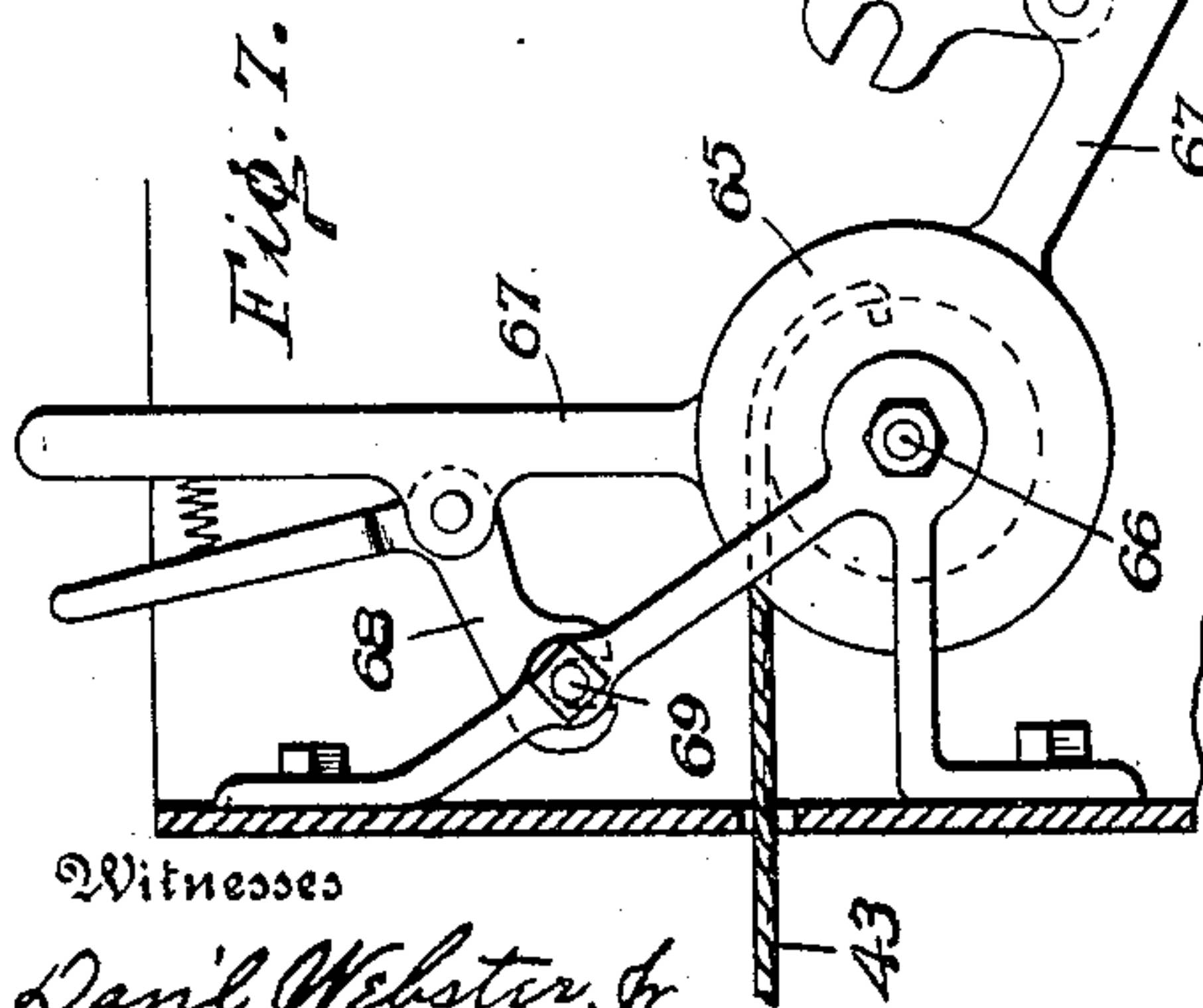
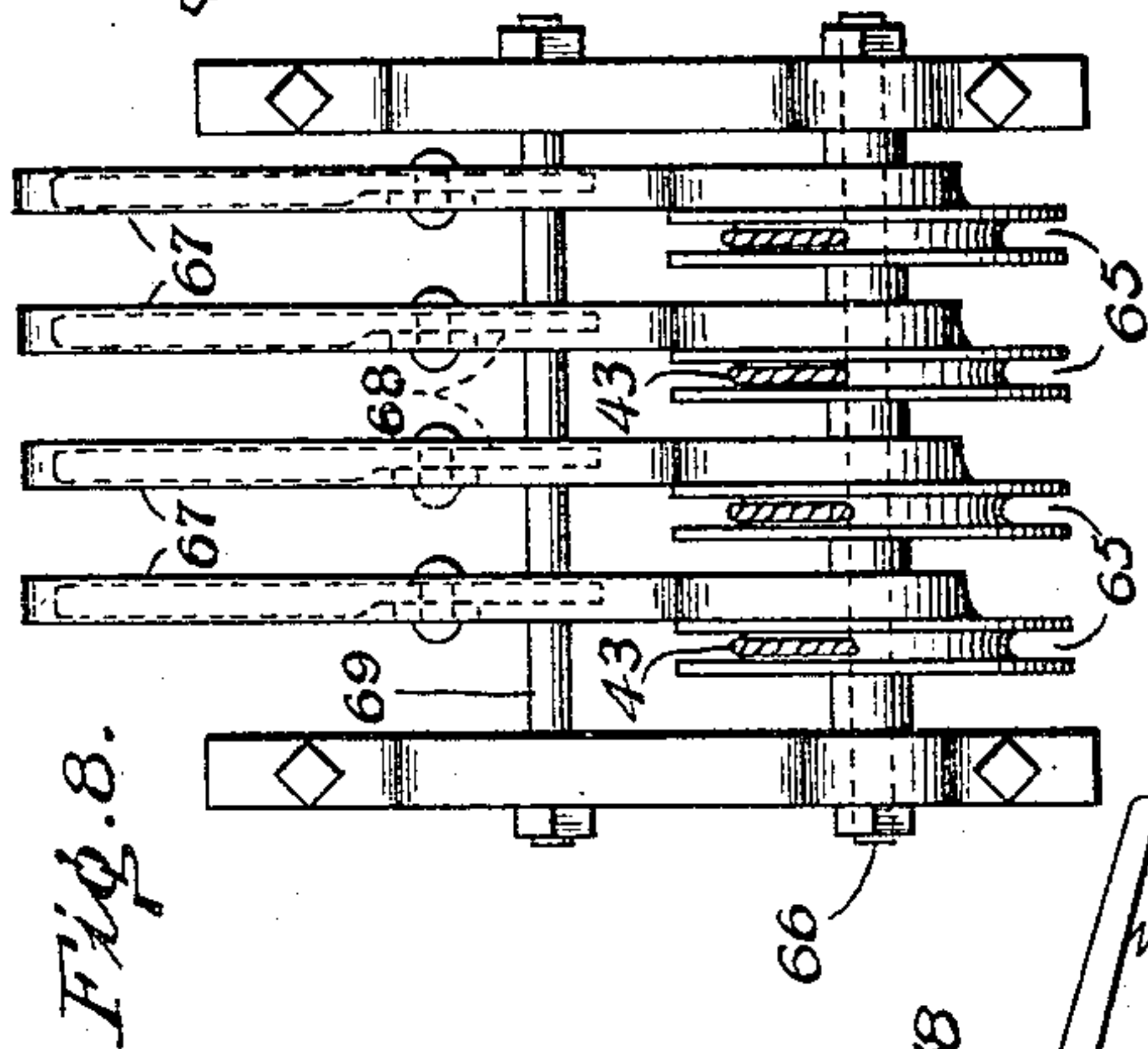
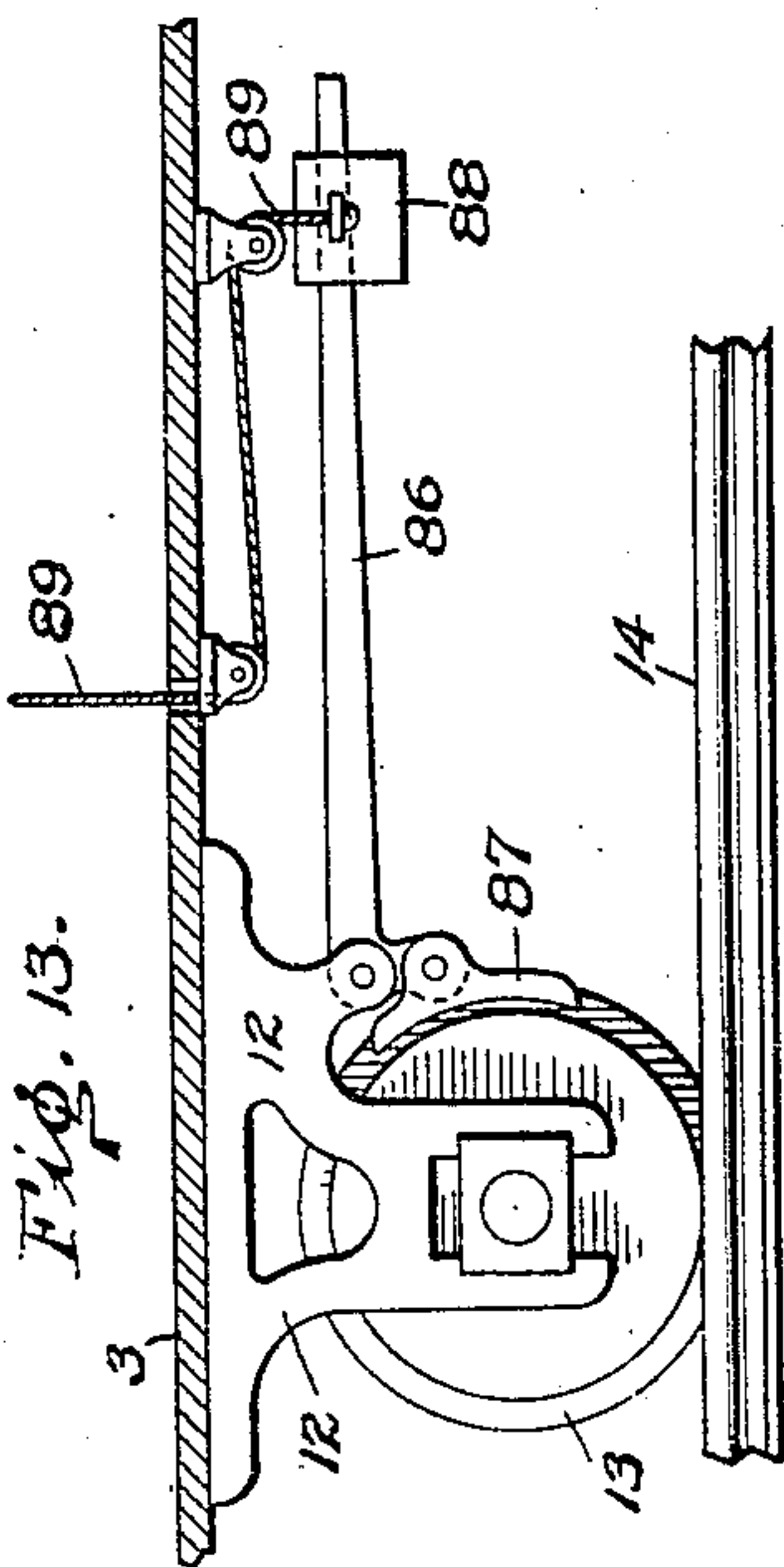
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6 SHEETS—SHEET 3.



