

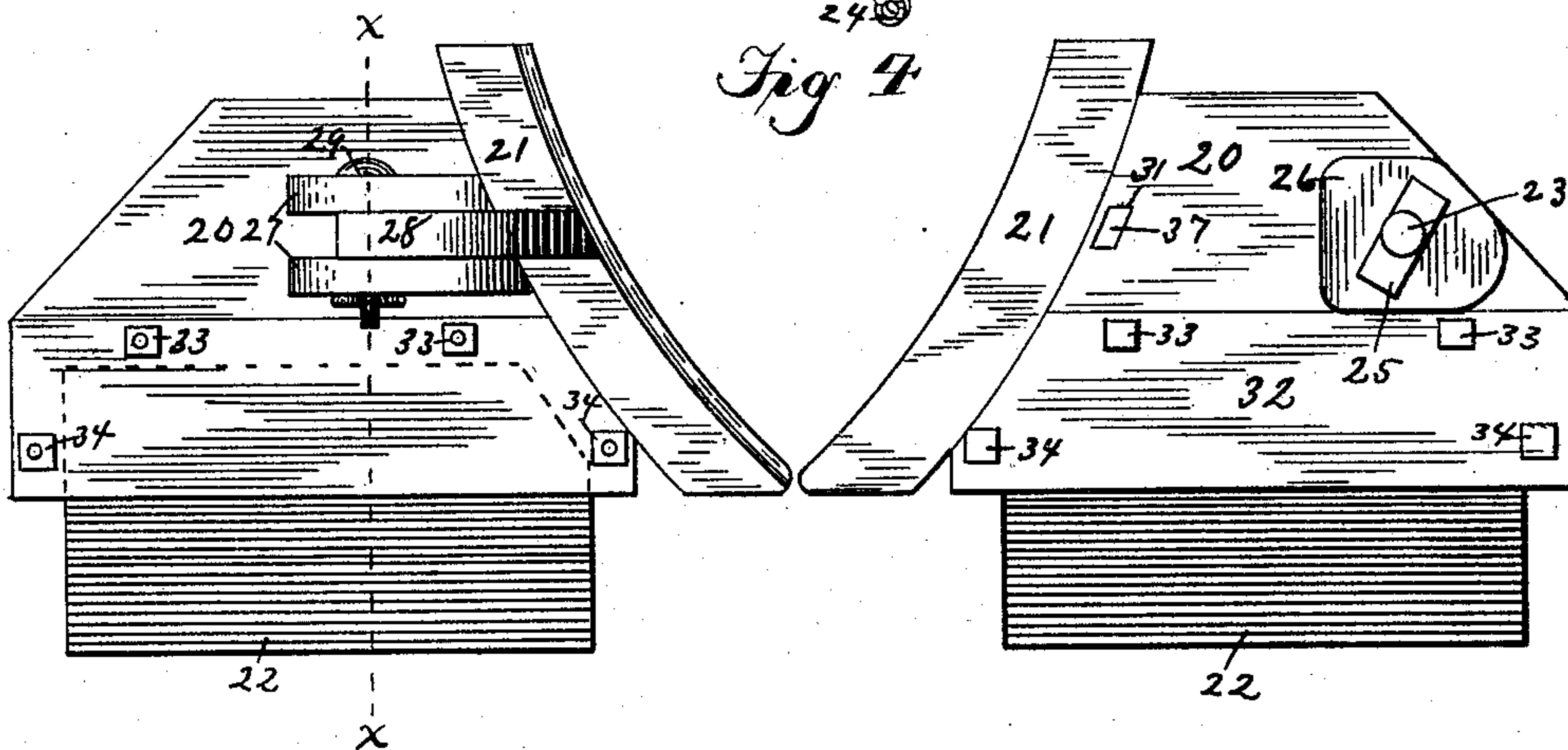
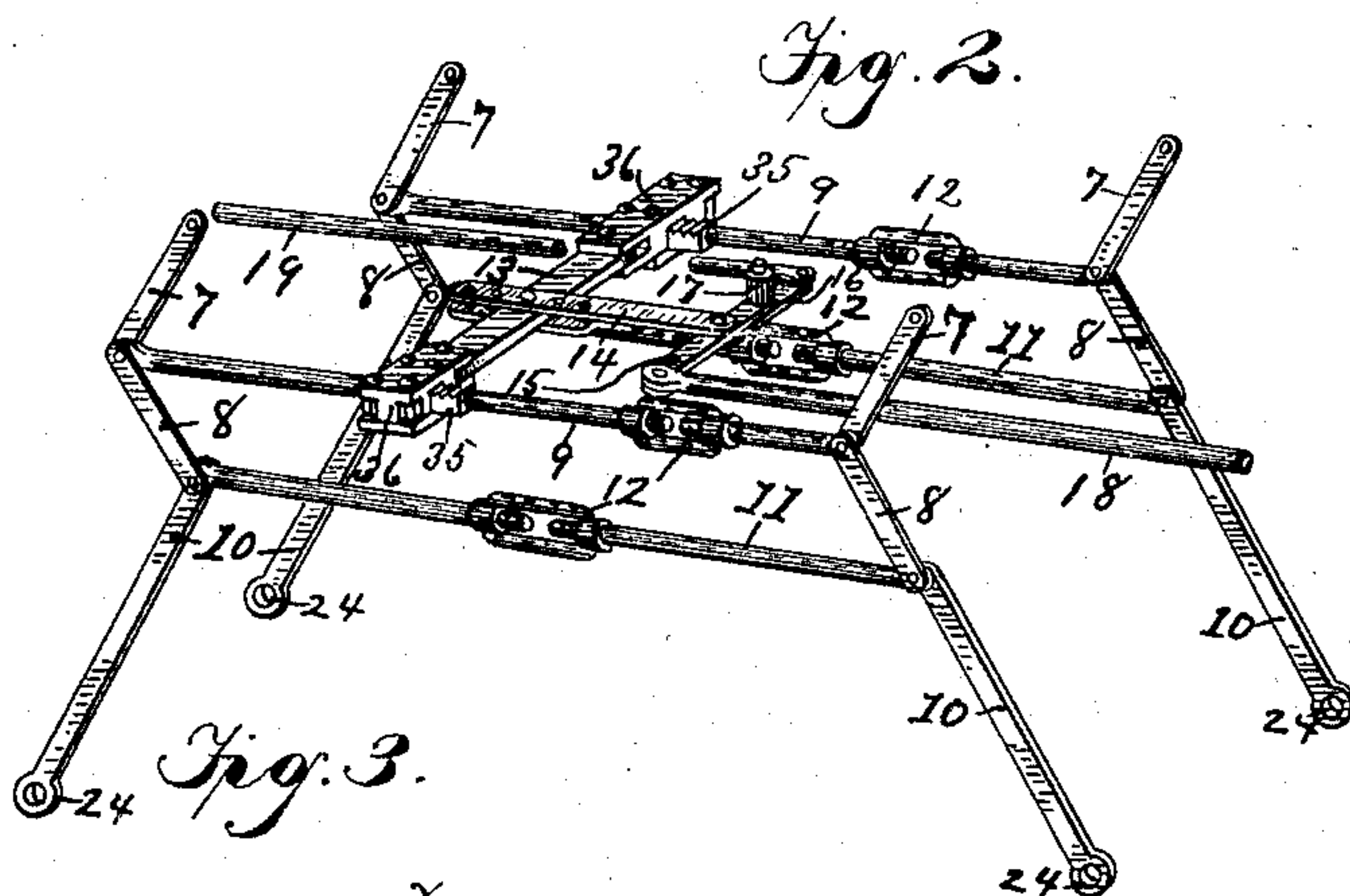
