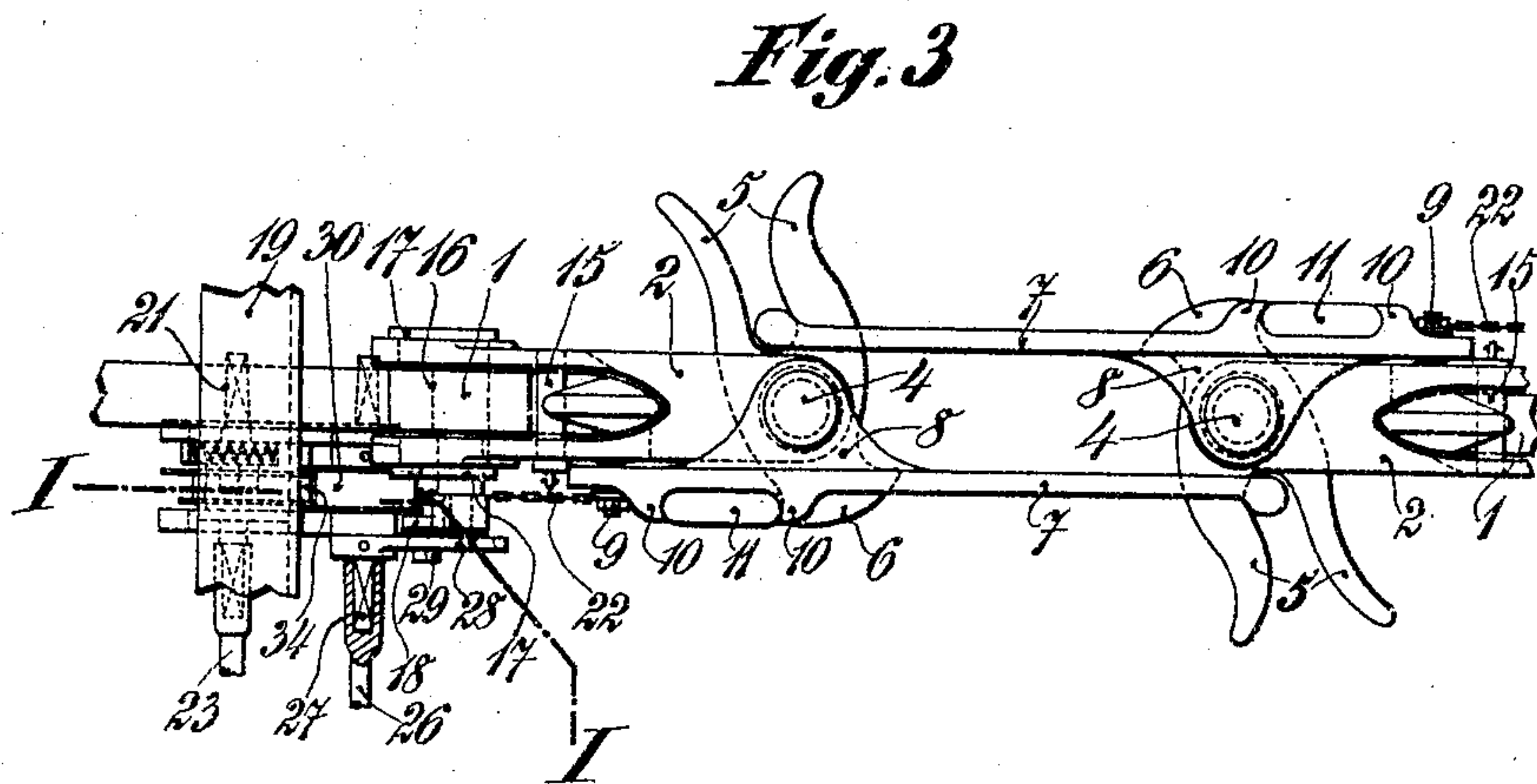
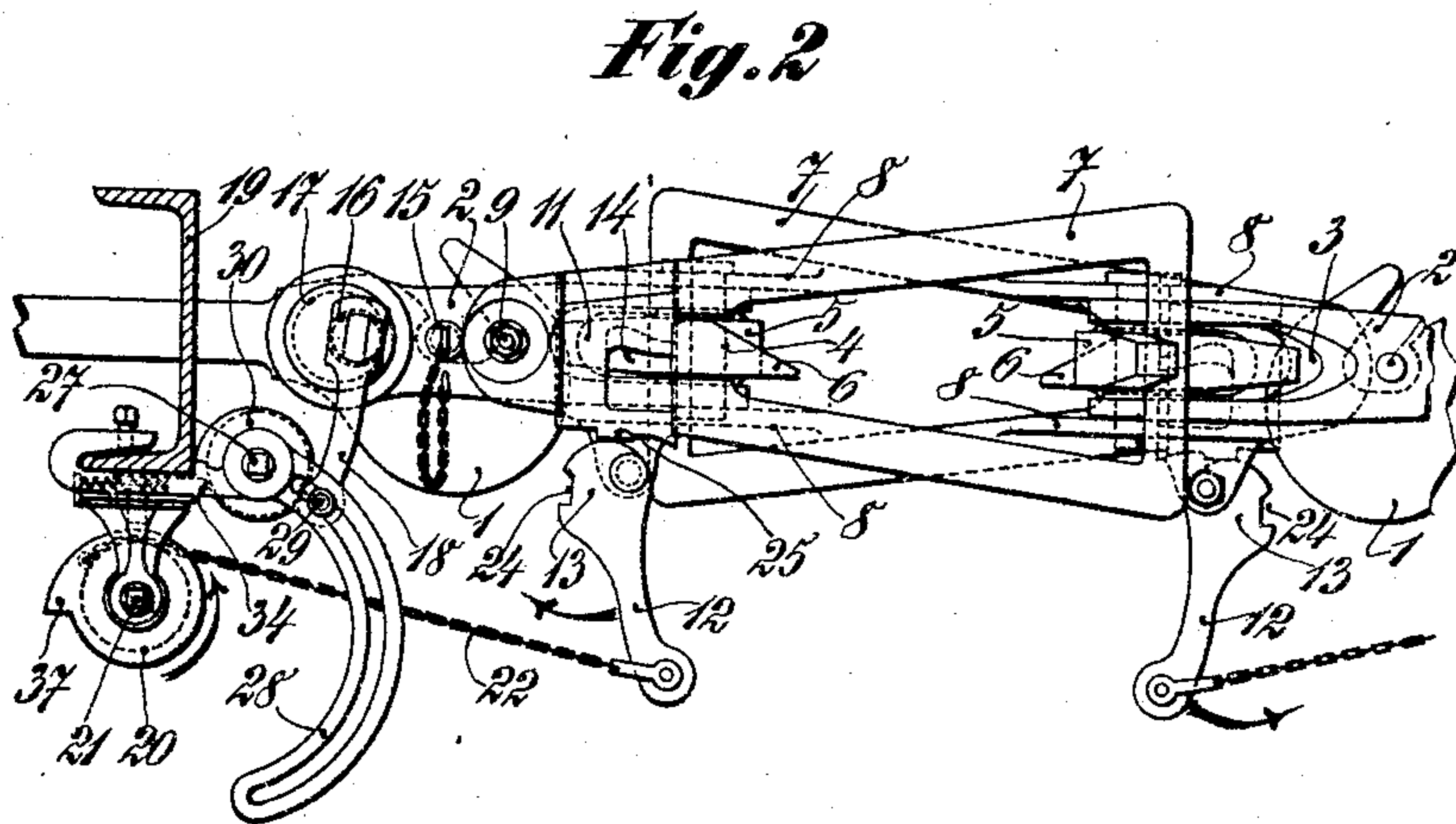
