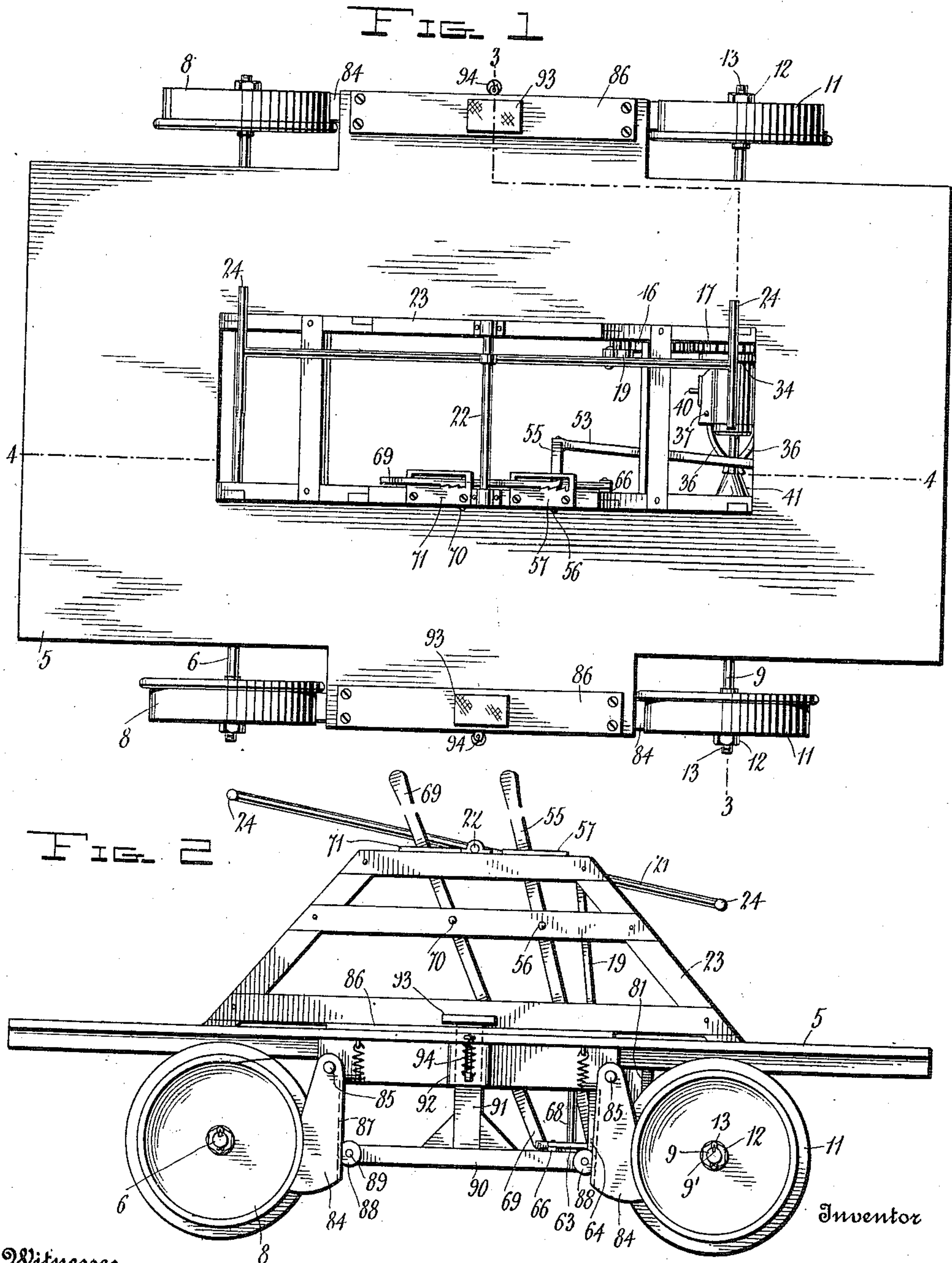


A. M. PAULERO.
HAND CAR.
APPLICATION FILED DEC. 15, 1910.

995,284.

Patented June 13, 1911.

4 SHEETS—SHEET 1.



Witnesses
W. L. Gorman
H. F. Miller

Inventor
Alfonso M. Paulero,
[Signature]
Attorneys

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4 SHEETS—SHEET 2.