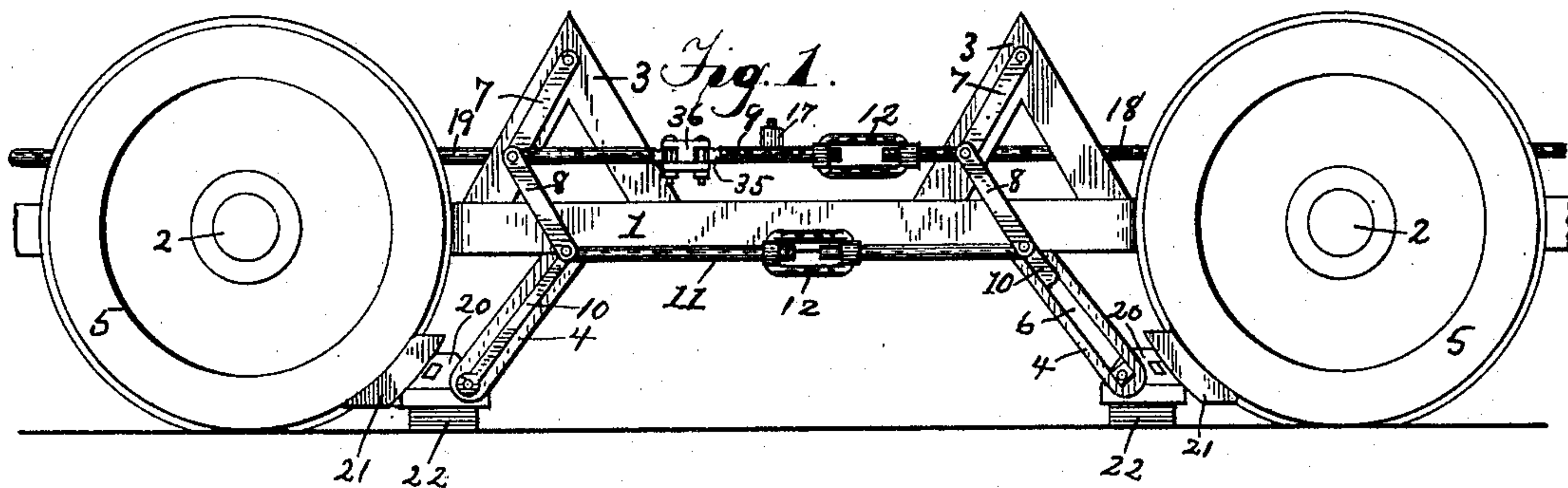
(No Model.)