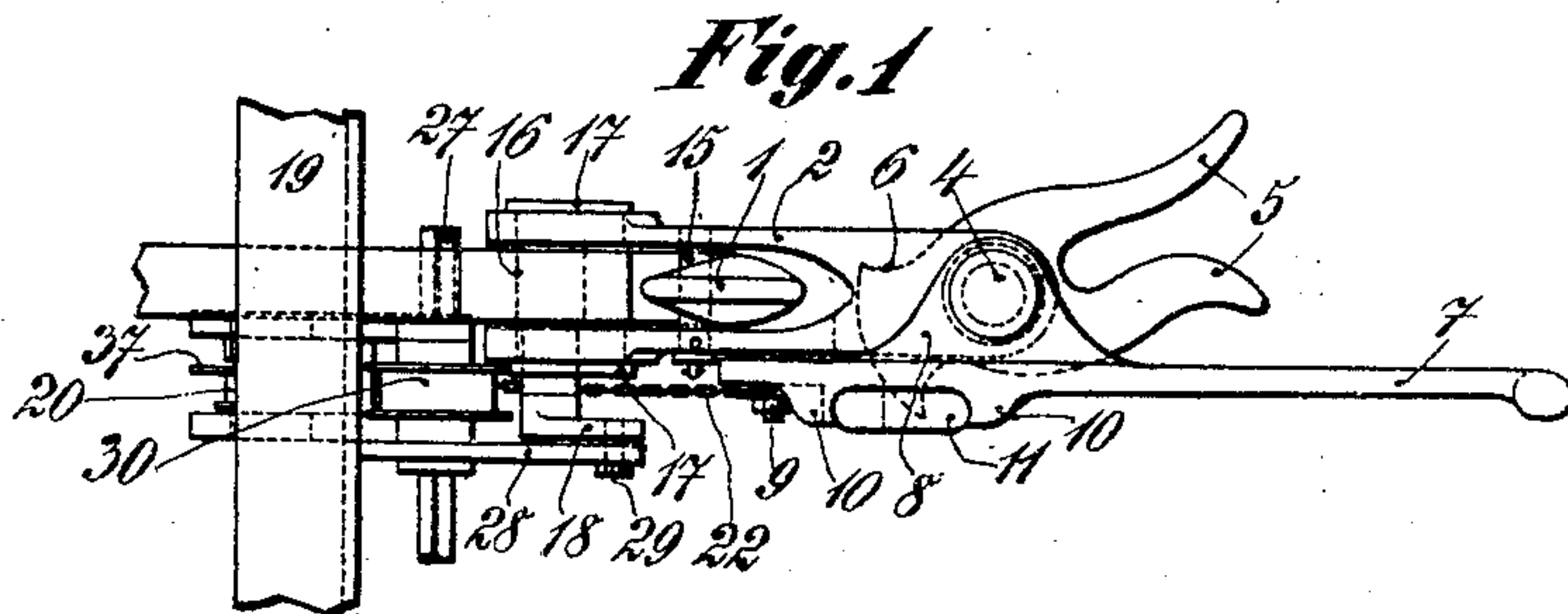