FIG. 3

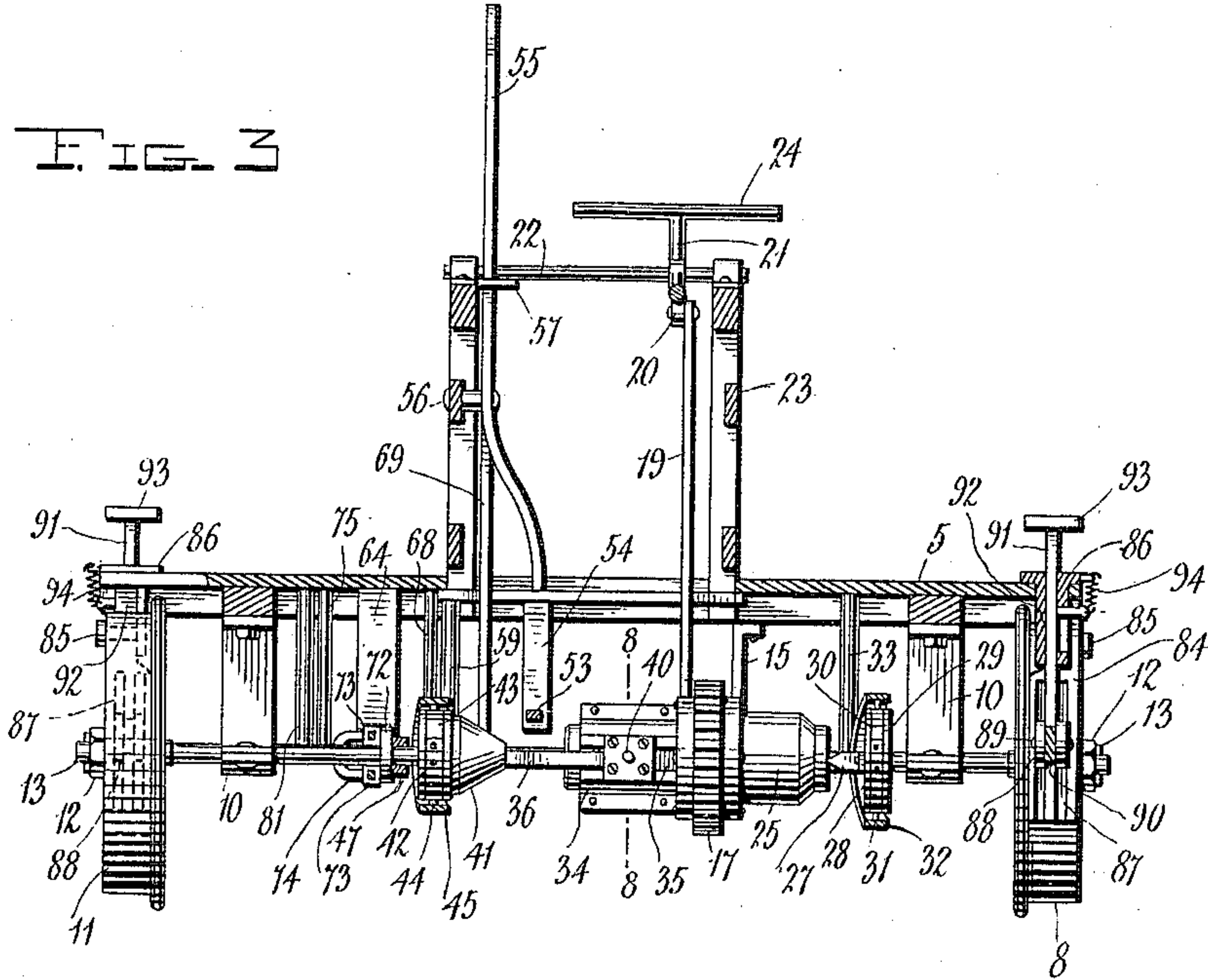
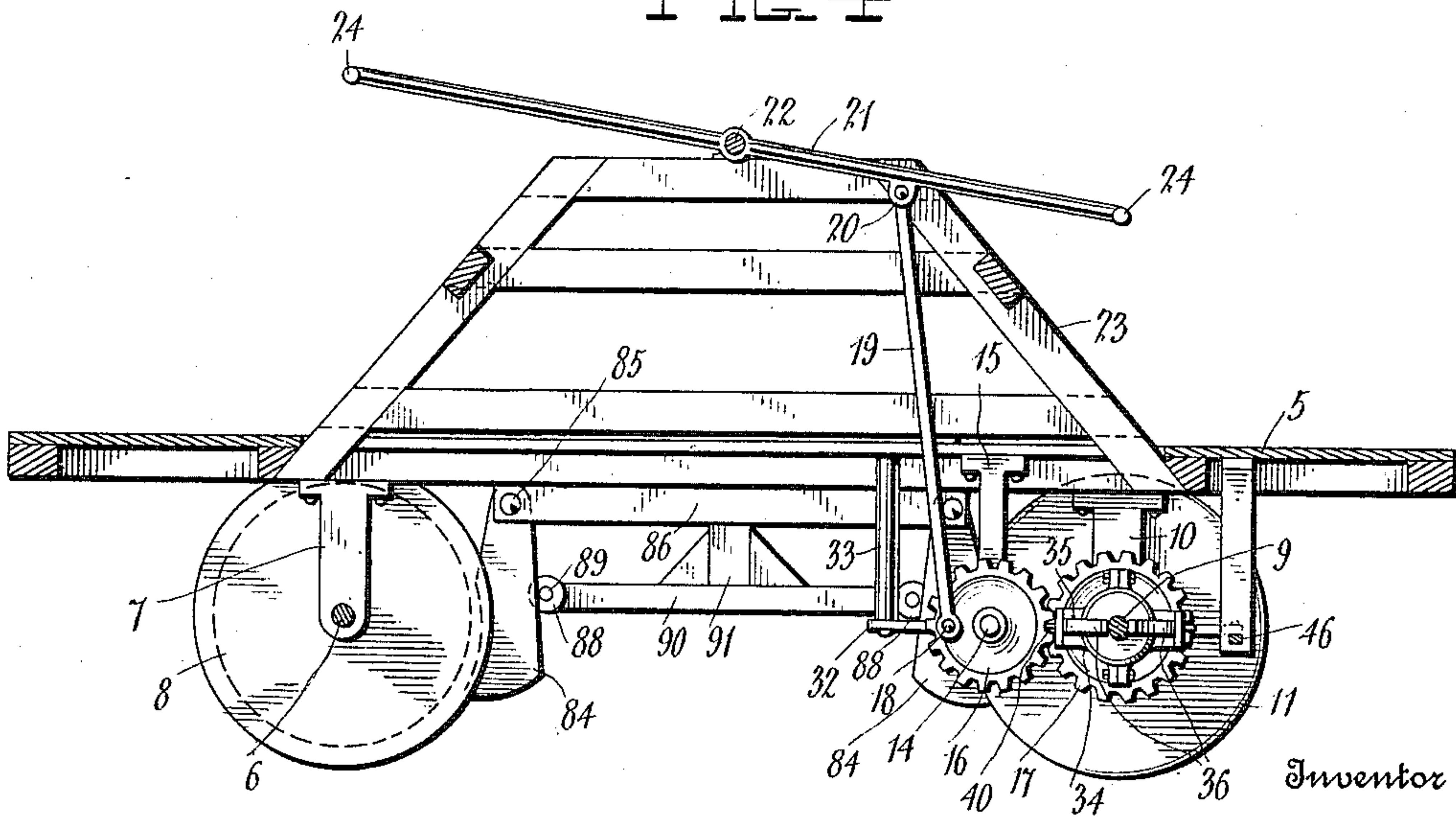


