

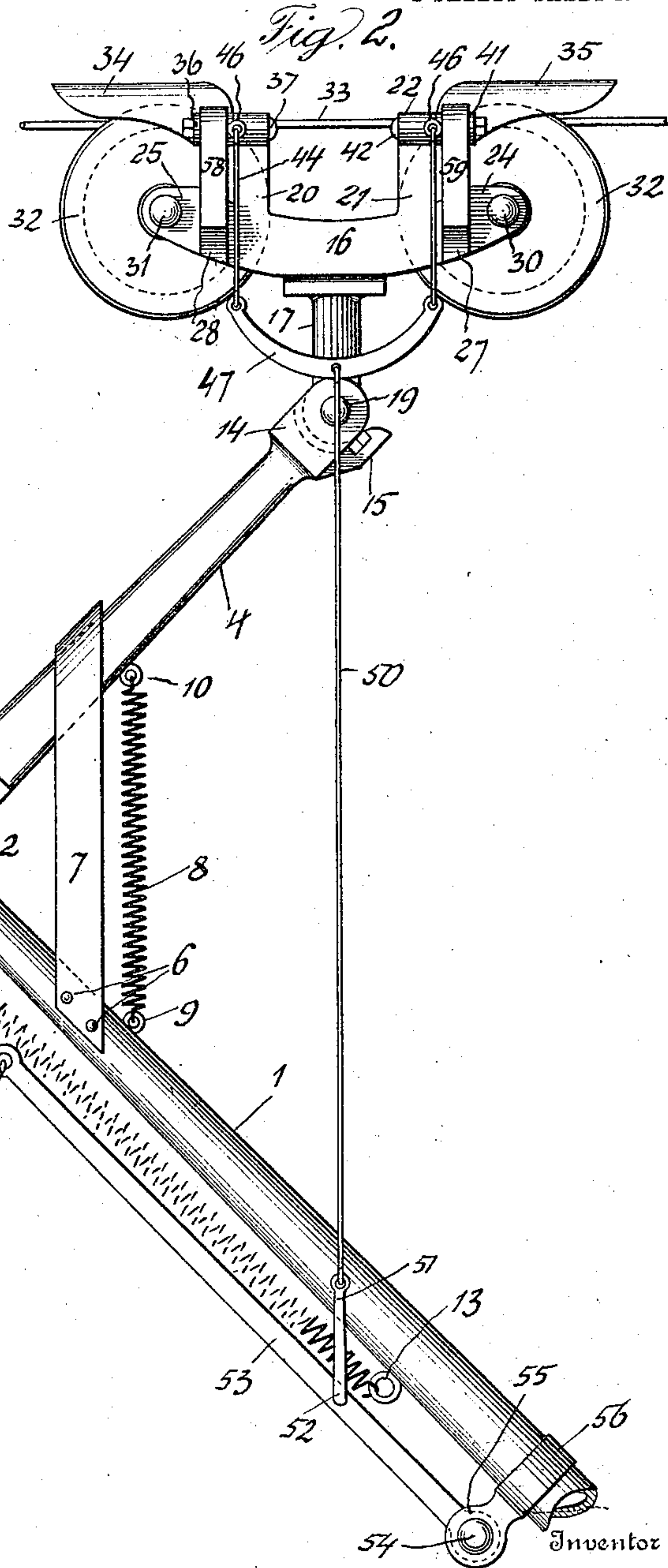
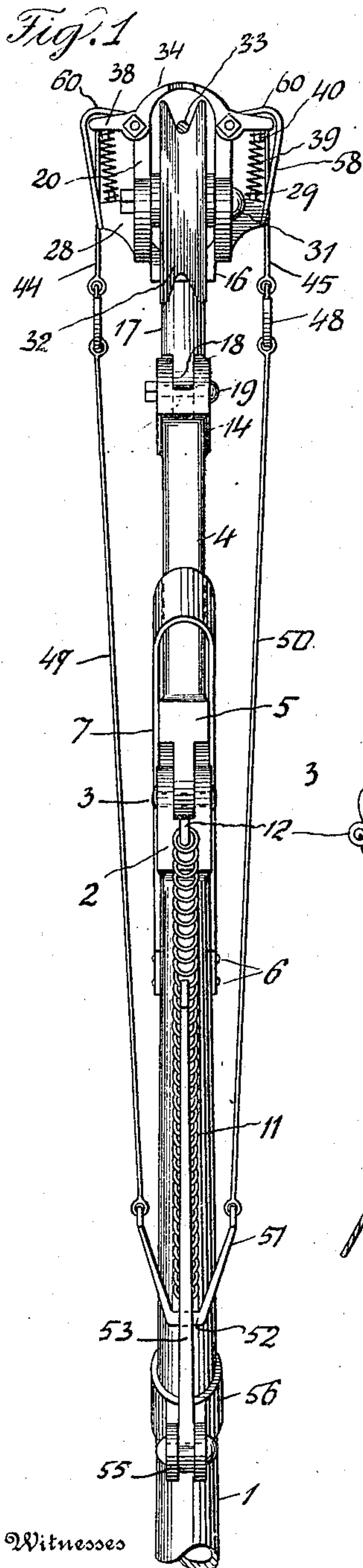
J. TARI.
TROLLEY.