A. FODOR.
RAILWAY CAR COUPLING.
APPLICATION FILED SEPT. 16, 1904.

2 SHEETS—SHEET 1.



Witnesses

H. W. Kuehn

John A. Perival

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2 SHEETS—SHEET 2.

Fig. 4

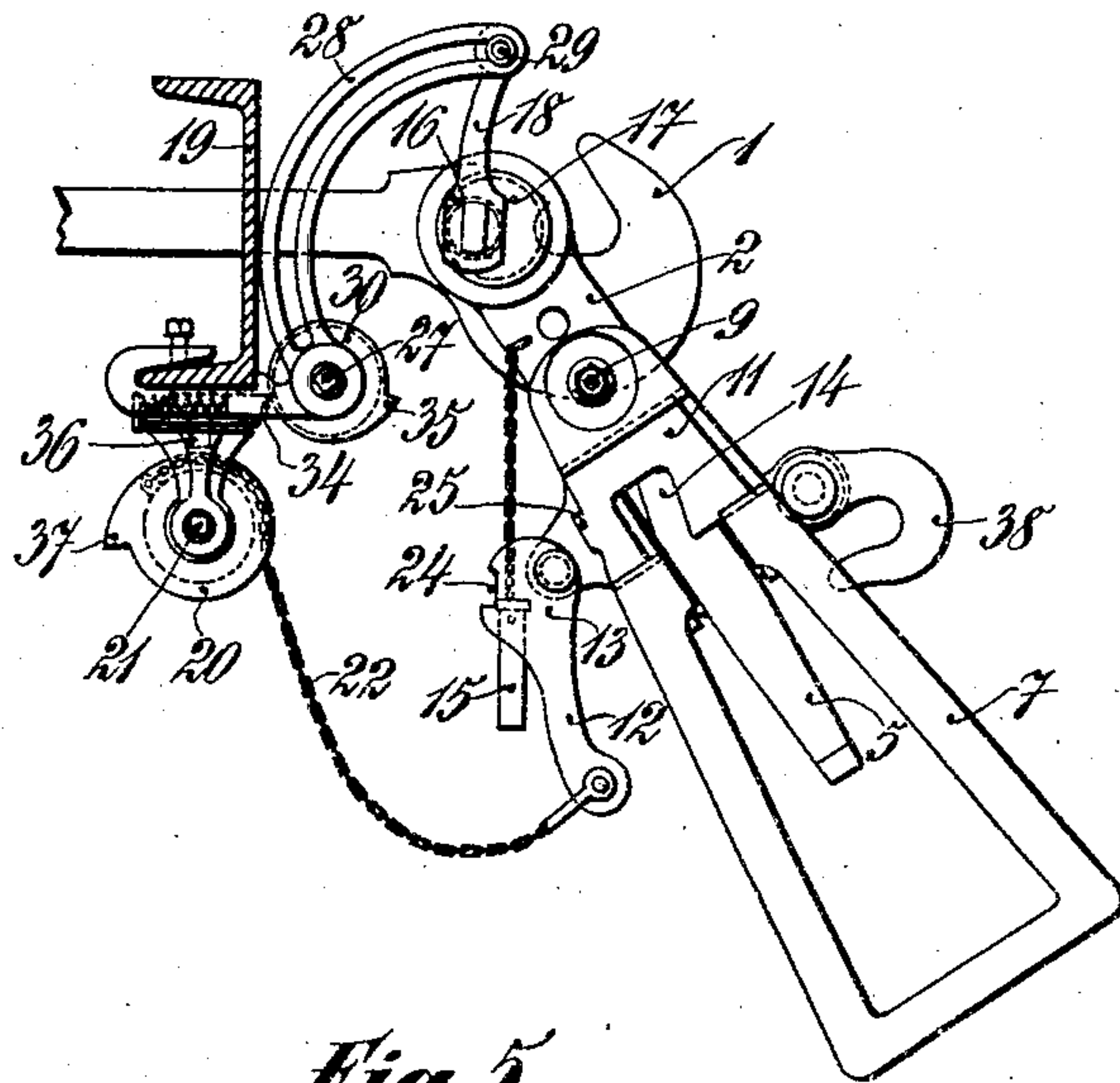


Fig. 5

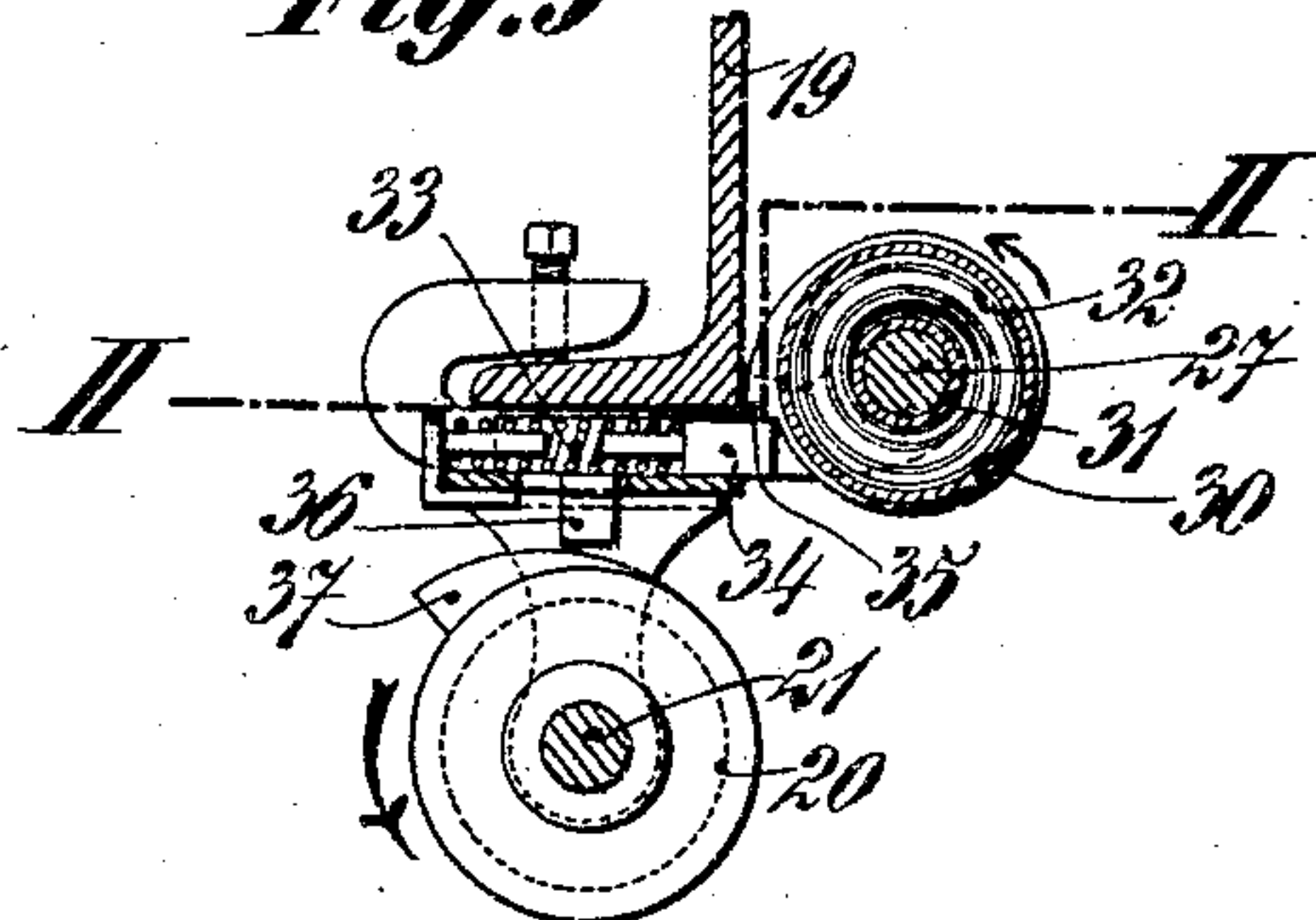
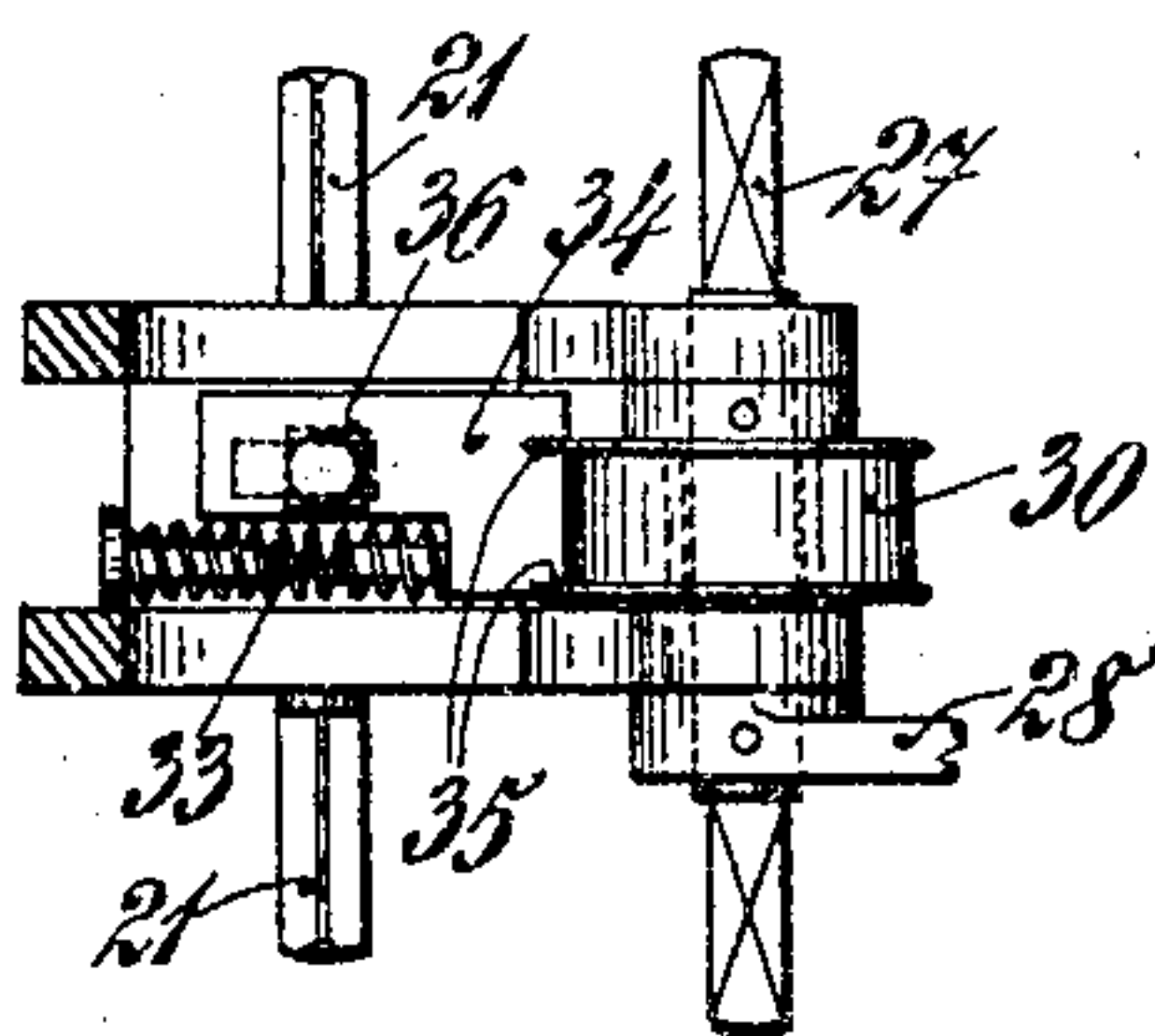