FIG. 4



Witnesses

J. B. Brown
Mr. J. Miller.

Alfonso M. Paulero

By *Wm. H. Paulero*
Attorneys

A. M. PAULERO,
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4 SHEETS—SHEET 3.

FIG. 5

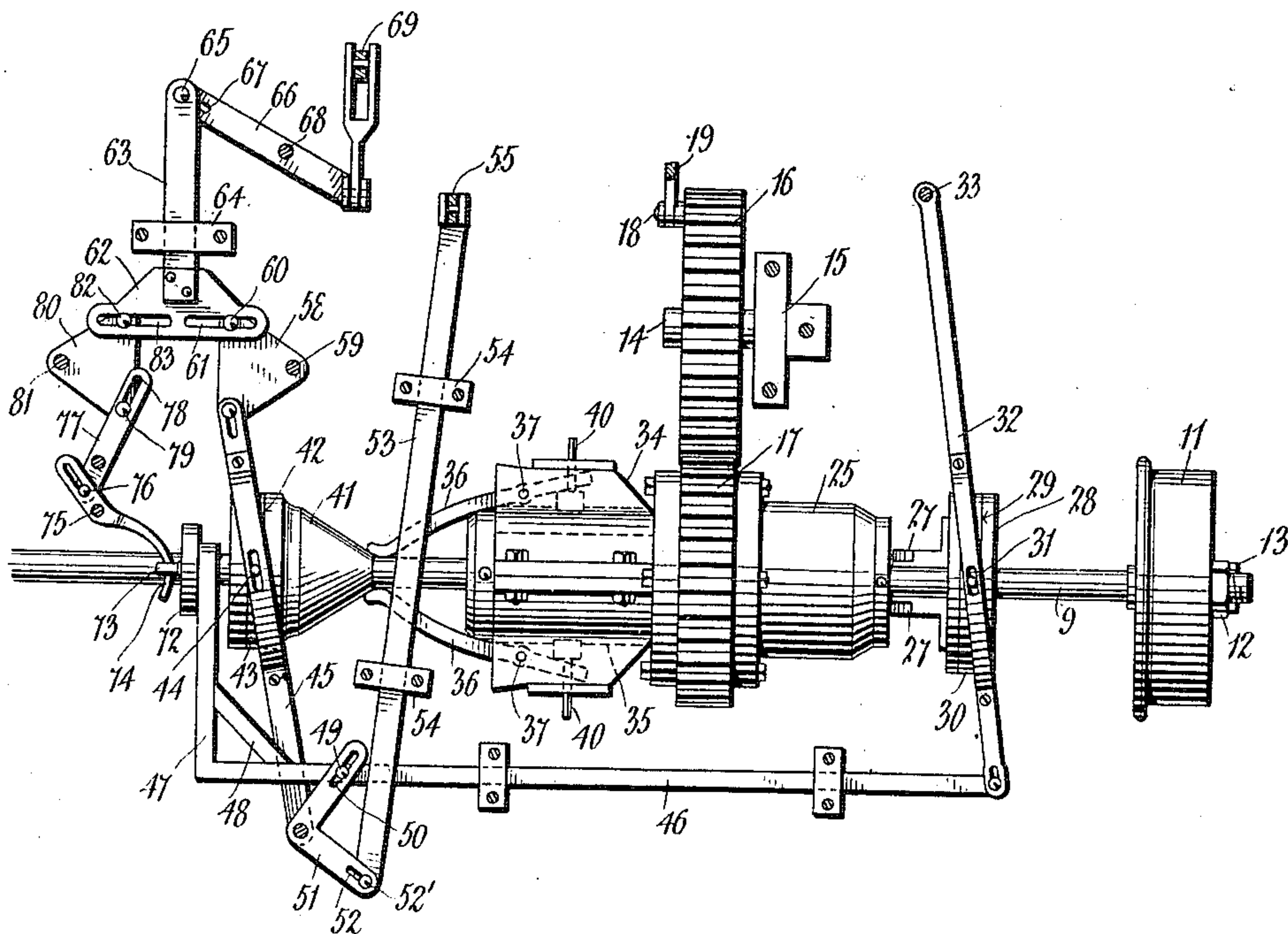
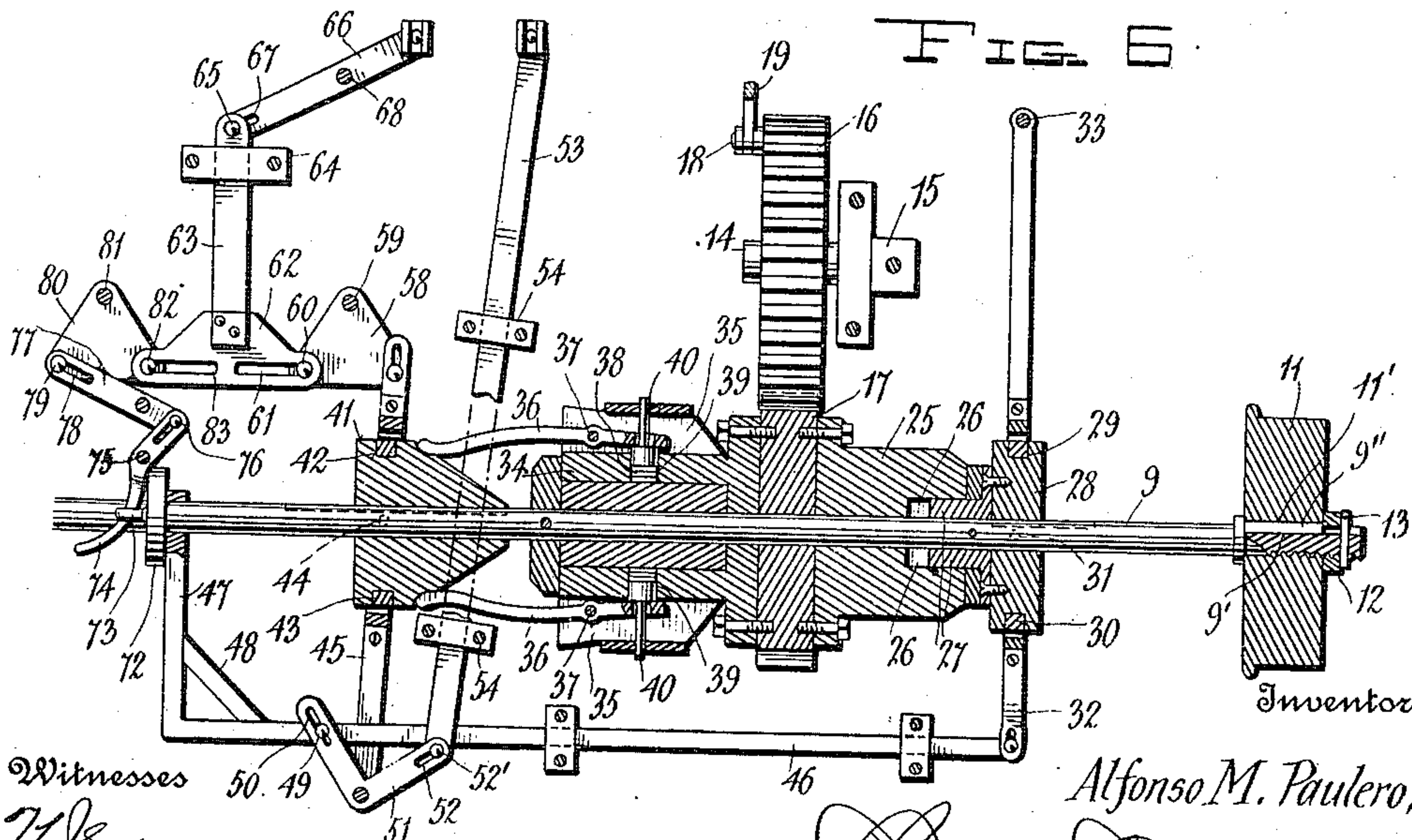


