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W. H. MINER.  
DRAFT RIGGING FOR RAILWAY CARS.  
APPLICATION FILED APR. 18, 1914.

1,155,079.

Patented Sept. 28, 1915.

2 SHEETS—SHEET 1.

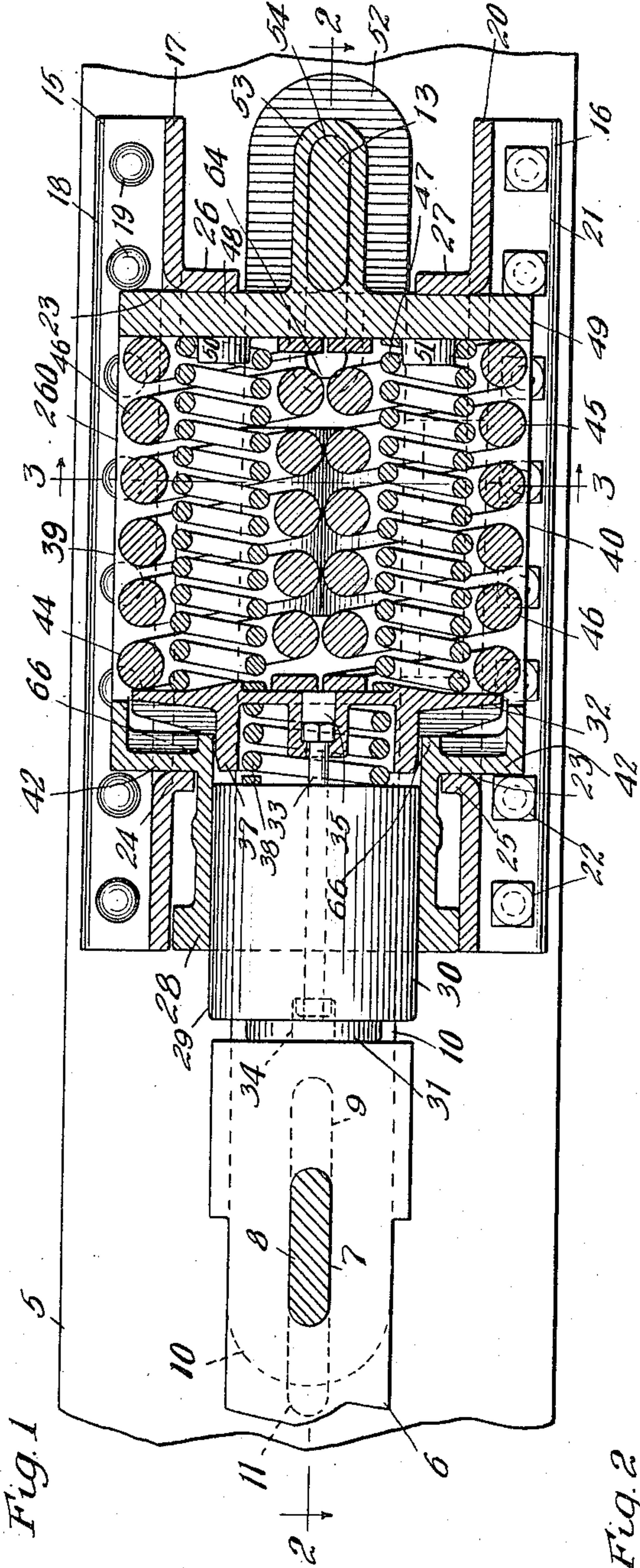
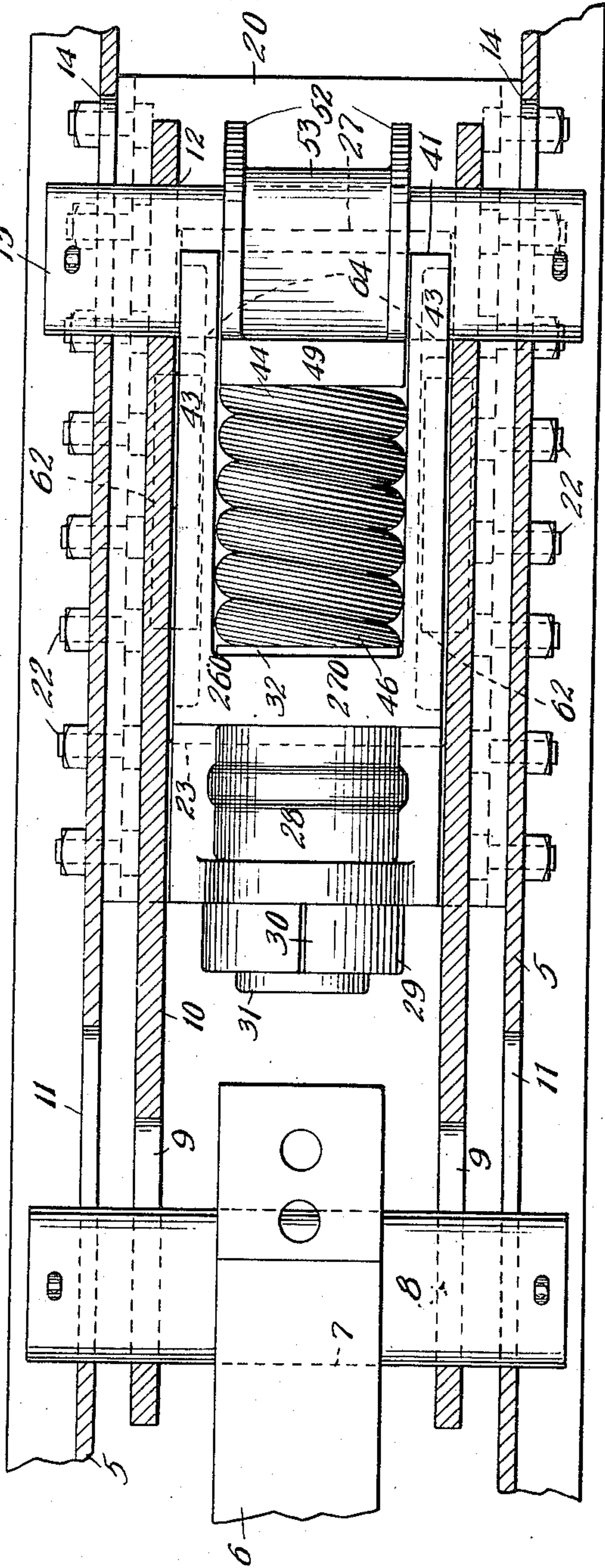