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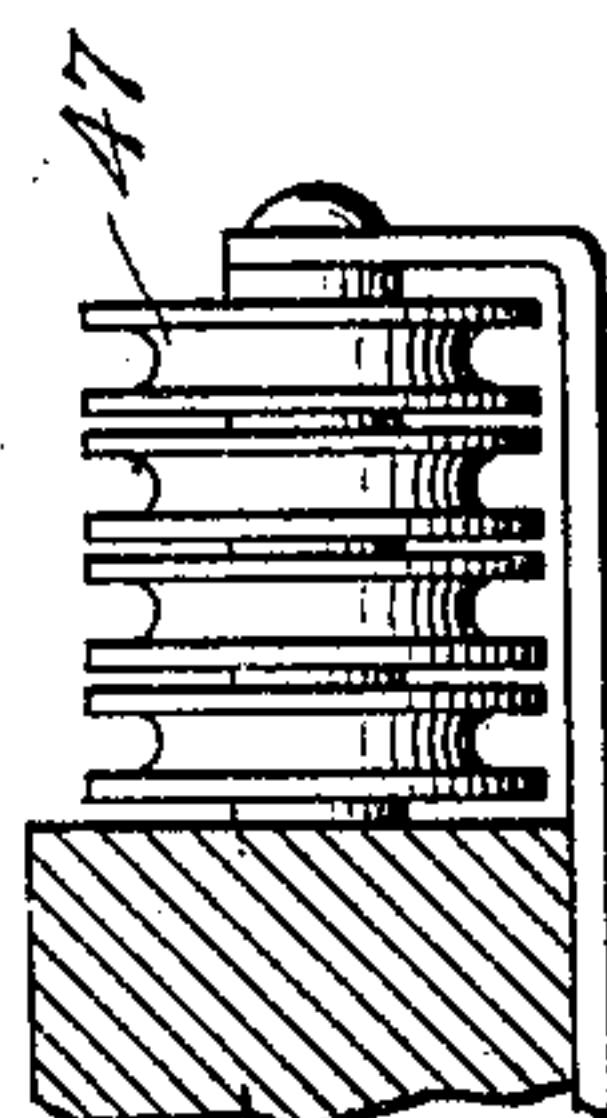
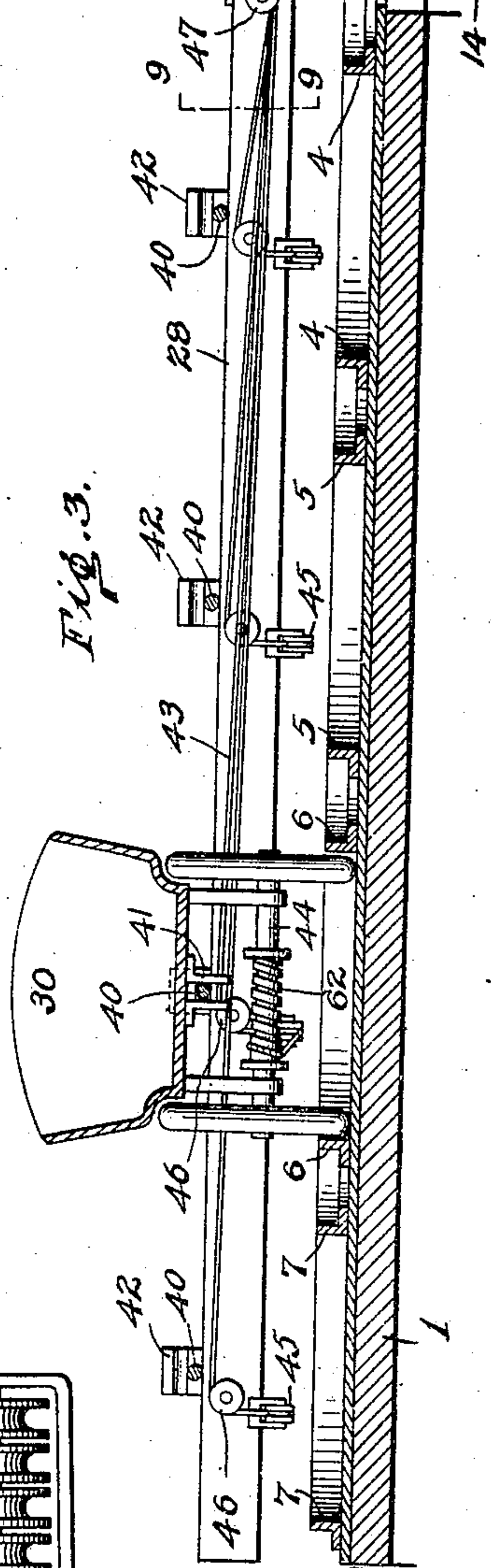
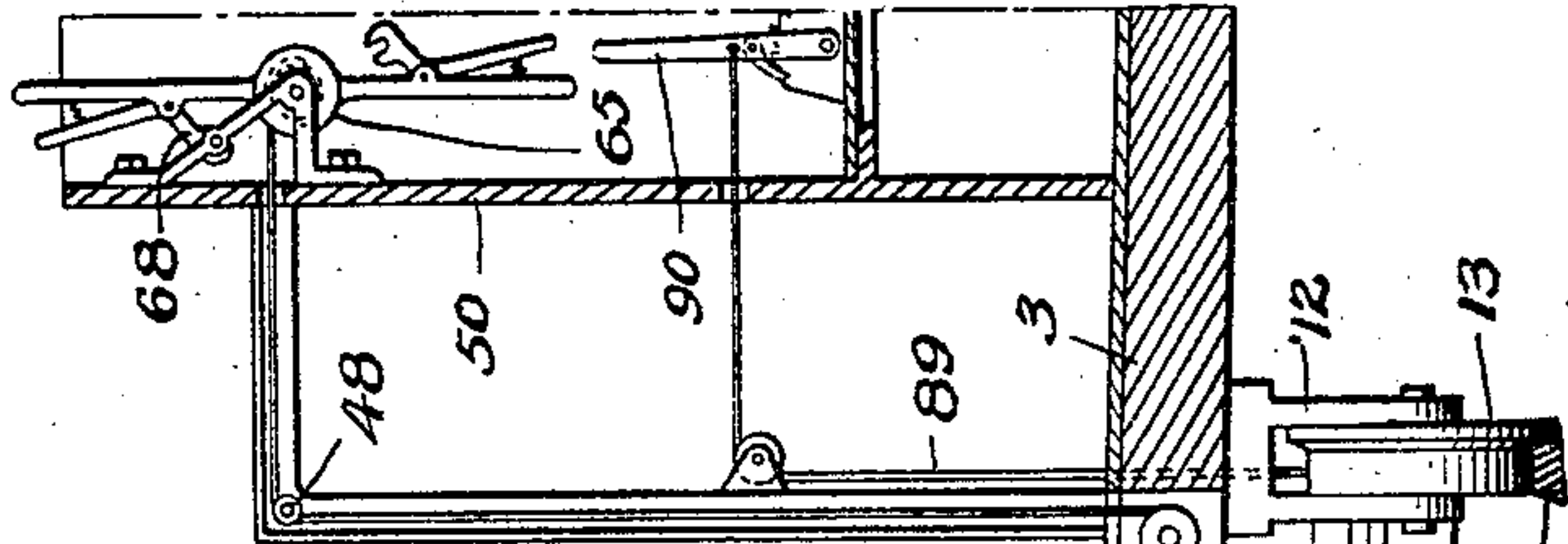