FIG. 6



Witnesses
J. J. Bortons
M. J. Miller.

By

Alfonso M. Paulero

Attorneys

A. M. PAULERO.
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4 SHEETS—SHEET 4.

FIG. 7

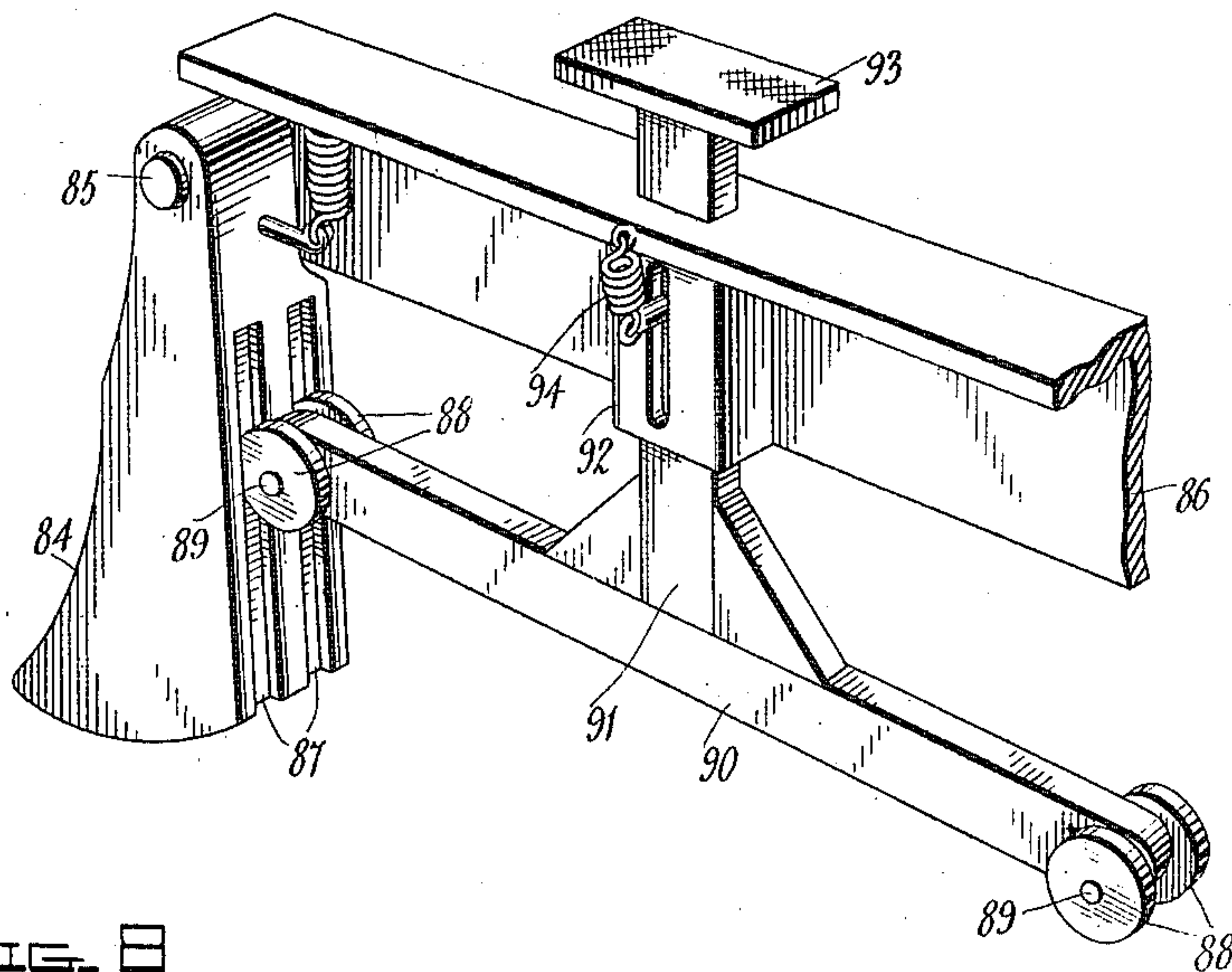


FIG. 8

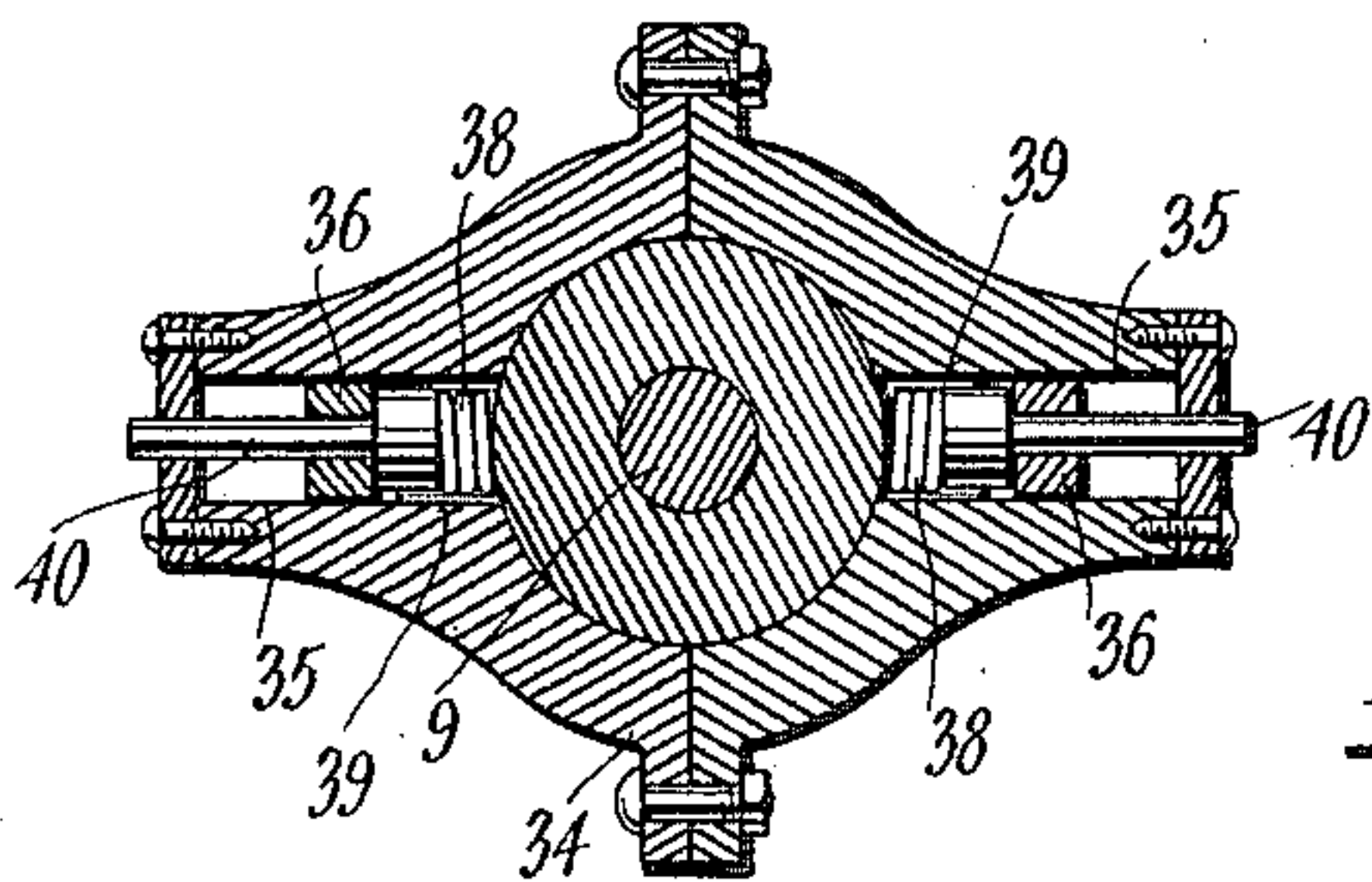


FIG. 9