Fig. 6



Witnesses
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UNITED STATES PATENT OFFICE.

ANTHONY FODOR, OF VIENNA, AUSTRIA-HUNGARY, ASSIGNOR OF ONE-HALF
TO NICOLAS DE SZEMERE, OF BUDAPEST, HUNGARY.

RAILWAY-CAR COUPLING.

SPECIFICATION forming part of Letters Patent No. 779,472, dated January 10, 1905.

Application filed September 16, 1904. Serial No. 224,708.

To all whom it may concern:

Be it known that I, ANTHONY FODOR, artistic locksmith, a subject of the King of Austria-Hungary, and a resident of No. 90 Eugengasse, Vienna, in the Empire of Austria-Hungary, have invented a certain new and useful Improved Railway-Car Coupling, of which the following is an exact, full, and clear description.

This invention relates to an automatic laterally-detachable railway-car coupling in which vertically-arranged shackles and horizontally-movable bifurcated coupling members effect the coupling action in such a manner that the shackles of the couplings when engaging in the opposite bifurcated members twist the latter and automatically secure same in such a position in which it is not possible for the shackles to move out of the prongs. Thus the coupling, instead of the ordinary screw-coupling, is so connected in the draw-hook that it can be easily swung downward when the car is to be coupled with a car only provided with a screw-coupling. Moreover, means are provided for tightening the engaged coupling, whereupon this tightening is automatically annulled by the uncoupling action, so as to always have the coupling in readiness to be coupled.

Referring to the accompanying drawings, Figure 1 is a plan of the coupling in readiness to be coupled. Figs. 2 and 3 show two coupled and tightened couplings in side elevation and plan, respectively. Fig. 4 shows a coupling swung downward, thus put out of use. Fig. 5 shows, on a larger scale, a section of Fig. 3 on line I I; and Fig. 6, a section of Fig. 5 on line II II.