APPLICATION FILED AUG. 14, 1909.

Patented Nov. 8, 1910.

2 SHEETS-SHEET 1.

975,302.



Witnesses

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Fig. 3.

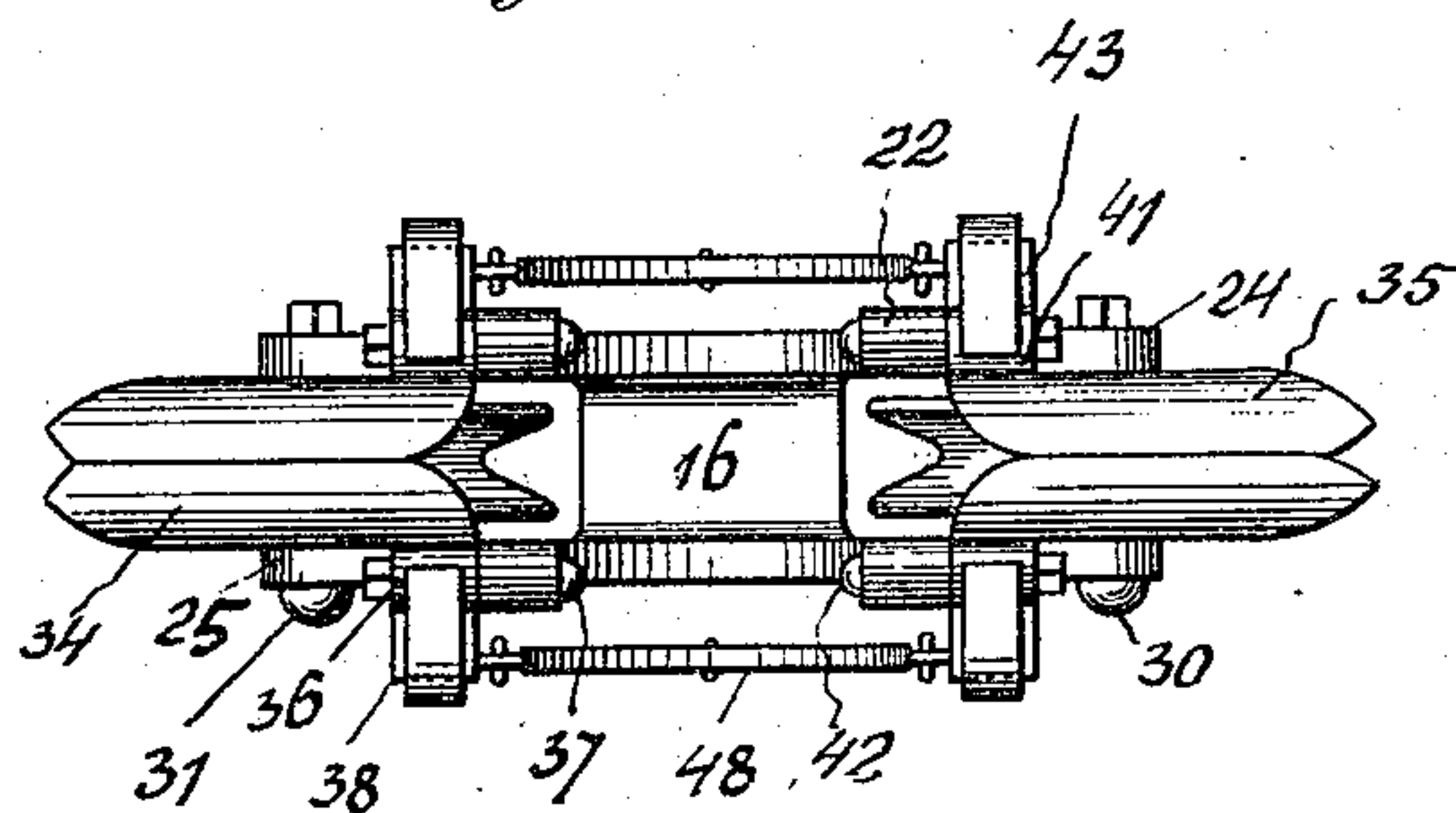


Fig. 4.