Fig. 9.

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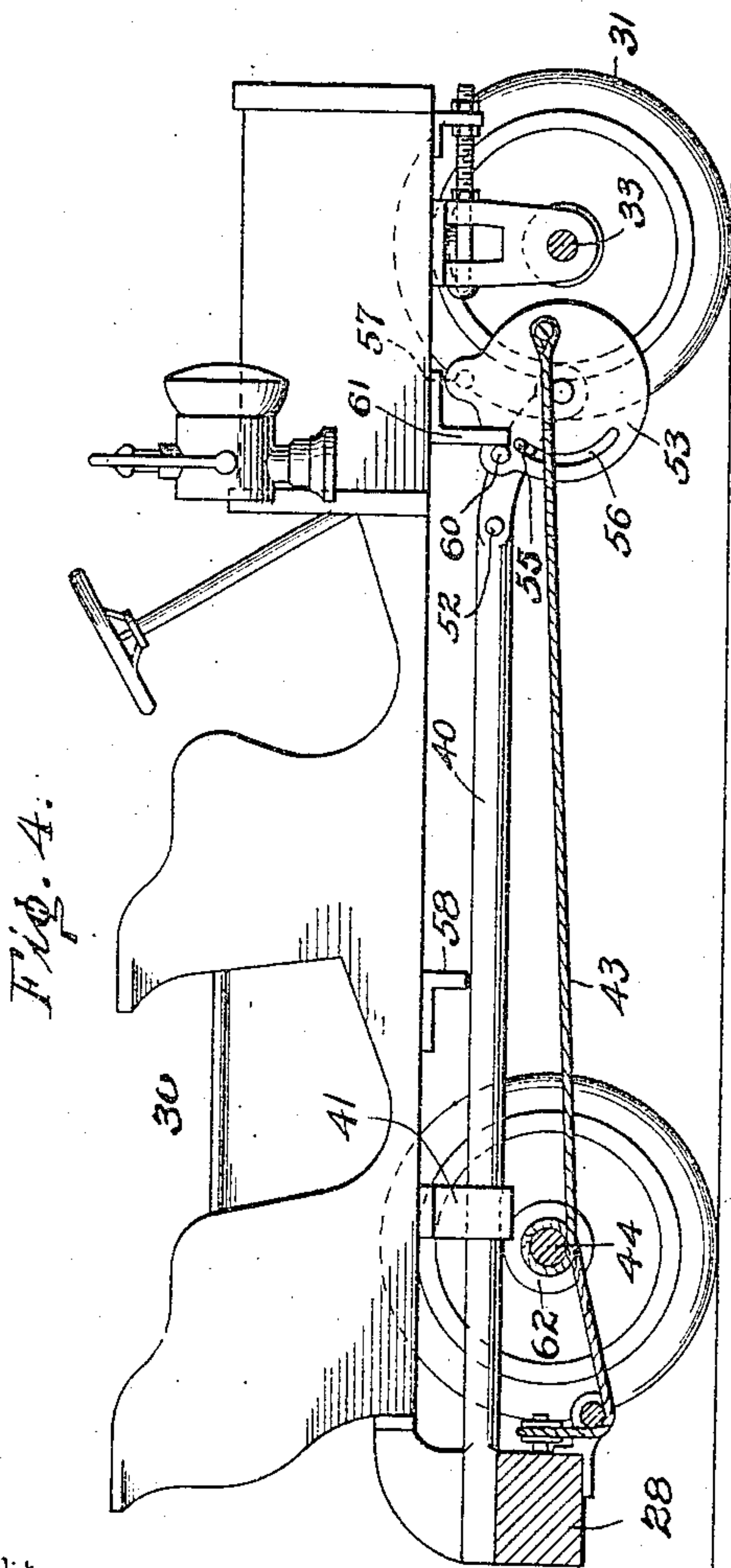
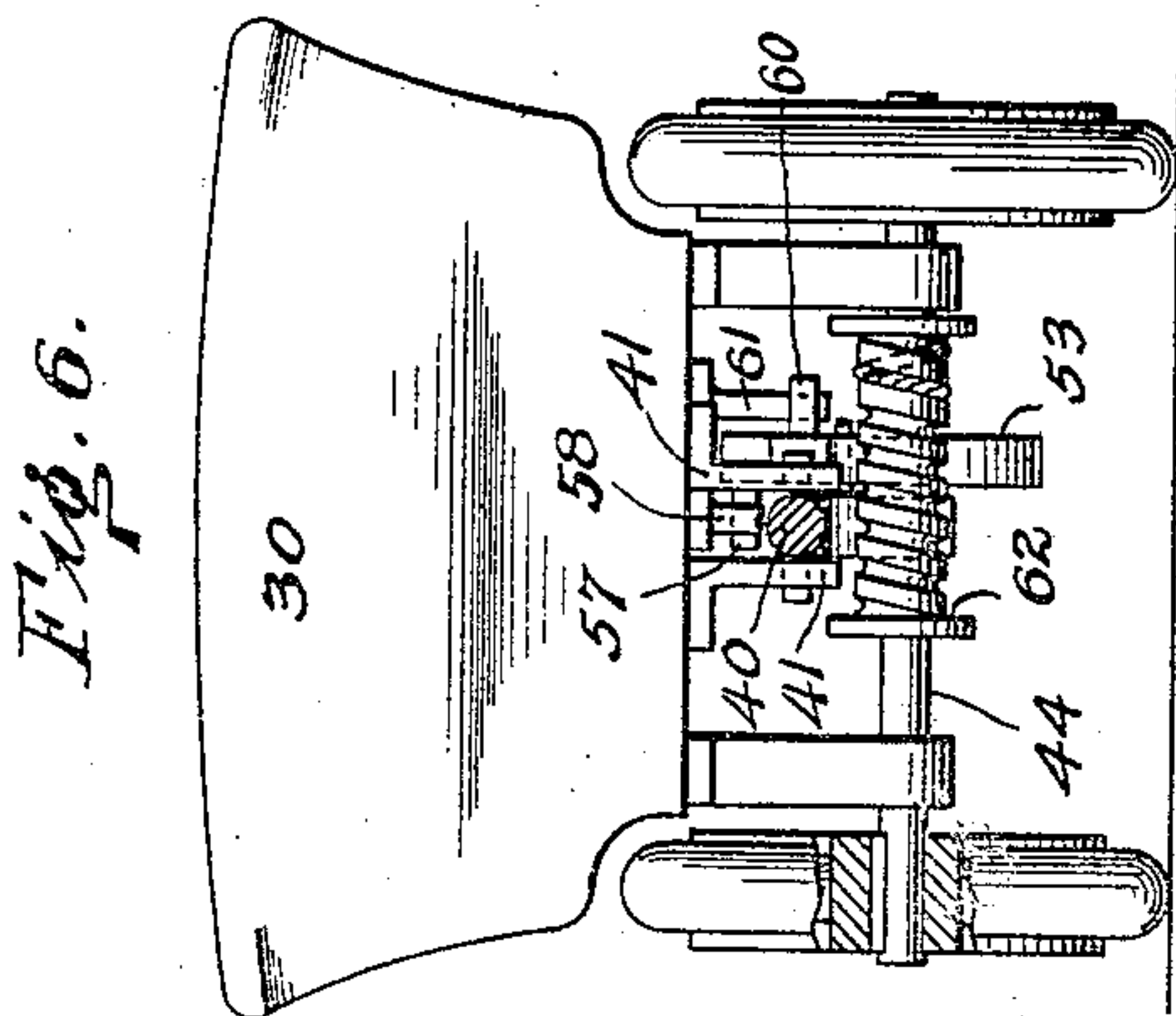
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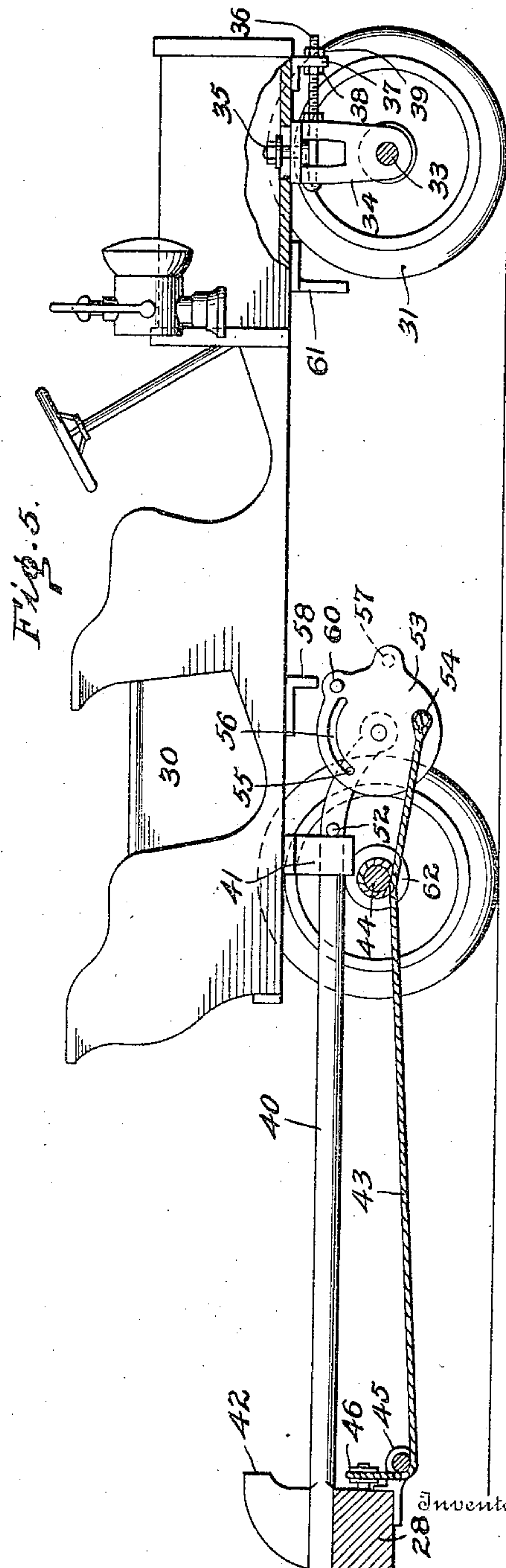
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6 SHEETS—SHEET 4.