2 Sheets—Sheet 1.

F. W. WOHLBERG.
COMBINED TRACK AND WHEEL BRAKE FOR STREET CARS.

No. 603,716.

Patented May 10, 1898.



Witnesses:
G. S. Frye.
L. Nathan.

Inventor.
Fred W. Wohlenberg.
By
Heber S. Parmory,
Attorney.

(No Model.)

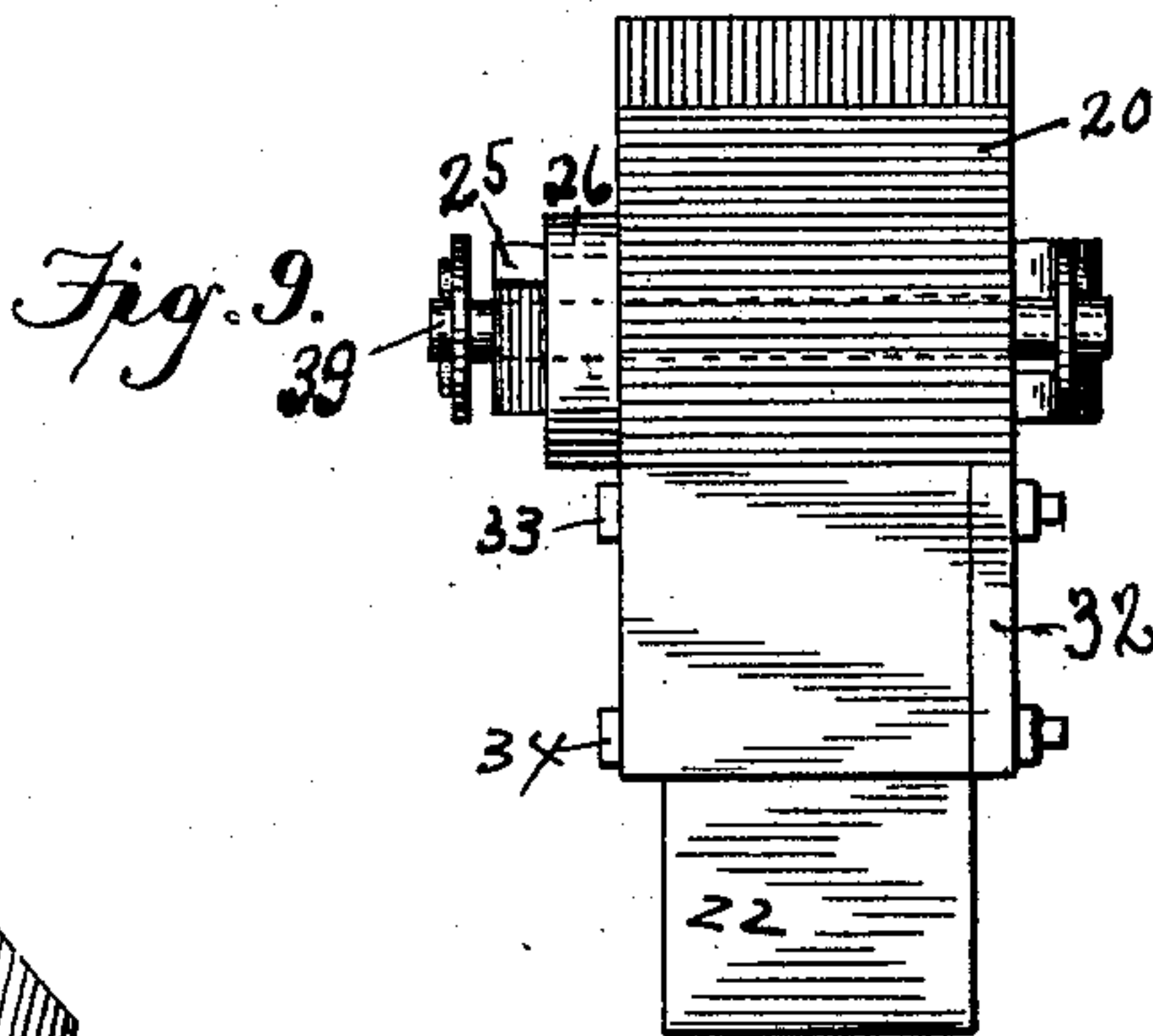
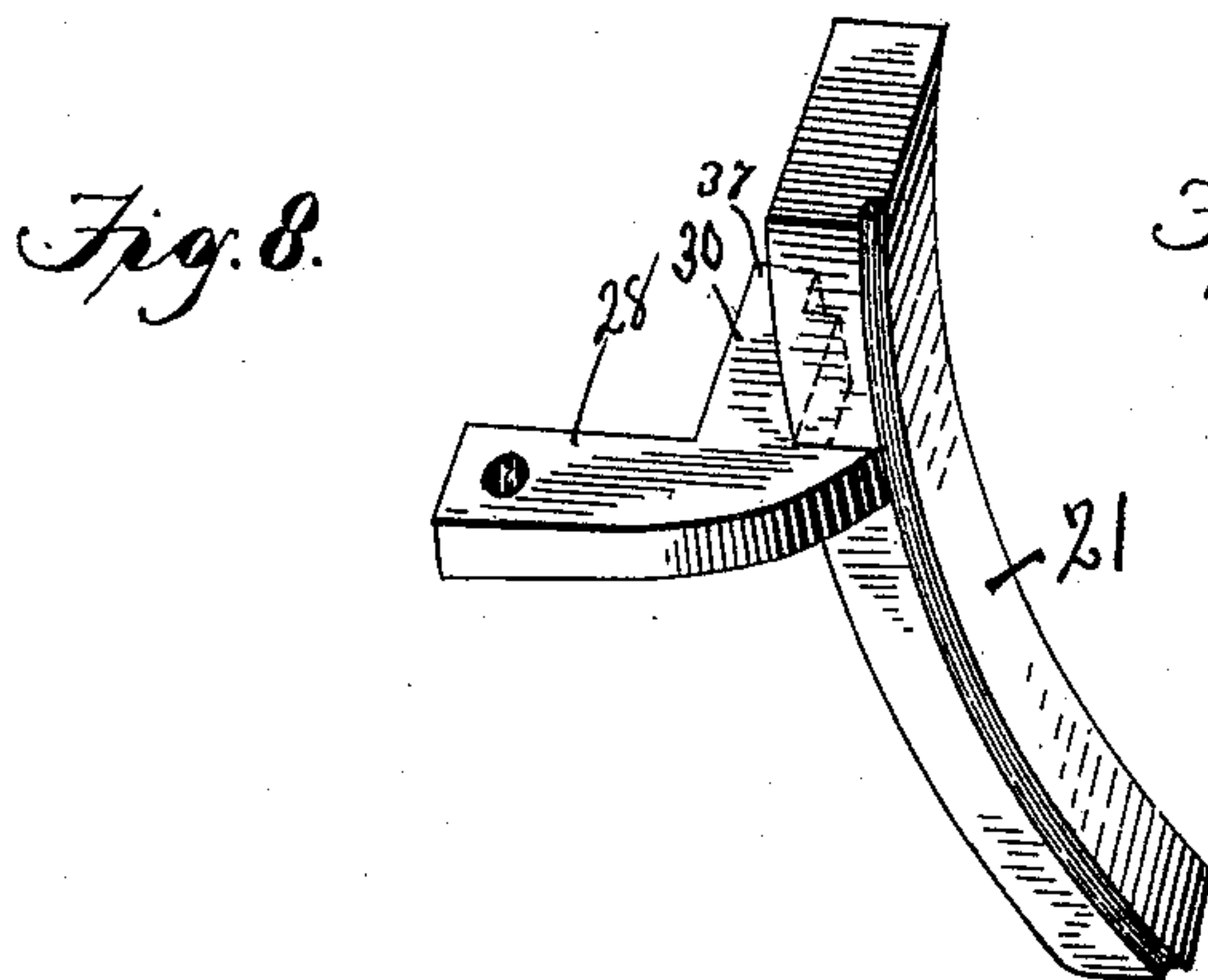
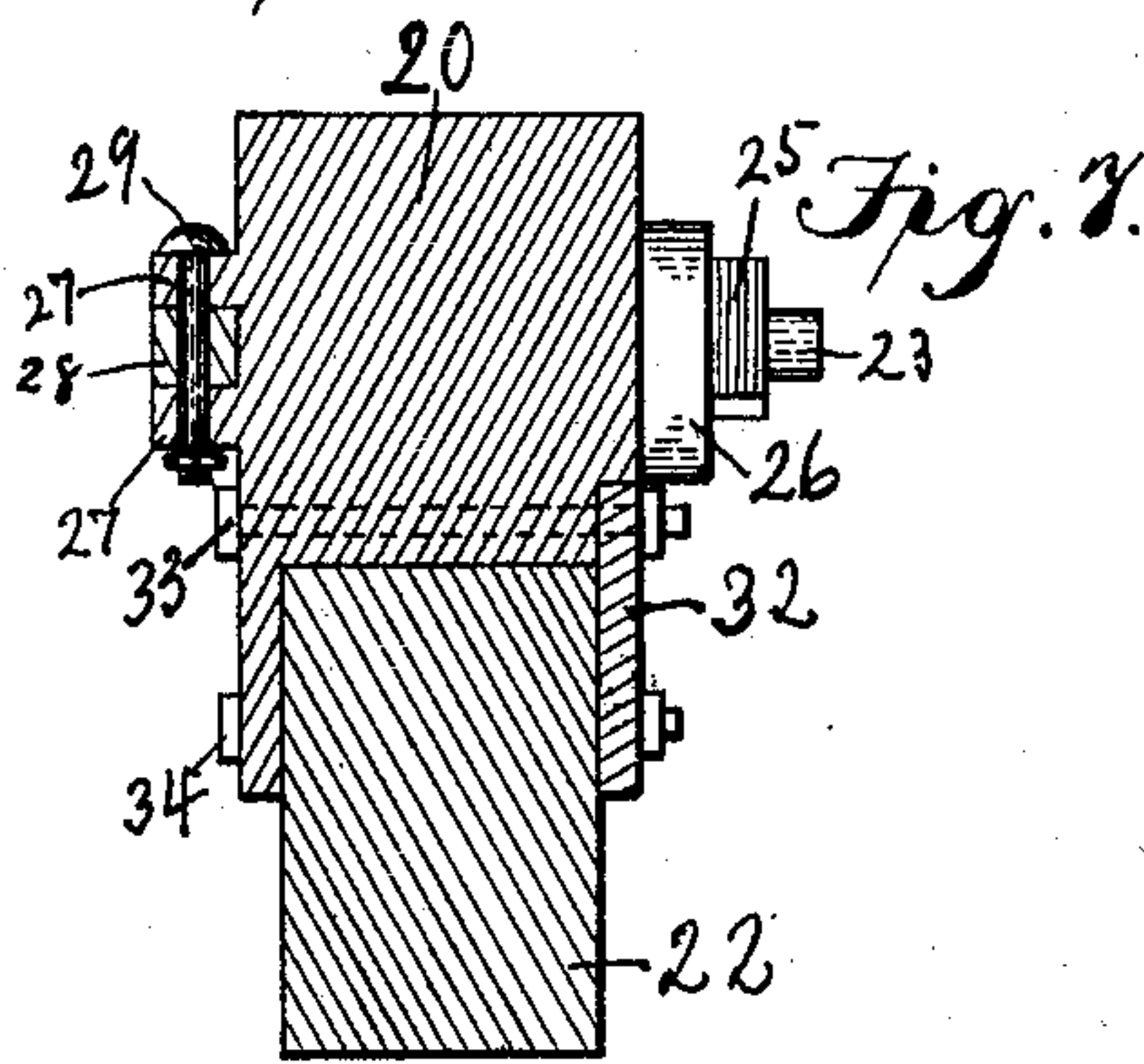