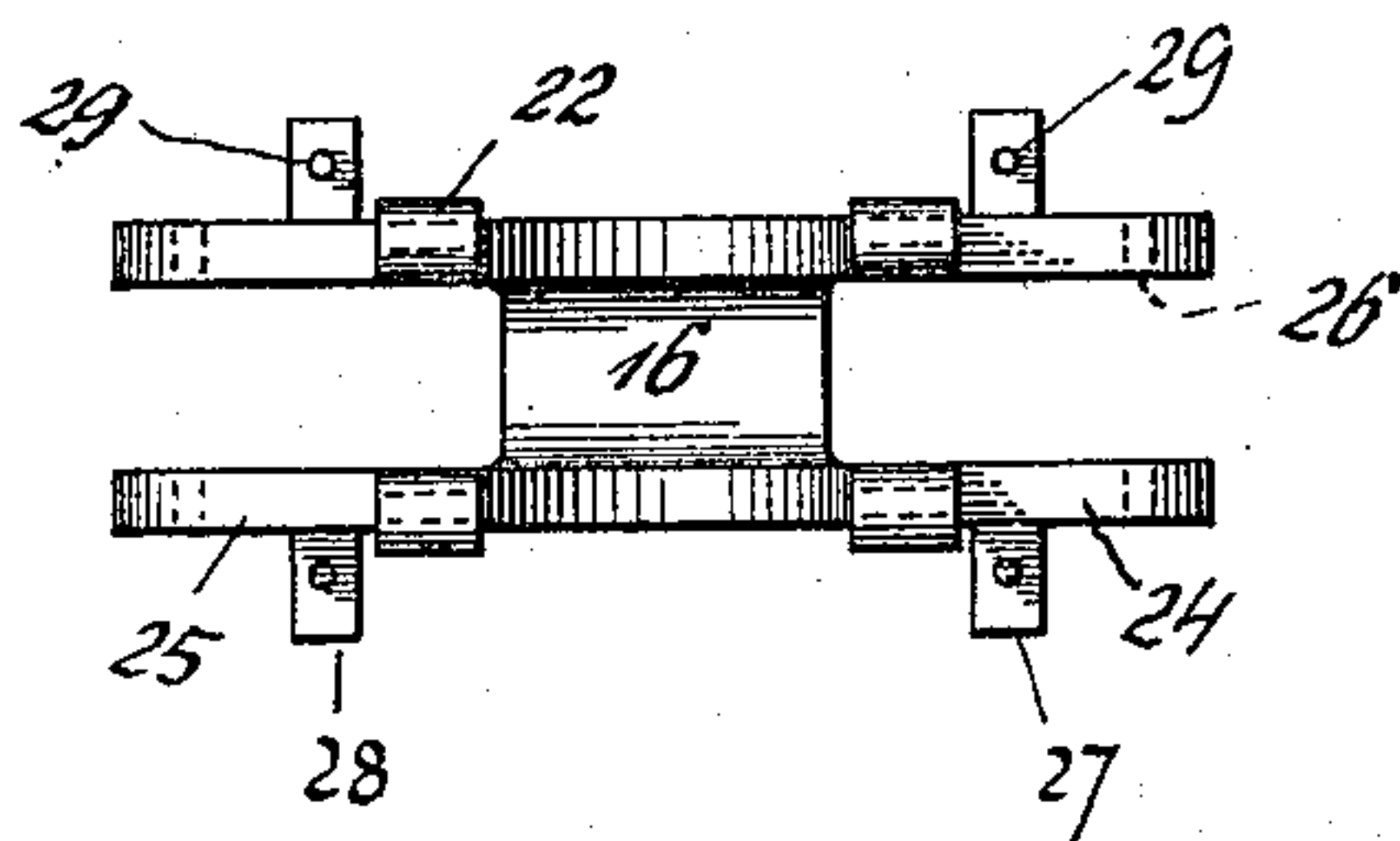