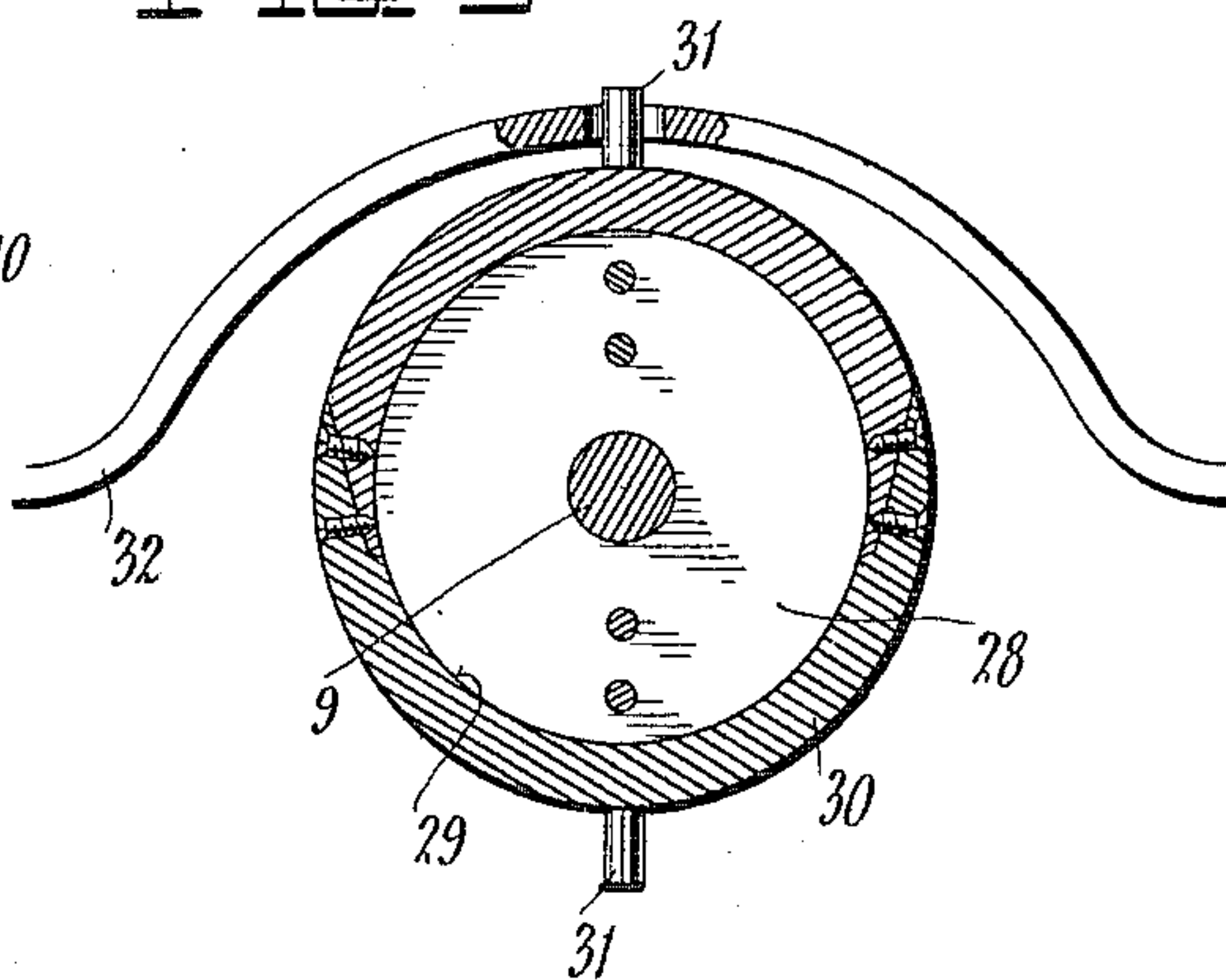


FIG. 10

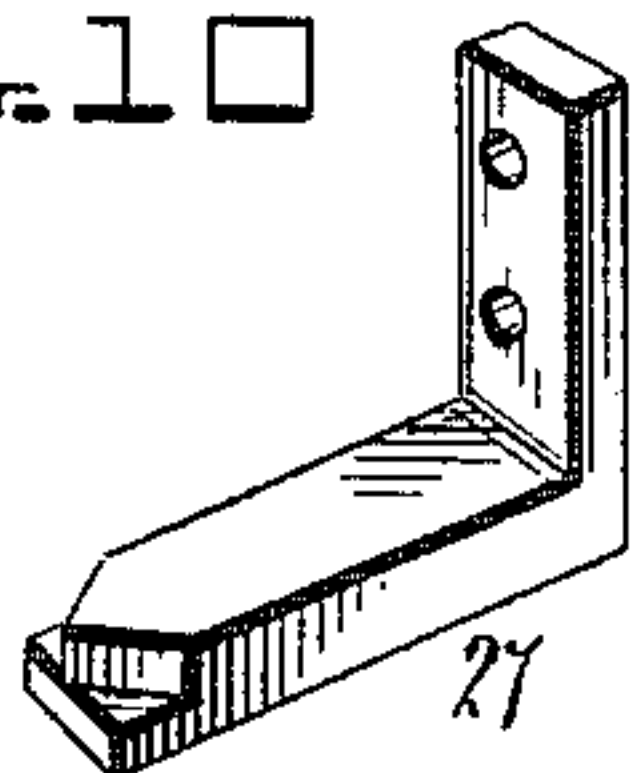
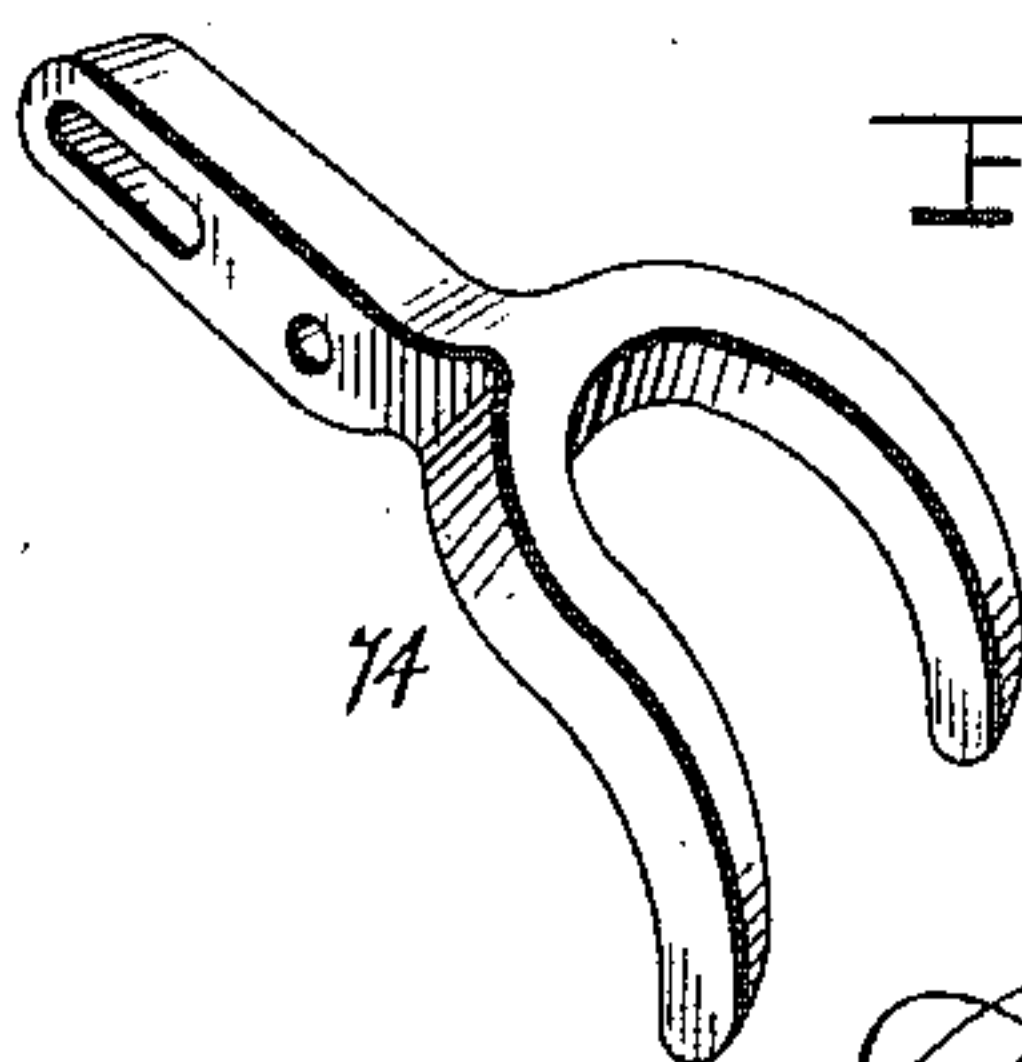