Witnesses

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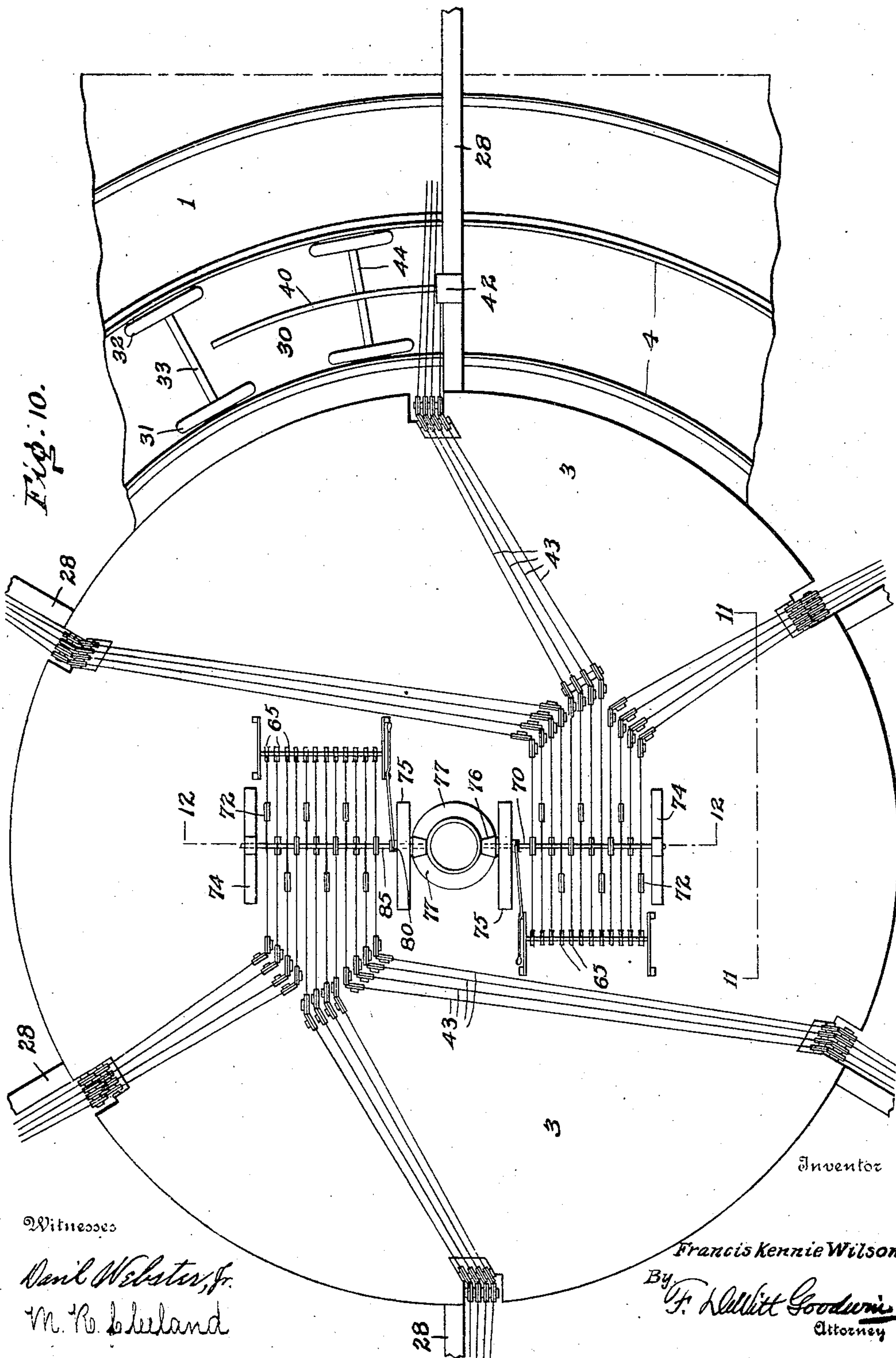
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6 SHEETS—SHEET 5.



Witnesses