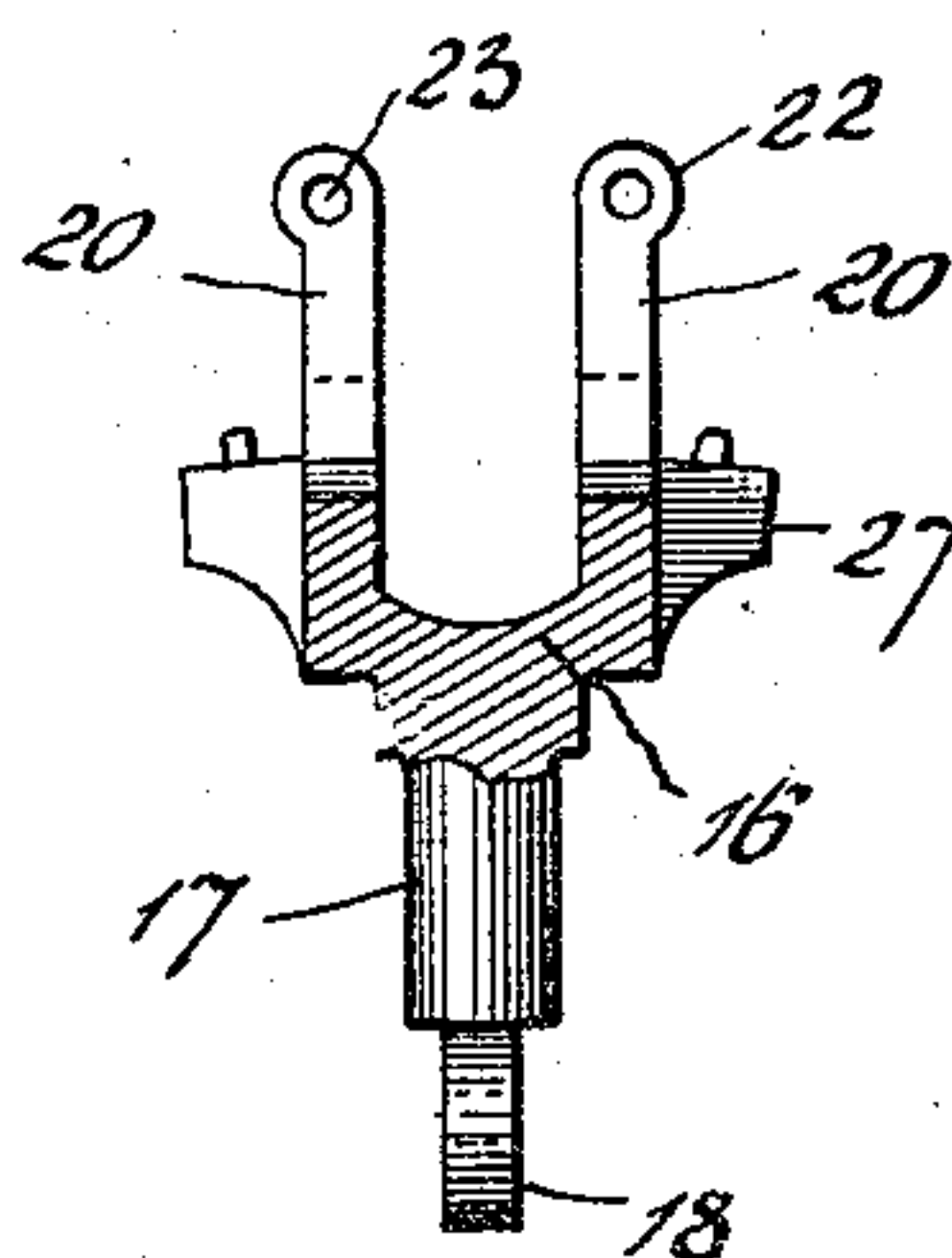


Fig. 5.