FIG. 11



Witnesses

Alfonso M. Paulero
M. J. Miller.

Inventor

Alfonso M. Paulero,

By

Alfonso M. Paulero

Attorneys

UNITED STATES PATENT OFFICE.

ALFONSO M. PAULERO, OF RICHMOND, VIRGINIA.

HAND-CAR.

995,284.

Specification of Letters Patent. Patented June 13, 1911.

Application filed December 15, 1910. Serial No. 597,481.

To all whom it may concern:

Be it known that I, ALFONSO M. PAULERO, a citizen of the United States, residing at Richmond, in the county of Henrico, State of Virginia, have invented certain new and useful Improvements in Hand-Cars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in railroad hand cars and the leading object of the invention is to provide a hand car having a manually driven shaft and improved clutch means for connecting the driven shaft with the rear axle whereby the car can be stopped or started at will.

With the above and other objects in view the invention consists in certain constructions, combinations and arrangements of parts, clearly described in the following specification, and clearly illustrated in the accompanying drawings, in which:—

Figure 1 is a plan view of the improved car. Fig. 2 is a side elevation. Fig. 3 is a transverse sectional view taken on the line 3—3 of Fig. 1. Fig. 4 is a longitudinal sectional view taken on the line 4—4 of Fig. 1. Fig. 5 is a detail bottom plan view showing the construction of the clutch and the means for operating the same. Fig. 6 is a horizontal sectional view thereof. Fig. 7 is a detail perspective view, on an enlarged scale, of the foot operated brake mechanism with one of the brake shoes removed. Fig. 8 is a detail transverse sectional view taken on the line 8—8 of Fig. 5. Fig. 9 is a detail sectional view of one of the clutch members. Fig. 10 is a detail perspective view of one of the clutch arms. Fig. 11 is a detail perspective view of an operating fork.

Referring to the accompanying drawings 5 denotes the platform of the car and 6 the front axle, which is mounted on depending bracket arms 7 and which has flanged wheels 8 journaled on its ends.

Rearwardly of the front axle 7 an axle 9 is supported by the depending brackets 10 and on the ends of said axle 9 the flanged wheels 11 are keyed. The shaft 9 is formed with a longitudinal slot 9' in which the key 9'' is fitted, said key being adapted to engage a recess 11' formed in each wheel 11.

The wheels 11 are held in place on the axle 9 by means of nuts 12 and pins 13. Adjacent to the rear axle 9 a small shaft 14 is journaled on the bracket 15 which is secured to the under side of the platform 5. The shaft 15 carries a gear wheel 16 which meshes with a gear wheel 17 loosely mounted on the rear axle 9. The gear wheel 16 is provided with a crank arm 18 which is pivotally connected to the lower end of the pitman 19 which extends through the platform 5 and pivotally connects to the ears 20 of the operating lever 21 which lever is pivoted at 22 to the frame 23.

The frame 23 is mounted on the platform 5 and extends sufficiently far above the same to support the operating lever 21 within convenient reach of persons mounted on the car. The lever 21 is provided on its opposite ends with handles 24 whereby said lever may be operated.

On one side of the gear wheel 17 a cylindrical member 25 is bolted, and said member 25 is formed with radially spaced V-shaped longitudinally extending grooves 26, into which fit the V-shaped arms or extensions 27 of the cylindrical member or wheel 28, which member or wheel is formed with projections that serve to key said member or wheel in longitudinal grooves formed in the rear axle 9. The member or wheel 28 is formed with a circumscribing groove 29, which groove receives a two-piece ring 30, which ring is formed with pins 31. The pins 31 are extended through the spanner lever 32 which is pivoted at 33 to the platform 5. Against the other side of the axle 17 a drum 34 is bolted, and said drum is formed with longitudinally extending recesses or slots 35. The recesses or slots 35 receive the inner ends of the brake rods or arms 36 which are pivoted at 37 to the drum 34, and which engage at their inner ends the springs 38 which are disposed in sockets 39 formed in the drum 34. The inner ends of the brake rods or arms 36 are connected to the guide pins which extend through openings in the drum 34 and the outer ends of said brake arms or rods 36 are adapted to bear against the conical friction wheel 41, which is loosely mounted on the rear axle 9 and which friction drum is formed with a circumscribing groove 42. In the circumscribing groove 42 of the friction drum 41 a sectional ring

43 is disposed, said ring being provided with pins 44 which are engaged by the spanner lever 45.