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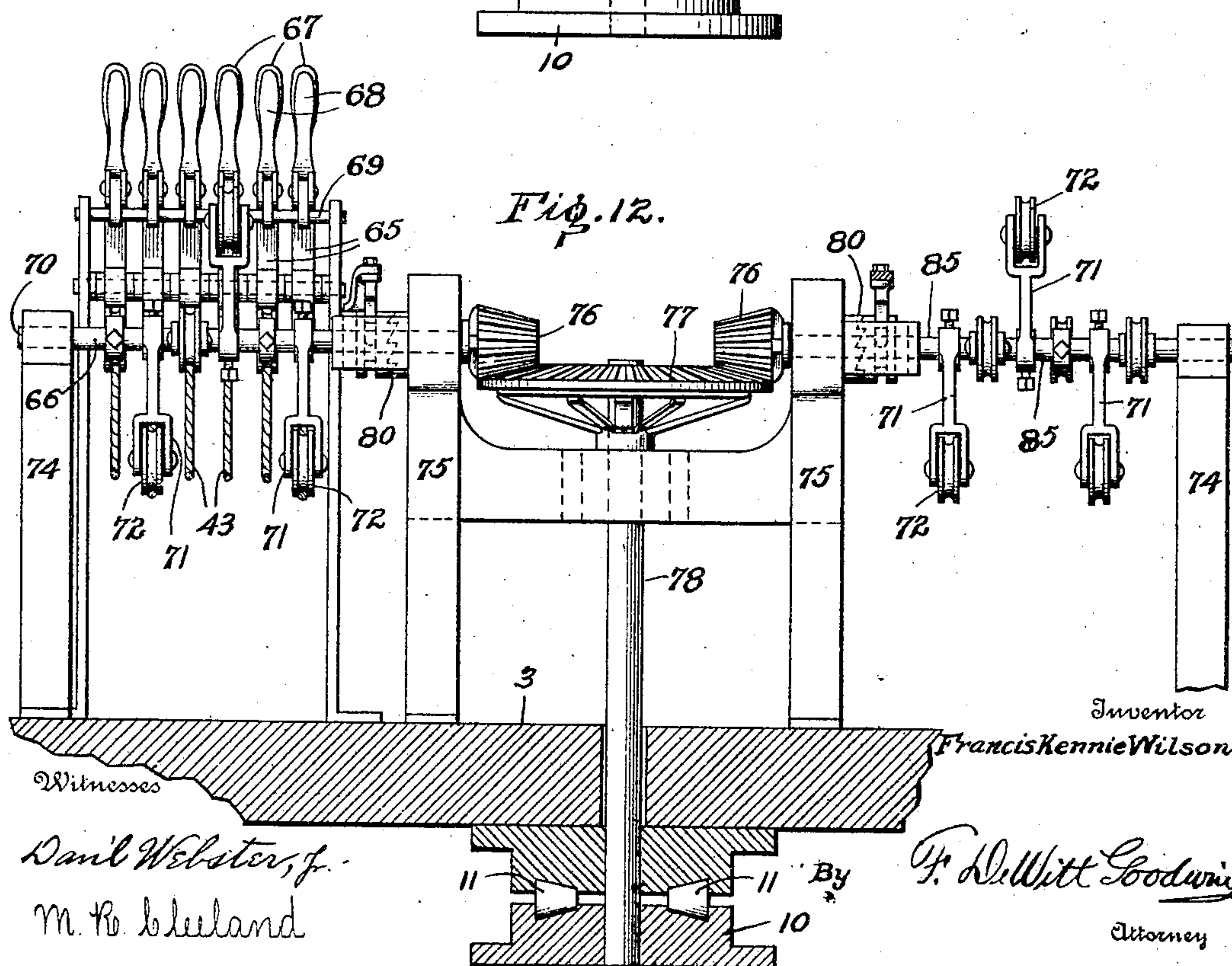
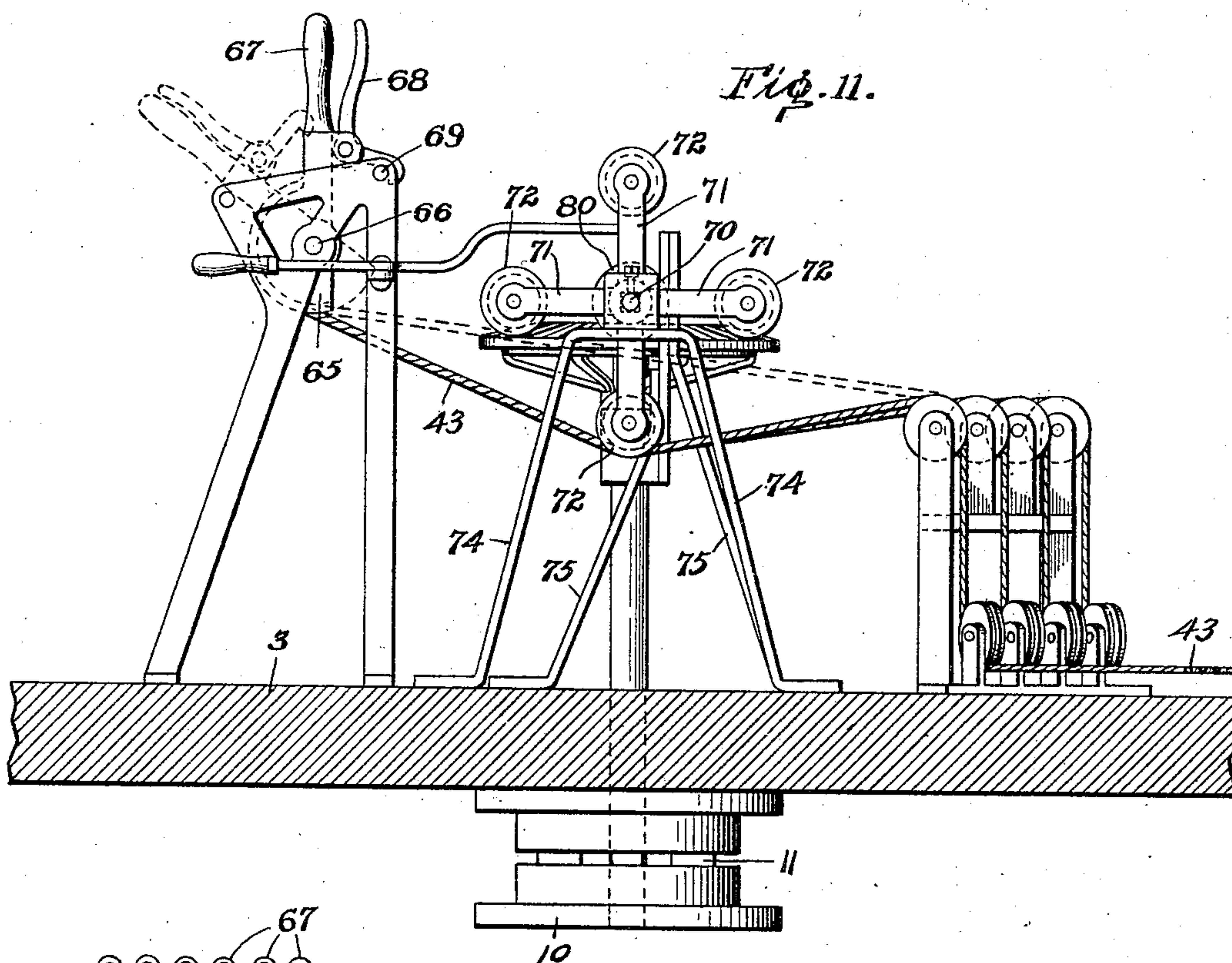
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6 SHEETS—SHEET 6.