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TROLLEY.

975,302.

Specification of Letters Patent.

Patented Nov. 8, 1910.

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To all whom it may concern:

Be it known that I, JOHN TARI, a subject of the King of Hungary, residing at East Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Trolleys, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates to trolleys, and the objects thereof are to provide a device of such class which shall be comparatively simple in its construction, strong, durable, efficient in its use, having means for reducing the separation of the trolley wheels from the conductor to a minimum and for quickly and conveniently positioning the trolley against and releasing it from the conductor, and comparatively inexpensive to manufacture.

20 With the foregoing and other objects in view, the invention consists of the novel construction, combination and arrangement of parts as hereinafter set forth and illustrated in the accompanying drawings wherein is shown the preferred embodiment of the invention, but it is to be understood that changes, variations, and modifications can be resorted to which fall within the scope of the claims hereunto appended.

30 In the drawings wherein like reference characters denote corresponding parts throughout the several views,—Figure 1 is a rear elevation of a trolley in accordance with this invention, Fig. 2 is a side elevation, Fig. 3 is a plan of the top of the trolley, Fig. 4 is a plan of the trolley harp, and Fig. 5 is a cross sectional view of the harp.

40 A trolley in accordance with this invention comprises a pole for supporting the harp; a harp carrying a plurality of trolley wheels, a retaining device for the harp whereby the trolley wheels are detachably coupled with the conductor so as to reduce to a minimum the separation of the harp from the conductor during the travel of the trolley, and a releasing device to facilitate the separation of the trolley from the conductor when occasion so requires.

50 Referring to the drawings in detail, the pole comprises a lower section 1 adapted to be connected in a known manner to the car and having a bifurcated upper end 2. Pivotally connected by the pin 3 to the bifurcated

end 2 of the section 1 is the upper section 4 55 of the pole. The sections 1 and 4 extend at an inclination but in opposite directions with respect to each other. The section 4 is reduced at its lower end as at 5 and the said reduced end extends into the bifurcated 60 upper end of the section 1. Attached at its lower ends as at 6 to the section 1 and extending around the section 4 is a stop yoke 7 for limiting the upward movement of the section 4 with respect to the section 1, due to 65 the action of a pulling spring 11 which is connected at one end to an eye 13 and at its other end to an eye 12. The latter projects from the lower end of the section 4 and the former is attached to the section 1. Inter- 70 posed between the sections 1 and 4 and connected at one end to an eye 10 which projects from the section 4 and at its other end to an eye 9 which projects from the section 1 is a cushioning spring 8. The upper end 75 of the section 4 is provided with a lateral protuberance 15 which constitutes a stop for a purpose to be presently referred to.

The trolley harp consists of a U-shaped body portion 16 provided with a depending 80 arm 17 which is formed with a reduced apertured end 18. The yoke 14 straddles the reduced end 18 of the arm 17 and extending through the yoke and reduced end 18 of the arm 17 is a pin 19, the function of which is 85 to pivotally-connect the arm to the yoke. The protuberance 15 constitutes a means for limiting the movement of the harp in one direction on its pivot as is evident, and the movement of the harp upon its pivot in the 90 opposite direction is limited by the inner wall of the yoke 14. Formed integral with the body portion 16 are four vertically-extending arms which are arranged in pairs, the arms of one pair being indicated by the 95 reference character 20 and the arms of the other pair by the reference character 21. Each of the arms has an enlarged upper end 22, which is apertured as at 23. The harp is furthermore provided with four longitudi- 100 nally-extending arms, these arms are disposed at right angles with respect to the vertically-extending arms and are arranged at the ends of the body portion 16 and the said longitudinally-extending arms are further- 105 more arranged in pairs, the arms of one pair being indicated by the reference character 24 and the arms of the other pair by the reference

character 25. Each of the longitudinally-extending arms has its free end provided with an opening 26. The harp furthermore comprises four laterally-extending arms which are formed integral with and project at right angles with respect to the longitudinally-extending arms, said laterally-extending arms are arranged in pairs, the arms of one pair being indicated by the reference character 27 and the arms of the other pair by the reference character 28, and each of the laterally-extending arms has its upper face formed with a vertically-disposed lug 29. The openings 26 of the arms 24 are arranged in alignment and the openings 26 of the arms 25 are arranged in alinement, and journaled in the openings of the arms 24 is a shaft 30, and journaled in the openings of the arms 25 is a shaft 31, and mounted upon each of said shafts is a trolley wheel 32.