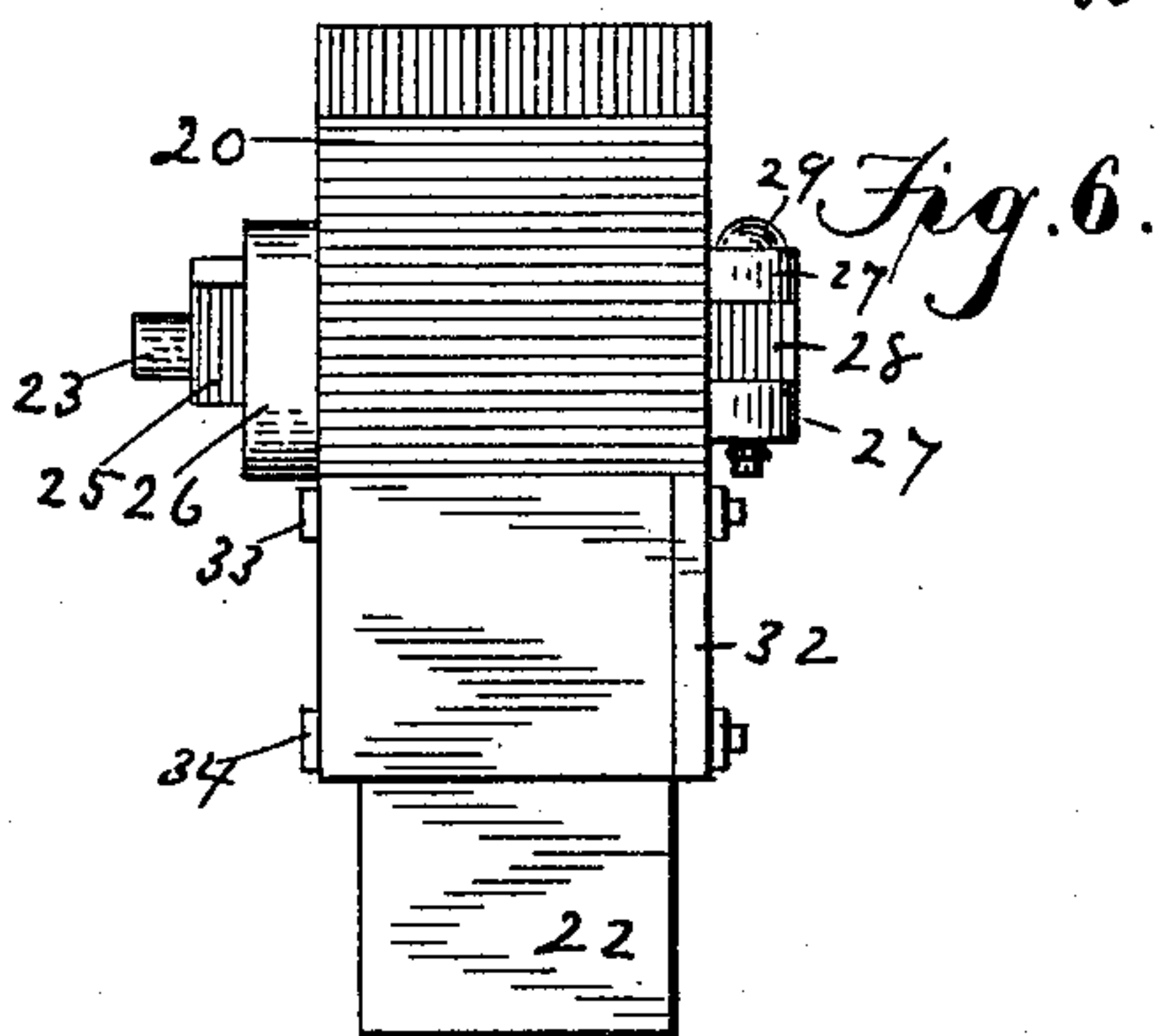
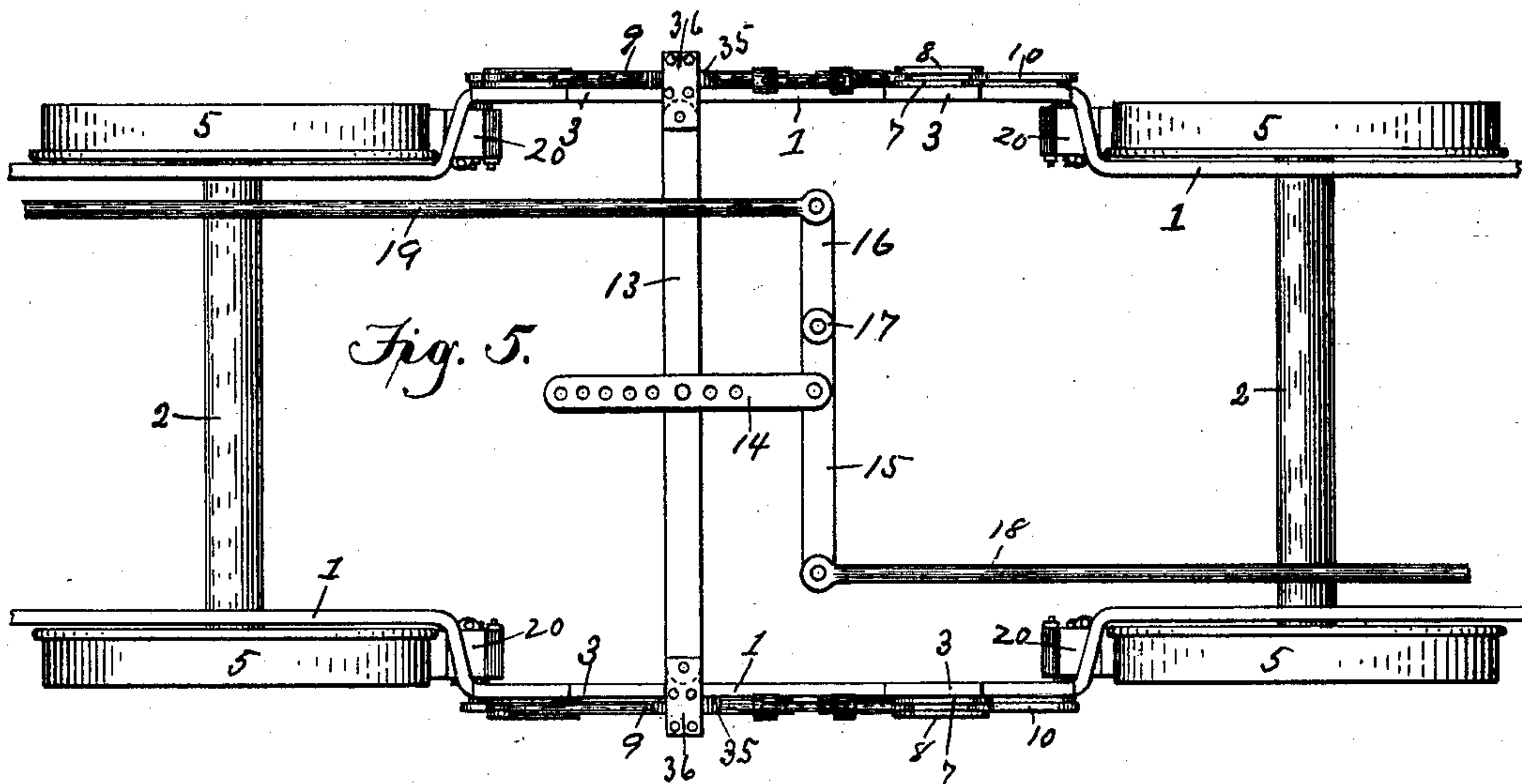
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Attorney.