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UNITED STATES PATENT OFFICE.

FRANCIS KENNIE WILSON, OF COATESVILLE, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO
HENRY K. FORT, OF WEST HADDONFIELD, NEW JERSEY.

AMUSEMENT DEVICE.

No. 880,769.

Specification of Letters Patent.

Patented March 3, 1908.

Application filed March 26, 1907. Serial No. 364,568.

To all whom it may concern:

Be it known that I, FRANCIS KENNIE WILSON, a citizen of the United States, residing at Coatesville, in the county of Chester and State of Pennsylvania, have invented certain new and useful Improvements in an Amusement Device, of which the following is a specification.

My invention relates to amusement devices and particularly to that class of amusement devices known as merry-go-rounds; the object of my invention is to construct an amusement device in which vehicles, in the form of automobiles, are rotated on a stationary platform; a further object of my invention is to provide means for propelling said vehicles; a still further object of my invention is to provide means for advancing the cars in relation to the propelling arms; a still further object is to control the advancing of the vehicles, and a still further object is to provide means for automatically advancing the vehicles; these together with various other novel features of construction and arrangement of the parts which will be more fully hereinafter described.

Referring to the drawings: Figure 1. is a vertical sectional view through the central portion of my improved amusement device; Fig. 2. is a plan view of the stationary platform, the revolving platform and the propelling arms; Fig. 3. is a vertical section on line 3—3 Fig. 2; Fig. 4. is a side elevation of one of the vehicles and showing the propelling arm and the axles in section; Fig. 5. is a view similar to Fig. 4. showing the vehicle in a position in advance of the propelling arm; Fig. 6. is a rear view of one of the vehicles; Fig. 7. is an enlarged vertical section on line 7—7 Fig. 2. showing the levers for advancing the vehicle; Fig. 8. is a side view of Fig. 7; Fig. 9. is a detail view showing the arrangement of the pulleys over which pass the cables for operating the vehicles; Fig. 10. is a partial plan view showing the revolving platform, the stationary platform and mechanism for automatically advancing the vehicles; Fig. 11. is a vertical section on line 11—11 Fig. 10; Fig. 12 is a vertical section on line 12—12 Fig. 10; Fig. 13 is a vertical section on line 13—13 Fig. 1 showing a brake for stopping the revolving platform.

In the drawings 1 represents a stationary platform supported on sills 2 as shown in Fig. 1. The platform 1 is of circular form and

has an open portion in the center to provide for the means for supporting the revolving platform 3. The surface of the platform 1 is slightly inclined towards the center and provided upon its top surface with tracks 4—5—6 and 7 which are also circular in form and act as guides for vehicles which are adapted to be propelled over the surface of the stationary platform.

The revolving platform 3 is centrally mounted upon a bearing 10 provided with anti-friction rollers 11 laid horizontally to allow the revolving platform to freely turn upon said bearing 10. Near the outer edge of said revolving platform are secured depending bearings 12 carrying wheels 13 to hold said revolving platform in a horizontal position. Said wheels 13 run upon a circular track 14 secured upon the stationary sills 15.

The revolving platform is rotated by a pinion 16 meshing with a gear 17 secured to the under side of said revolving platform 3. The said gear 16 is carried by a shaft 18 mounted in the bearing 19. Said shaft 18 is provided with a beveled gear 20 which meshes with a beveled gear 21 on a horizontal shaft 22 mounted in bearings 23 and having a gear-wheel 24 which is driven by a motor 25 of any suitable form.

The revolving platform has a number of radial arms 28 extending out over the stationary platform 1. Each of said arms 28 being intended to propel the vehicles 30 which travel in the tracks upon the stationary platform. In this instance I have shown four vehicles propelled by each of the said arms and when said revolving platform is rotated the vehicles will be driven in a circle round the tracks on the stationary platform.

The front wheels 31 and 32 of the vehicles are mounted on an axle 33, which is mounted in a fixed bearing at one side of the body of the vehicle and in an adjustable bearing 34 on the opposite side of the body of the vehicle, thus the said wheels can be set so that the vehicle will tend to revolve in a circle without binding against the tracks. As shown in Fig. 5. the said adjustable bearing 34 is supported by a bolt 35 running through an elongated slot formed in the floor of the vehicle and said bearing is provided with a screw-threaded rod 36 extending through a bearing 37 and adjustably secured therein by means of nuts 38 and 39.