The retaining device for the harp whereby the trolley wheels are detachably-coupled with the conductor so as to reduce to a minimum the separation of the harp from the conductor during the travel of the trolley consists of four longitudinally-extending curved retaining arms which are adapted to project over the trolley wheels and abut and are maintained in such position so as to prevent the trolley wheels or harps from jumping above the conductor 33. The retaining arms are arranged in pairs, the arms of one pair being indicated by the reference character 34 and the arms of the other pair by the reference character 35. Each of the arms 34 is provided at its inner end and upon its outer face with a collar 36, which abuts against the enlarged end 22 of an arm 20 and is mounted upon a pivot 37 which extends through the opening 23 in the enlarged upper end of the arm 21, and by such an arrangement the arms 34 are pivotally-connected to the arms 20. Each of the arms 34 is furthermore provided with a laterally-extending protuberance 38 against which abuts an expansible spring 39 for maintaining the arms 34 in engagement with each other, the spring 39 at its upper end surrounds a lug 40 depending from the protuberance 38, and said spring 39 surrounds the lug 29 upon the arm 28, the spring 39 is interposed between a protuberance 38 and the arm 28. Each of the arms 35 is provided at its inner end and upon its outer face with a collar 41 which abuts against the enlarged end 22 of an arm 21, and is mounted upon a pivot 42 which extends through the opening 23 in the enlarged upper end of the arm 21, and by such an arrangement the arms 35 are pivotally-connected to the arms 21. Each of the arms 35 is furthermore provided with a laterally-extending protuberance 43 against which abuts an expansible spring 39 for maintaining the arms 35 in engagement with each other, the spring 39 at its upper end

surrounds a lug 40 depending from the protuberance 43, and said spring 39 surrounds the lug 29 upon the arm 27, the spring 39 is interposed between a protuberance 43 and the arm 27.

The releasing device for the retaining means of the device to facilitate the separation of the trolley from the conductor when occasion so requires comprises a series of depending links, arranged in pairs, the links of one pair being indicated by the reference character 44 and the links of the other pair by the reference character 45. One of the links of the pair of links 44 is connected to eye 46 carried by a collar 36 of an arm 34 and the other link of the pair of links to an eye 46 carried by a collar 41 of an arm 35. One of the links 45 of the other pair of links is connected to an eye 46 carried by the collar 36 of the other arm 34 and the other link of said pair is connected to an eye 36 carried by the collar 41 on the other arm 35. The links 44 are connected together at their lower ends by a curved coupling member 47 and the links 45 are connected together at their lower ends by a curved coupling member 48. Attached at its upper end to the curved coupling member 47 approximately centrally thereof is a depending pulling member 49 and attached at its upper end to the curved coupling member 48 approximately centrally thereof is a depending pulling member 50. The lower ends of the pulling members 49 and 50 are attached to the upper ends of the arms of a yoke 52 which straddles the section 1 of the pole and projects through an operating lever 53 which extends parallel with respect to the section 1 of the pole and is pivotally-connected as at 54 to the ears 55 projecting from a band 56 fixedly-secured to the section 1 of the pole. To the free end of the lever 53 is attached the trolley rope 57.

From the foregoing construction and arrangement of parts it is evident that when the trolley rope is pulled downwardly the lever 53 will be carried therewith, lowering the members 49 and 50, which in turn will pull the links 44 and 45 downwardly, shift the collars 36 and 41, rocking the arms 34 and 35 on their pivots to open position whereby the trolley can be released from the conductor 33. When the rope 57 is released the action of the springs 39 will cause the arms 34 and 35 to abut. When lowering the members 49 and 50, the harp will also be lowered carrying the upper section 2 of the pole therewith, such movement of the section 2 will be against the action of the spring 11 and will compress the spring 8, when the rope 57 is released the spring 11 will contract whereby the harp will be shifted, as is evident, toward the conductor 33. The trolley further comprises a plurality of com-

lined guards and stops, the function thereof being to protect the springs 39 and to limit the outward movement of the arms 34 and 35. The combined guards and stop members are arranged in pairs, one pair indicated by the reference character 58, and the other by the reference character 59. The members 58 and 59 are secured to the laterally-extending arms and at their upper ends are bent inwardly as at 60 and engage against the protuberances 38 and 43. When the arms 34 and 35 are shifted to open position the angular or bent ends of the members 58 and 59 engage the same and arrest the outward movement thereof. The members 58 and 59 extend upwardly and outwardly at an inclination and parallel with the springs 39 and by such an arrangement the springs are guarded to prevent injury thereto.