The spanner lever 32 is pivotally connected to a link 46 which is formed with an angular end 47 mounted on the rear axle 9 and which end is braced by the bar 48 to the said link 46. The link 46 is provided with a lateral pin 49 which moves in a slot 50 formed in one arm of the bell crank lever 51. The bell crank lever 51 is also formed with a slot 52 in its other arm which slot receives a pin 52' secured to the end of the link rod 53 which operates in the guides 54 secured to the platform 5.

The link rod 53 is pivotally connected to the lower end of the throw lever 55 which extends through the platform and is pivoted to the frame 23 at 56. The frame 23 carries a clutch rack 57 whereby the lever 55 may be adjusted. The spanner lever 45 is pivoted to a triangular link 58 which in turn is pivoted at 59 to the platform 5. One corner of the triangular link 58 carries a small pin 60 which moves in a slot 61 formed in the pusher plate 62, which plate is riveted to the link rod 63 said link rod being guided by the bearing strap 64 and being pivoted at 65 to the horizontal lever 66, which lever 66 is formed with a slot 67 to receive the pin 65 and is pivoted at 68 to the platform 5.

The lever 66 pivotally connects with the lower end of the operating lever 69 which extends through the platform and is pivoted at 70 to the frame 23. The lever 69 engages a clutch rack 71 mounted on the frame 20. A link 72 is slidably mounted on the rear axle 9 and is formed with laterally projecting eyes 73 which are engaged by the terminals of the fork 74 which fork is pivoted at 75 to the platform 5. The fork 74 is pivotally connected at 76 with the lever 77 which is formed with a slot 78, which receives the lateral pin 79 of the triangular link 80, which link is pivoted at 81 to the platform 5. The triangular link 80 carries a lateral pin 82 which moves in the slot 83 of the pusher plate 62.

When the wheel 28 is in the position shown in Fig. 5, so that the arms 27 of said wheel will be held out of engagement with the member or drum 25, the gear wheel 17 will rotate freely on the rear axle 9, and when the arms or extensions 27 of the wheel or member 28 are engaged in the slots 26 of said member or wheel 25 the gear 17 will be locked to the rear axle 9 and when the operating lever 21 is operated in the ordinary manner by applying force to the terminal handles 24 thereof, the gear 16 will be rotated by means of the pitman 19 and motion will be imparted to the gear 17, and consequently the rear axle 9 and the wheels 11 carried thereby will be rotated and the car propelled over its track.

The clutch element or wheel 28 is moved into engagement with the clutch element or wheel 25 by means of the link 46, which is operated by the throw lever 55, the connecting link 53 and the bell crank lever 51. When the throw lever 55 is pulled rearwardly the connecting link 46 will be moved to the right and the clutch element 28 will be brought into engagement with the clutch element 25, and when the throw lever 55 is moved in a forward direction said clutch element 28 will be moved away from the clutch element 25. By operating the lever 69 the conical friction wheel 41 may be moved against the brake arms or rods 36 and the clutch element 28 will be moved away from the clutch element 25. A forward movement of the lever 69 will cause the pusher plate 62 to move rearwardly, thereby tilting both the triangular links 58 and 80 and rocking the short links 77 and the spanner lever 45 on their pivots and this action will cause the fork 74 to move the small wheel 72 away from the angular end 47 of the link rod 46 while the spanner lever 45 will swing the spanner lever 32 toward the clutch element 25 and consequently lock the gear 17 to the axle 9.

In Figs. 1, 2, 4 and 7 a wheel brake mechanism is shown which comprises the brake shoes 84 which are pivoted at 85 to the depending bracket or bar 86 carried by the platform 5. The brake shoes 84 are formed with slots 87 which receive the rollers 88 carried by the shafts 89. The shafts 89 are connected together by means of a bar or rod 90 which in turn is connected to a vertical pusher rod or bar 91 movable in guideways 92 carried by the platform 5.

The bar or pusher rod 91 carries on its upper end a foot plate 93 whereby the brake shoes 84 can be forced against the wheels 8 and 11. The brake shoes 84 are so pivoted that they are normally held out of contact with the wheels 8 and 11 by gravity and the foot plate 93 is normally held above the platform 5 by means of expansion springs 94 arranged beneath said platform 5.

What is claimed is:—

1. A railroad hand car comprising a platform, an axle secured at one end to the platform and provided with wheels journaled thereon, an axle journaled on the other end of the platform, a manually driven shaft journaled on the platform, means for transmitting motion from the manually driven shaft to the second axle, and a combined clutch for locking the transmission means to the second axle and braking the rotation of the second axle.

2. A railroad hand car comprising a platform, a dead axle secured to the platform at one end thereof, wheels journaled on the ends of the dead axle, a live axle journaled on the other end of the platform, a gear

mounted on the live axle, a manually driven shaft journaled adjacent to the live axle, a gear mounted on said manually driven shaft to engage the gear of the live axle, a
5 clutch element secured to the gear on the live axle, a clutch element keyed to the live axle and adapted to be locked to the first clutch element, a spanner lever for operating the second clutch element and braking

means mounted on the live axle for braking 10 the rotation of the gear thereof and coacting with the spanner lever.

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

ALFONSO M. PAULERO.

Witnesses:

CHAS. N. JACKSON,
A. B. HOLMES.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