The radial arms 28 are provided with rods 40 projecting from the sides of the said arms and extending under the body of each vehicle. The vehicle has a depending bearing 5 41 to embrace said rod 40 and allow the said vehicle to be advanced or retarded along the length of said rod. The vehicle normally rests against a stop 42, on the radial arm 28, but I have provided means for advancing 10 the vehicles ahead of the radial arms; this I do in the following manner: to the outer end of the rod 40 I secure a rope or cable 43 which is wound one or two times around the rear axle 44 of the vehicle and continues on 15 over the pulleys 45—46—47 and 48 (Fig. 3), to the operating tower 50 mounted upon the revolving platform, where means are provided for regulating the tension of the rope, which will be more fully hereinafter de- 20 scribed. When said rope is left slack there will not be sufficient friction to prevent the axle of the vehicle from freely turning, but when said rope is tightened it will bind upon the axle and as the vehicle is advanced by 25 the radial arm, the wheel of the vehicle which is keyed to the axle will contact with the surface of the stationary platform and cause the axle to turn, and due to the friction between the coils of the rope, which is 30 drawn tight on the axle, the axle will wind up on the rope and move the vehicle along the rod 40 in advance of the radial arm. When the vehicle is advanced along the rod 40 the bearing 41 depending from the body 35 of the vehicle strikes a pin 52 on the end of the rod, which prevents the vehicle from getting out of its proper place on the rod.

When the vehicle is advanced along the rod 40 in the manner above described, the 40 rope may be released by the operator in the operating tower which will cause sufficient slack in the rope to release the axle, allowing the coils of rope to slip on the axle and the car will fall back to its original position 45 against the radial arm.

The vehicle may be automatically released from its advanced position by attaching the rope 43 to the end of the rod 40 in the manner shown in Figs. 4—5 and 6. A disk 53 is 50 pivoted on the end of the rod 40 and carries a pin 54 to which is attached the end of the rope. This pin 54 is located as shown in Fig. 4, slightly above the center line or dead center of the pivot point of the disk and the 55 disk is prevented from turning by the action of said rope by a pin 55 on the rod 40 which extends through a slot 56 in the disk 53.

Upon one side of the disk is a projection or pin 57 against which strikes a depending 60 block 58 carried by the body of the vehicle and when the latter is advanced the said block 58 will strike said projection on the disk and turn the disk and release the tension upon said rope, thereby relieving the axle 65 from the friction of the coils of the rope and

allowing the car to fall back to its position against the radial arm.

To automatically tighten the rope when the vehicle recedes along the rod 40, a pin 60 is provided, which projects from the disk 53, 70 but on the opposite side of the disk from the pin 57 so as not to interfere with the block 58 on the body of the vehicle. The pin 60 is engaged by a second block 61 located at the forward end of the vehicle body. This block 75 61 strikes the pin 60 just before the car reaches its rearward position and turns the disk into the position shown in Fig. 4 which again tightens the rope and causes it to bind 80 on the axle of the vehicle and again advance the vehicle.

The rear axle of the vehicle is provided with a spool 62 which is keyed on the axle and said spool has spiral grooves cut therein 85 to receive the coils of the rope and increase the friction between the rope and the axle.

The advancing and retarding of the vehicle may be controlled from the central operating tower 50 by tightening or loosening 90 the end of the rope 43 running to said operating tower. It is desirable to be able to throw some of the vehicles out of engagement with the advancing means and also to advance the different vehicles at different 95 times to give the impression of racing to the minds of the occupants of the vehicle and it is also desirable to be able to release all but one of the vehicles, so that only one vehicle will be advanced when the revolving plat- 100 form comes to a stand-still.

Figs. 3—7 and 8 show the end of the rope 43 secured to a drum 65 loosely mounted on a shaft 66. The drum 65 has a lever 67 se- 105 cured thereto carrying a latch 68 by which said lever may be held in the raised position, in which position the rope is slackened. When the latch 68 is released from the rod 69 the lever 67 may be lowered until it rests on 110 the stop 70, in which position the rope will be tightened. The weight of the lever will make sufficient tension on the rope to cause it to bind on the axle of the vehicle. An ad- 115 justable weight may be added to said lever, as shown in dotted lines Fig. 7, if found desirable.

When the rope is tightened by means of the lever 67 the vehicle will still be advanced and retarded automatically by the disk 53 as 120 above described, but when the lever 67 is raised the slack which is made in the rope will not be taken up by the disk 53 and the rope will not bind on the axle and the vehicle will fall back to its position against the arm 28. Each rope runs to a separate drum and 125 lever, so that any or all the vehicles may be thrown out of the action of the advancing means.

Figs. 10—11 and 12 illustrate means for automatically creating tension upon the 130 ropes 43 at the central operating tower. The

end of each rope, as above described is secured to a separate drum 65. As shown in Fig. 11 the ropes pass under a shaft 70 before they reach the drums 65. The shaft 70 is provided with a series of radial arms 71 carrying flanged pulleys 72. There is an arm 71 and pulley 72 for each rope and they are adapted to revolve in a vertical plane directly over said rope so that as the shaft revolves the pulley will ride upon the rope and depress it and take up the slack in said rope so as to cause the rope to bind upon the axle of the vehicle and advance it along the rod 40. The car will continue to advance until the pulley 72 passes off the rope and releases the tension upon it or until the vehicle reaches the end of the rod 40 when the releasing disk 53 on the end of said rod will act and cause sufficient slack in the rope to allow the rope to slip on the axle of the vehicle and the latter will then fall back against the arm 28. When it is desired to have the vehicle remain in its retarded position against the arm 28, the lever 67 is turned to the position shown in dotted lines, Fig. 11, which will turn the drum 65 in the proper direction to unwind the rope and create sufficient slack in said rope to prevent the arm 71 from tightening it, which will allow the rope to slip upon the axle of the vehicle. The shaft 70 carrying the arms 71 and pulleys 72 is mounted in bearings 74 and 75 upon the revolving platform 3 and said shaft 70 is driven by a bevel pinion 76, meshing with a bevel-gear-wheel 77 upon a vertical shaft 78 mounted in the central bearing 10. Said shaft 78 is fixed so that the bevel-gear-wheel 77 will not revolve. As the revolving platform 3 carries the shaft 70 around the bevel-gear-wheel 77, the pinion 76 will cause the shaft 70 to rotate. A clutch 80 is interposed between the sections of the shaft 70 so that all the arms 71 may be thrown out of action when desired. As an arm 71 is required for controlling each vehicle, half the number of arms are arranged upon the shaft 70 above described and the other half are mounted on a second shaft 85 which is a duplication of the shaft 70 and its adjuncts as above described.

Fig. 13 illustrates a brake for stopping the revolving platform; said brake consists of a bell-crank-lever 86 pivoted in the bearing 12 on the revolving platform, and said brake has a shoe 87 which acts upon the wheel 13 supporting the revolving platform. A weight 88 on the end of the bell-crank-lever causes the shoe to bear against the wheel 13 and stop the revolving platform. The brake is released by the cable 89 which runs over pulleys to a hand lever 90 in the operating tower as shown in Fig. 3.

The operation of my invention is as follows: The revolving platform is rotated by any suitable means, the radial arms extending from the revolving platform propel the ve-

hicles around a stationary platform. By means of a rope wound around the axle of the vehicle and drawn tight the vehicle can be driven in advance of said radial arm and by releasing said rope at either end the vehicle may be caused to fall back against said arm. The advancing of the vehicles can be controlled by hand or automatically and at irregular intervals and any one vehicle may be advanced when the revolving platform comes to a stand-still.