UNITED STATES PATENT OFFICE.

FRED W. WOHLLENBERG, OF CHICAGO, ILLINOIS.

COMBINED TRACK AND WHEEL BRAKE FOR STREET-CARS.

SPECIFICATION forming part of Letters Patent No. 603,716, dated May 10, 1898.

Application filed July 26, 1897. Serial No. 646,060. (No model.)

To all whom it may concern:

Be it known that I, FRED W. WOHLLENBERG, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in a Combined Track and Wheel Brake for Street-Cars; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to a combined track and wheel brake for street-cars.

The objects of my invention are, first, to provide a brake of that class that will be simple in construction and positive in its operation; second, that can be applied to any car-truck frame; third, that will permit of the simultaneous operation of the track and wheel brakes; fourth, that may be readily adjusted to compensate for the wear of the brake-shoes, and, fifth, to provide perfect leverage with a minimum expenditure of power.

With these objects in view my invention consists in the construction of the combination brake-shoe and operating mechanism and their combination with one another.

In the drawings, Figure 1 is a side elevation showing the brake attached to a car-truck. Fig. 2 is a perspective view of the operating mechanism detached from the car-truck and brake-shoes. Fig. 3 is an elevation of the shoe-holder and brake-shoes from the inside. Fig. 4 is an elevation of the same from the outside. Fig. 5 is a top plan view of the brake on the car-truck. Fig. 6 is a rear elevation of the shoe-holder. Fig. 7 is a vertical sectional view of the same, taken on a line X X of Fig. 3. Fig. 8 is a perspective view of the wheel-shoe detached, and Fig. 9 is a rear elevation showing a modified form of shoe-holder.

Referring to the drawings, 1 indicates the truck-frame, which may be mounted upon the axles 2 in any suitable manner and is provided upon either side with upwardly-extending supporting-braces 3. Said braces 3 may be of any suitable form to accomplish their purpose, which is to support the brake mech-

anism. Fixedly secured to the frame 1 beneath the braces 3 are the shoe-guides 4, extending downwardly and obliquely toward the wheels 5. Each of said guides is provided with central slots 6, as shown in Fig. 1. The brake mechanism is mounted upon the truck by pivotally securing the levers 7 to the braces 3. The lower ends of the levers 7 are pivotally connected with levers 8 and adjustable connecting-levers 9. The lower ends of the levers 8 are in turn pivotally connected with the brake-shoe levers 10 and the adjustable connecting-levers 11. The connecting-levers 9 and 11 are rendered adjustable by means of the turnbuckles 12. The connecting-levers 9 have squared portions 35, notched upon their upper faces, and are secured together by means of a clamping-bar 13, pivotally secured to the adjustable clamps 36, which are clamped upon the squared portions 35 of the levers 9. In the center of the clamping-bar 13 is pivotally secured the adjustable bar 14. To the opposite end of the bar 14 are pivotally secured the levers 15 and 16, said lever 15 being secured near the center to said bar 14 and having the fixed pivot 17, which is immovably secured to the car frame or truck upon one end and its opposite end pivotally secured to the brake-rod 18. The pivotal point of the lever 16 at which it is attached to the bar 14 is at its extreme inner end, while said outer end is pivotally connected with the brake-rod 19. The outer ends of the brake-rods 18 and 19 are secured to any suitable brake-operating wheel or lever necessary to the particular construction of the car to which they may be applied.

The brake-shoes, which consist of the main or body portion 20, having means for securing the wheel-shoe 21 and the rail-shoe 22, are pivotally secured to the lower ends of the levers 10, with the projections 23 entering the openings 24 in the ends of said levers and the slide-bearing 25 entering the slot 6 in the shoe-guides 4. A cheek or projection 26, formed on the side of the body portion of the shoe 20, forms a bearing for the shoe-guides 4, and at the same time enables the bolt ends and nuts securing the track-shoe to clear the shoe-guides as the shoes are moved upwardly in the slot 6. It will be understood that the projection 23, the slide-bearing 25, and the

cheek 26 are formed integral with said body portion of the shoe. Upon the opposite side of said main portion are formed hinge-lugs 27, between which are secured the projecting portion 28 of the wheel-shoe 21 by means of the pin 29, passing through openings formed in said lugs 27 and projection 28. Across the rear face of the wheel-shoe 21 and integral with the projecting portion 28 is a rearwardly-projecting portion 30, having an extension 37, said portion 30 and extension 37 being adapted to enter a like-shaped recess 31, formed across one end of the body portion 20 and extending through it to receive the extension 37. The portion 30 serves as a support for the wheel-shoe and removes the strain from the hinge-lugs 27 and projecting portion 28 when the brake is applied, and the extension 37 holds the shoe against turning on the pin 29. The lower part of the body portion 20 is channeled out to receive the track-brake 22, the same being open at the bottom and having one side 32 removable. The removable side 32 is adapted to be secured in place by means of the bolts 33 and 34, which clamp the track-shoe 22 within the channeled opening in the bottom of the body portion 20. The slide-bearing 25 is obliquely placed, as shown in Fig. 4, thereby causing the brake-shoe to maintain an upright position when slid upwardly within the oblique slot 6 of the shoe-guides 4. The oblique trend of the shoe-guides 4 is more pronounced than that of the periphery of the wheels 5. Therefore as soon as the shoes are lifted by means of the levers above described the wheel-shoe will gradually fall away from the wheel and the track-shoe will be lifted from the track. The track-shoe 22 may be formed of wood or some other composite substance which will answer a like purpose. The action of the track and wheel shoes upon the wheel and track will be simultaneous when the brake is applied. The length of the stroke of the levers necessary to set the brake-shoes in frictional contact with the wheel and track can be regulated by means of the turnbuckles 12 on the connecting-levers 9 and 11, the adjustable clamps 36, and the adjustable bar 14. Said turnbuckles may also be used for readjusting the levers when the brake-shoes become worn. The clamping-bar 13 being pivotally connected at its ends to the clamps 36 will readily adjust itself to any slight inequalities of the brake-shoes.