The coupling consists of a shackle 2, which, after the manner of the ordinary screw-coupling and in substitution thereof, is attached to the draw-hook 1. The horizontal bifurcated coupling member 5, which rotates on a vertical pin 4, is so mounted in a corresponding bifurcated recess 3 (Fig. 2 on the right hand) in the free end of the shackle that the prongs of the bifurcated coupling member are turned away from the car. The bifurcated coupling member 5 is extended beyond

the pin 4 to a horizontal wedge-shaped projection 6, curved concentrically to the pin 4. On the right side of the shackle 2 as seen from the car is arranged the shackle 7, whose extensions and yoke are situated in a vertical position. The shackle 7 is linked, by means of ears 8, to the pin 4 of the bifurcated coupling member 5, so that it is flexible in a horizontal direction. This linkage is restricted within small limits by a set-screw 9, so that the shackle 7 only retains a small amount of play in a horizontal direction. On the outside of the shackle 7 a vertically-movable slide 11 is so mounted in guides 10 that it lies in the moving-path of the projection 6 of the bifurcated coupling member 5. Beneath this slide 11 is mounted an eccentric 13, which can be turned in the plane of the shackle 7 by means of the lever 12. The slide 11 bears on the eccentric by its own weight and can be raised in the guides 10 by means of the latter. The slide 11 is provided with a lateral recess 14, which when the slide 11 is raised affords the projection 6 of the bifurcated coupling member 5 a free passage, and consequently permits the latter to turn in any direction; but when the slide descends only a small portion of its recess 14 protrudes into the path of the projection 6, which only permits the penetration of the wedge point of the projection 6, Fig. 1, when the bifurcated coupling member 5 is turned to the left. In this case the projection 6 in consequence of its wedge form then raises the slide 11, which immediately descends again when the projection 6 has passed it, Fig. 3, and the bifurcated coupling member will thereby be prevented from turning back, because now the whole of the slide is located in front of the high rear portion of the wedge-shaped projection 6, Fig. 2. Only when the slide ascends the projection 6 and the bifurcated coupling member 5 can move backward.

A horizontal bolt 15, extending through the shackle 2 and the draw-hook 1, holds the entire coupling in the horizontal position necessary for coupling. The bolt 16, connecting the shackle 2 to the draw-hook 1, is provided at both ends with eccentrics 17, on which the

shackle 2 is mounted, so that by turning the bolt 16 by means of the lever-arm 18 connected thereto the coupling may, if desired, be tightened against the car or removed therefrom.

The operation of this coupling is as follows: If two cars move toward each other and their couplings are in the position as shown in Fig. 1, each shackle 7, with its vertical yoke, engages with the bifurcated coupling member 5 of the opposite coupling and twists the latter out of the position Fig. 1 into the position Fig. 3. If the slides 11 of both couplings are in their low position and the bifurcated coupling members 5 are in the position as shown in Fig. 3, these slides 11 drop in behind the projections 6 in the manner described, thereby prevent their return movement, and consequently also the passing of the shackles 7 out of the bifurcated coupling members 5, whereby a safe and reliable coupling is established. If, however, during the approach of the cars the slides 11 are raised by means of the eccentrics 13, a twisting of the bifurcated coupling members by the shackles of course takes place, but not a coupling, because the bifurcated coupling members can freely turn to and fro when the slides 11 are in the raised position, and consequently when the cars move away from each other the bifurcated coupling members are returned to their initial position by the shackles. The united couplings can now be tightened by means of the described bolts 16, in that the latter are turned in such a manner that their eccentrics 17 are directed toward the buffer-board 19. The uncoupling is effected by raising the slides 11 by means of the eccentrics 13, the latter being turned in the direction of the arrow indicated in Fig. 2, while at the same time the eccentrics 17 are turned at an angle of one hundred and eighty degrees in order to disengage the couplings.

The eccentric 13, acting on the slide 11, and also the bolt 16, together with the eccentrics 17, are actuated from the side of the car, and such an arrangement is provided whereby the raising of the slide for the purpose of uncoupling and also the untightening of the coupling or the turning of the bolt 16 in a suitable manner are effected automatically, so that the disengaged coupling is always untightened. For this purpose a small chain-drum 20, with its horizontal shaft 21, is mounted on the lower side of the buffer-board 19 and parallel to the latter. A chain 22 leads therefrom to the actuating-lever 12 of the eccentric 13. The drum 20 can be so turned by means of a key 23, Fig. 3, mounted on its shaft 21, that the chain 22 is wound on the drum and pulls the lever 12, whereby the eccentric 13, which raises the slide 11, will be turned. The eccentric 13 has on its apex a small recess 24 and the slide 11 on its lower side a corresponding lug 25, Fig. 4, which engages in the recess 24 of the eccentric 13

when the latter has attained its highest position, and thereby the slide is completely raised, thus preventing the eccentric from making an involuntary backward movement.