In the drawings I have shown the vehicles in the form of automobiles but any other form may be used without departing from my invention.

Having thus described my invention I claim and desire to secure by Letters Patent.

1. In a device of the character described the combination of a stationary platform, vehicles, arms adapted to propel said vehicles over said platform, wheels on said vehicles, axles carrying said wheels, one of said axles mounted in a fixed bearing at one end and in an adjustable bearing at its other end, a screw-threaded rod in said adjustable bearing, a bearing engaging said rod and nuts to adjust said rod in said latter bearing to vary the angle of said axles.

2. In a device of the character described the combination of a platform, a vehicle upon said platform, a radial arm extending over said platform, means for revolving said arm, a rod carried by said arm, said rod extending under said vehicle, a bearing on said vehicle to engage said rod, and means for advancing said vehicle along said rod.

3. In a device of the character described the combination of a platform, a vehicle upon said platform, a radial arm extending over said platform, means for revolving said arm, said arm having a rod extending under said vehicle, a rope carried by the outer end of said rod, said rope adapted to engage said vehicle and advance the latter along said rod.

4. In a device of the character described the combination of a platform, a vehicle, an arm adapted to be rotated over said platform a rod extending from said arm, a rope secured to the end of said rod, said rope adapted to engage said vehicle and advance it along said rod and means for releasing said rope to disengage said vehicle.

5. In a device of the character described the combination of a platform, a vehicle, an arm adapted to be rotated over said platform a rod extending from said arm, a rope secured to the end of said rod, said rope being coiled around the axle of said vehicle and means for tightening said rope to cause it to bind upon said axle.

6. In a device of the character described the combination of a platform, a vehicle, an axle on said vehicle, a wheel keyed to said axle, an arm adapted to be rotated over said

platform, a rod extending from said arm, a rope secured to the end of said rod, said rope being coiled around the said axle, means for tightening said rope to cause it to bind upon said axle and means for releasing said rope to disengage said axle.

7. In a device of the character described the combination of a platform, a vehicle, an axle on said vehicle, a wheel keyed to said axle, an arm adapted to be rotated over said platform, a rod extending from said arm, a rope, said rope being coiled around said axle, a disk on the end of said rod, said rope having one end thereof secured to said disk, means for automatically oscillating said disk to tighten or loosen said rope as the said vehicle advances or recedes upon said rod.

8. In a device of the character described the combination of a platform, a vehicle, an axle on said vehicle, a wheel secured to said axle, an arm adapted to be rotated over said platform, a rod extending from said arm, a rope, said rope being coiled around said axle, a disk on the end of said rod, said rope having one end thereof secured to said disk, a block on said vehicle adapted to turn said disk to loosen said rope when the vehicle advances upon said rod, and a block adapted to turn said disk to tighten the rope when the vehicle recedes upon said rod.

9. In a device of the character described the combination of a platform, a vehicle, an axle on said vehicle, a wheel secured to said axle, an arm adapted to be rotated over said platform, a rod extending from said arm, a rope, said rope being coiled around said axle, a disk on the end of said rod, said rope having one end thereof secured to said disk, a pin on said rod to engage said disk and act as a stop, a pin on said disk adapted to be engaged by a block on the rear portion of said vehicle and a pin on the opposite side of said disk adapted to be engaged by a block on the forward portion of said vehicle to tighten or loosen said rope.

10. In a device of the character described the combination of a stationary platform, a vehicle, an axle on said vehicle, wheels on said axle means for turning said axle by the frictional contact of one of said wheels with said stationary platform, a rope coiled around said axle, means for propelling said vehicle over said stationary platform, said rope carried by said propelling means, and means for tightening said rope to cause it to bind on said axle and advance said vehicle.

11. In a device of the character described the combination of a stationary platform, a vehicle, a drum mounted on said vehicle, said drum having spiral grooves formed thereon, a wheel adapted to turn said drum by frictional contact of said wheel with said stationary platform, a rope coiled around said drum, means for propelling said vehicle over said stationary platform, said rope be-

ing carried by said propelling means, and means for tightening said rope to cause it to bind on said drum and advance said vehicle.

12. In a device of the character described the combination of a stationary platform, a revolving platform, a vehicle, an arm on said revolving platform to propel said vehicle over said stationary platform, an axle on said vehicle, a rope coiled around said axle, means for securing one end of said rope in advance of said vehicle, and means located on said revolving platform to tighten said rope and cause it to bind on the axle on said vehicle.

13. In a device of the character described the combination of a stationary platform, a revolving platform, an operating tower located on said revolving platform, a vehicle, an arm on said revolving platform to propel said vehicle over said stationary platform, an axle on said vehicle, a rope coiled around said axle, means for securing one end of said rope in advance of said vehicle, means located in said operating tower to tighten said rope and cause it to bind on the axle on said vehicle.

14. In a device of the character described the combination of a stationary platform, a revolving platform, a vehicle, an arm on said revolving platform to propel said vehicle over said stationary platform, an axle on said vehicle, a rope coiled around said axle, means for securing one end of said rope in advance of said vehicle, a drum on said revolving platform to tighten said rope and a lever for operating said drum.

15. In a device of the character described the combination of a stationary platform, a revolving platform, a vehicle, an arm on said revolving platform to propel said vehicle over said stationary platform, an axle on said vehicle, a rope coiled around said axle, means for securing one end of said rope in advance of said vehicle, a drum on said revolving platform to tighten said rope, a lever for operating said drum and pulleys upon said arm to guide said rope.

16. In a device of the character described the combination of a stationary platform, a revolving platform, a vehicle, an arm on said revolving platform to propel said vehicle over said stationary platform, an axle on said vehicle, a rope coiled around said axle, means for securing one end of said rope in advance of said vehicle, said rope secured at its other end upon said revolving platform, a shaft carrying an arm to tighten said rope and means for driving said shaft.

17. In a device of the character described the combination of a stationary platform, a revolving platform, a vehicle, an arm on said revolving platform to propel said vehicle over said stationary platform, an axle on said vehicle, a rope coiled around said axle, means for securing one end of said rope in

advance of said vehicle, said rope secured at one end upon said revolving platform, a shaft, bearings upon said revolving platform in which said shaft is mounted, a fixed gear-wheel to drive said shaft and an arm on said shaft adapted to tighten said rope.

18. In a device of the character described the combination of a stationary platform, a revolving platform, a vehicle, an arm on said revolving platform to propel said vehicle over said stationary platform, an axle on said vehicle, a rope coiled around said axle, means for securing one end of said rope in advance of said vehicle, said rope secured at one end upon said revolving platform, a shaft, bearings upon said revolving platform in which said shaft is mounted, a fixed gear-wheel to drive said shaft and a clutch to disengage said shaft, an arm on said shaft, and a pulley carried by said arm adapted to tighten said rope.

19. In a device of the character described the combination of a stationary platform, a revolving platform, a vehicle, an arm on said revolving platform to propel said vehicle over said stationary platform, an axle on said vehicle, a rope coiled around said axle, means for securing one end of said rope in advance of said vehicle, a drum on said revolving platform to which one end of said rope is attached, a shaft, means for rotating said shaft, an arm on said shaft to tighten said rope and advance said vehicle and means for loosening said rope by means of said drum to throw said advancing means out of action.

In testimony whereof I affix my signature in presence of two witnesses.

FRANCIS KENNIE WILSON.

Witnesses:

M. R. CLEELAND,
JAMES F. BOYLAN.