The method of operating the brake will be readily understood from the foregoing description and drawings. It will be seen that a forward movement of either of the brake-rods 18 and 19 will cause the brake-shoes to slide downwardly in the shoe-guides 4 and come into frictional contact with the wheel and track, while a backward movement will cause them to slide upwardly, thereby releasing them from said contact. In the drawings that portion of the car-frame to which the fixed pivot 17 would be attached is not shown.

The attachment of said fixed pivot and its exact construction will necessarily vary according to the construction of the car truck and frame to which it may be applied. The outline of the track-shoe 22 is indicated by the dotted lines in Fig. 3.

In Fig. 9 is shown a modified form of the means of attaching the body portion 20 of the shoe to the lever 10. In this modification a pin 39 passes entirely through the body portion 20, the cheek 26, and the slide-bearing 25, the ends of said pin being provided with cotter-pins and washers for the purpose of holding the lower ends of the lever 10, which in this instance would be bifurcated to pass on either side of said body.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. A combination wheel and track brake for street-cars actuated by means of the levers and bars shown and described, consisting of a body portion 20, channeled out at its bottom to receive a track-shoe, and having formed upon one side the hinge-lugs 27 and upon the opposite side the projection 23, the slide-bearing 25 and the cheek 26, and having the recess 31 across and through one end thereof, the wheel-shoe 21, having the projecting hinge portion 28 and the integral projecting portion 30 with the extension 37, the track-shoe consisting of a block of wood or other like material and the detachable shoe-clamping plate 32, whereby the track-shoe is secured to the body portion, all substantially as set forth.

2. The combination in a combined track and wheel brake for street-cars, of the truck-frame 1, having the supporting-braces 3, and the downwardly-extending oblique shoe-guides 4 provided with the central slot 6, with the brake-operating mechanism consisting of the levers 7, 8, 10, 15 and 16, the adjustable connecting-levers 9 and 11, the adjustable clamps 36, the clamping-bar 13, the adjustable bar 14, and the brake-rods 18 and 19, all substantially as shown and described.

3. In a combined track and wheel brake for street-cars, the combination of the brake-operating mechanism consisting of the levers 7, 8, and 10, the adjustable connecting-levers 9 and 11, said levers 9 having the squared portions 35, the adjustable clamps 36, the clamping-bar 13, the adjustable bar 14, the levers 15 and 16 pivotally connected to the bar 14, said lever 15 secured at one end to a fixed pivot 17, the free ends of said levers pivotally connected with the brake-rods, and the brake-rods 18 and 19, with the brake-shoes consisting of the body portion 20, having the integral hinge-lugs 27 upon one side, and the projection 23, the slide-bearing 25 and the cheek 26 upon the opposite side, the bottom thereof channeled out to receive the removable track-shoe, the clamping-plate 32 adapted to close one side of the channel, and clamp the track-shoe therein, the bolts 33 and 34 for securing said clamping-plate, the track-shoe

22 adapted to enter the channel in the body portion, the wheel-shoe 21, having the projecting portion 28 adapted to be hinged between the lugs 27, by means of the pin 29, the rearwardly-projecting portion 30 having the extension 37, across the rear face of said wheel-shoe, and integral with the projecting portion 28, all substantially as shown and described.

10 4. In a combined track and wheel brake for street-cars, the combination with the body portion or shoe-holder 20, having the integral lugs 27 formed upon one side thereof, and the projection 23, the slide-bearing 25 and the
15 cheek 26 upon the opposite side, the recess 31 across and extending through one end thereof and having its lower portion channeled to receive the track-shoe, the clamping-plate 32 adapted to secure the track-shoe, the bolts 33
20 and 34 for securing the clamping-plate, of the hinged wheel-shoe 21, having the projecting portion 28 and the rearwardly-projecting portion 30 with the extension 37, extending across the back of said wheel-shoe and integral with
25 the projecting portion 28, said portion 30 and

extension 37 adapted to enter the recess 31 in the end of the body portion 30, and the track-shoe 22, adapted to be secured in the channeled portion of the body 20, by means of the clamping-plate 32, substantially as set forth. 30

5. The combination in a brake for street-cars of the class described, of a combined brake-shoe whereby the brake may be applied to the wheel and track simultaneously, with the operating mechanism consisting of
35 the levers 7, 8 and 10, the adjustable connecting-levers 9 and 11, provided with the turnbuckles 12, and said levers 9 having squared portions 35, the adjustable clamps 36, the clamping-bar 13, the adjustable bar
40 14, the pivotally-mounted levers 15 and 16, said lever 15 secured at one end to the fixed pivot 17, and the brake-rods 18 and 19, substantially as set forth.

In testimony whereof I affix my signature 45 in presence of two witnesses.

FRED W. WOHLBERG.

Witnesses:

GEO. FASSETT,
J. L. MELCHERT.