The bolt 16 is operated by a shaft 27, which is provided with a key 26, Fig. 3, and mounted at the front side of the buffer-board 19, parallel to the latter. The said shaft 27 carries a looped lever 28, in whose loop the free end of the lever 18, mounted on the bolt 16, engages with a pivot 29. On the shaft 27 is secured a spring-barrel 30, in which is arranged a spiral plate-spring 32, Fig. 5, which is connected with the inner end to a sleeve 31, secured to one of the shaft-bearings, and with the outer end to the spring-barrel. This plate-spring always tends to turn the shaft 27 in the direction of the arrow, Fig. 5. Beneath the buffer-board 19 is mounted a bolt 34, Figs. 5 and 6, which is held against the spring-barrel 30 by a spring 33. The projections 35 of the spring-barrel bear against the said bolt and prevent the barrel, as well as the shaft 27, from rotating and secure the looped lever 28 in its lower-end position, Fig. 2. The bolt 34 has on its lower side a lug 36, which lies in the path of a projection 37, provided on the periphery of the chain-drum 20.

If the chain-drum 20 is turned in the direction of the arrow, Figs. 2 and 5, so as to effect the uncoupling in the manner described, the projection 37 abuts against the lug 36 of the bolt 34, moves the latter back, and releases the projections 35 of the spring-barrel 30. Now the looped lever 28 is turned upward into its high-end position, Fig. 4, by the action of the spring 32, the lever 18 is turned at an angle of one hundred and eighty degrees, and the eccentrics 17 of the bolt 16 are moved out of the tightening position, Fig. 2, into the untightening position, Figs. 1 and 4. If the coupling is again to be set in readiness for being coupled, only the eccentric-lever 12 is turned downward by hand, while the drum 20 is returned to its former position. The tightening of the engaged coupling is then effected by turning the spring-barrel shaft 27 by means of the key 26 from left to right until the projections 35 of the spring-barrel 30 again engage above the bolt 34.

If the automatic coupling is to be put out of operation when the respective car must be coupled with a car only provided with an ordinary screw-coupling, the bolt 15 is removed from the shackle 2 and the coupling hangs downward therefrom and uncovers the draw-hook, Fig. 4. The cars can now be coupled with the screw-coupling, and there is another hook, 38, provided on the shackle 7 for the emergency-coupling.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim, and wish secure by Letters Patent, is—

1. Improved railway-car coupling characterized by a shackle 2 held by the bolt 15 and carrying the shackle 7 and the bifurcated coupling member 5 which rotates on the bolt 4, the projection 6 of the bifurcated coupling member bearing against a slide 11 actuated by an eccentric 13 and movable in the shackle 7 while means are provided whereby, after the coupling, the shackles 2 can be removed apart and thereby tighten the coupling, substantially as described and shown in the drawings.

2. Improved railway-car coupling, the arrangement whereby the tightening of the coupling is effected by an eccentric 17 of the shackle 2, which eccentric is provided on the eccentric-bolt 16 and is moved by a lever 18 substantially as described and shown in the drawings.

3. Improved railway-car coupling, the arrangement wherein the movement of the lever 18 is effected by a lever 28 which is actuated by a driving-spring in the casing 30, while the latter is locked in the tightened position by a projection secured thereto and a spring-bolt 34 secured to the buffer-plate 19 substantially as described and shown in the drawings.

4. Improved railway-car coupling, the arrangement wherein the eccentric 13 which actuates the slide 11 is moved by a chain 22 fastened to the lever 12 and passing over a drum secured to the buffer-plate, the projection 37 of said drum moving back the spring-bolt 34 for the purpose of disengaging or untightening the coupling, substantially as described and shown in the drawings.

This specification signed and witnessed this 25th day of August, A. D. 1904.

ANTHONY FODOR.

In presence of—

GREGORY LRAPPANYOS,
MARTIN DOENIGER.