What I claim is:

1. A trolley comprising a harp including a body portion having at each end a pair of vertically disposed arms and a pair of longitudinally disposed arms, a lateral arm projecting outwardly from each of the longitudinal arms, normally abutting retaining members pivoted in said vertical arms, means mounted upon the lateral arms and engaging said members for maintaining them in abutting position, said members arranged over the longitudinal arms, means connected to said lateral arms and constituting combined guards and stops for said means and members, a trolley wheel journaled in each pair of longitudinal arms, and a pole connected to said body portion.

2. A trolley comprising a harp including a body portion having at each end a pair of vertically disposed arms and a pair of longitudinally disposed arms, a lateral arm projecting outwardly from each of the longitudinal arms, normally abutting retaining members pivoted in said vertical arms, means mounted upon the lateral arms and engaging said members for maintaining them in abutting position, said members arranged over the longitudinal arms, means connected to said lateral arms and constituting combined guards and stops for said means and members, a trolley wheel journaled in each pair of longitudinal arms, and a pole connected to said body portion, each of said lateral arms extending in a plane to one side of the plane in which extends a vertical arm.

3. A trolley comprising a harp including a body portion having each end provided with a pair of longitudinally extending apertured arms, said body portion further provided at each end with a pair of vertically-extending arms, laterally-extending arms projecting from said longitudinally-extending arms at the inner portions thereof, a trolley wheel in each pair of longitudinal arms, normally abutting retaining members

pivotaly mounted in the upper ends of said vertical arms and projecting over said longitudinal arms, means mounted upon the lateral arms and engaging said members for maintaining them in abutting position, means carried by the laterally-extending arms and constituting guards and stops for said means and members, links arranged in pairs, means for connecting each link to a member, and means for operating the links to shift the members.

4. A trolley comprising a harp including a body portion having each end provided with a pair of longitudinally-extending apertured arms, said body portion further provided at each end with a pair of vertically-extending arms, laterally-extending arms projecting from said longitudinally-extending arms at the inner portions thereof, a trolley wheel in each pair of longitudinal arms, normally abutting retaining members pivotaly mounted in the upper ends of said vertical arms and projecting over said longitudinal arms, means mounted upon the lateral arms and engaging said members for maintaining them in abutting position, means carried by the laterally-extending arms and constituting guards and stops for said means and members, and means connected with said members for shifting them.

5. A trolley comprising a harp including a body portion having each end provided with a pair of longitudinally extending apertured arms, said body portion further provided at each end with a pair of vertically-extending arms, laterally-extending arms projecting from said longitudinally-extending arms at the inner portions thereof, a trolley wheel in each pair of longitudinal arms, normally abutting retaining members pivotaly mounted in the upper ends of said vertical arms and projecting over said longitudinal arms, means mounted upon the lateral arms and engaging said members for maintaining them in abutting position, means carried by the laterally-extending arms and constituting guards and stops for said means and members, links arranged in pairs, means for connecting each link to a member, and means for operating the links to shift the members, each of said lateral arms arranged to one side of the plane in which extends a vertical arm.

6. A trolley comprising a harp including a body portion having each end provided with a pair of longitudinally-extending apertured arms, said body portion further provided at each end with a pair of vertically-extending arms, laterally-extending arms projecting from said longitudinally-extending arms at the inner portions thereof, a trolley wheel in each pair of longitudinal arms, normally abutting retaining members pivotaly mounted in the upper ends of said vertical arms and projecting over said lon-

gitudinal arms, means mounted upon the lateral arms and engaging said members for maintaining them in abutting position, means carried by the laterally-extending
5 arms and constituting guards and stops for said means and members, and means connected with said members for shifting them, each of said lateral arms arranged in a plane

to one side of the plane in which extends a vertical arm.

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

JOHN TARI.

Witnesses:

TARSEF TOPP,
ANDE FELEI.