Fig. 2



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Fig. 3

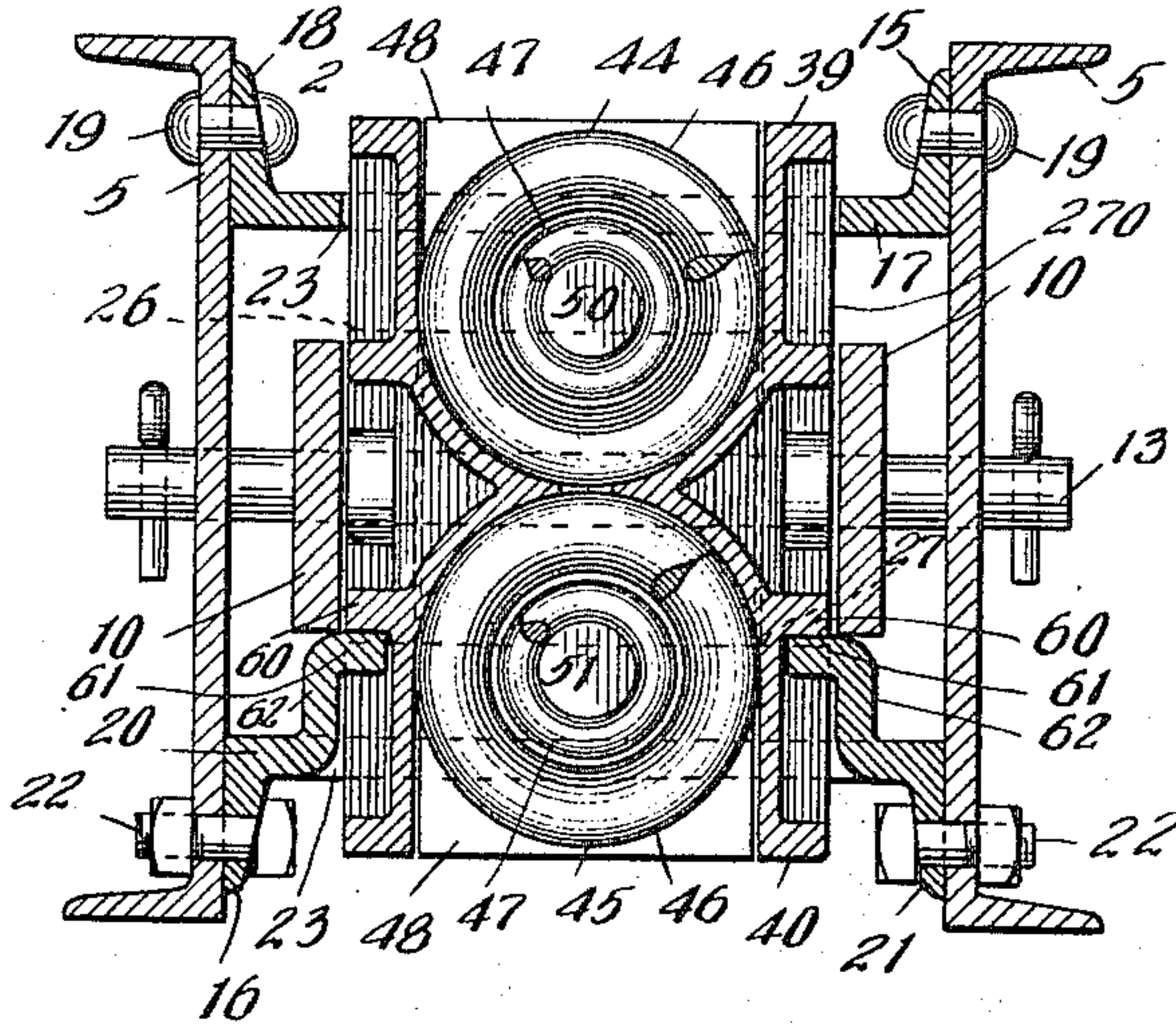


Fig. 4

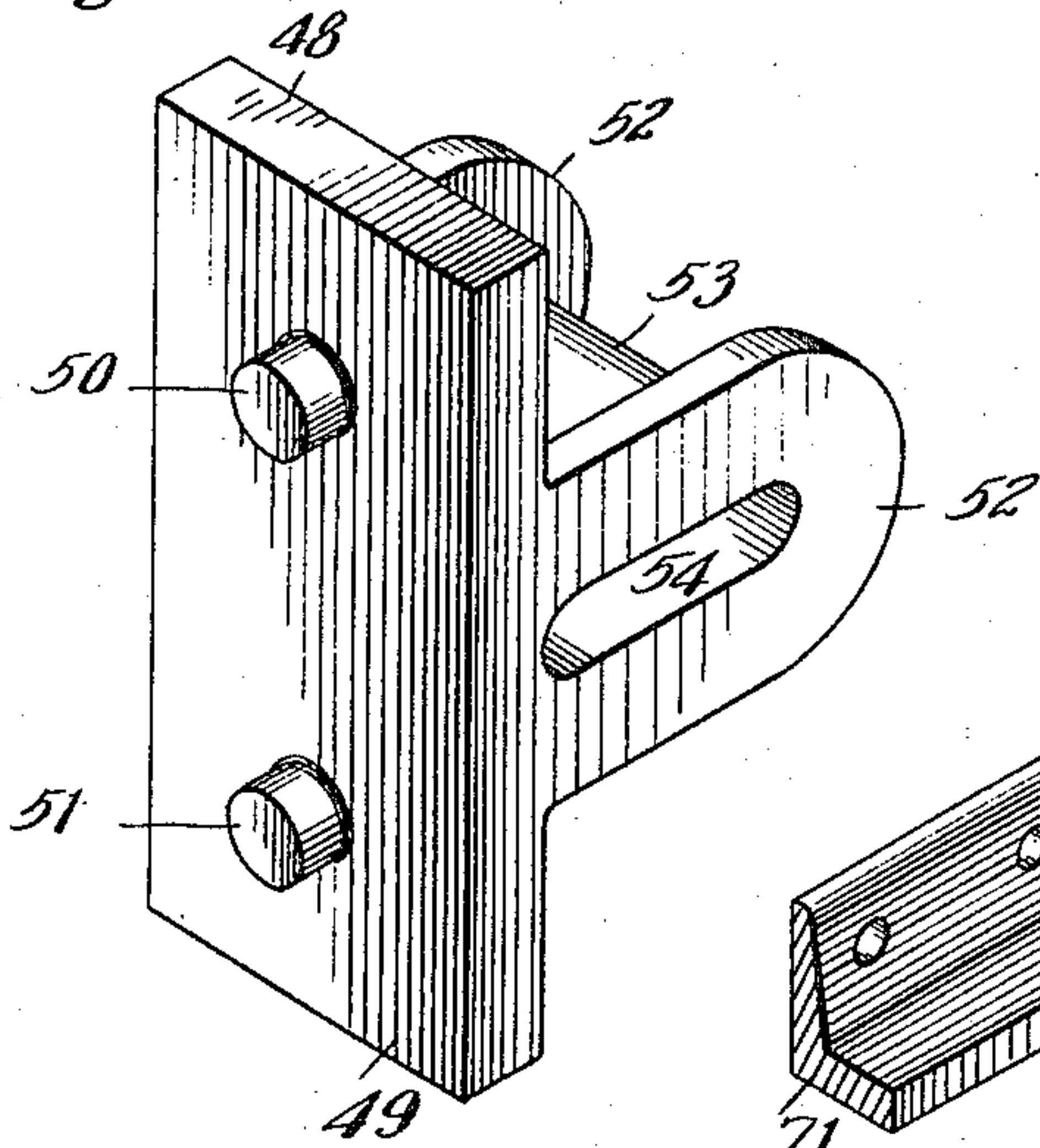
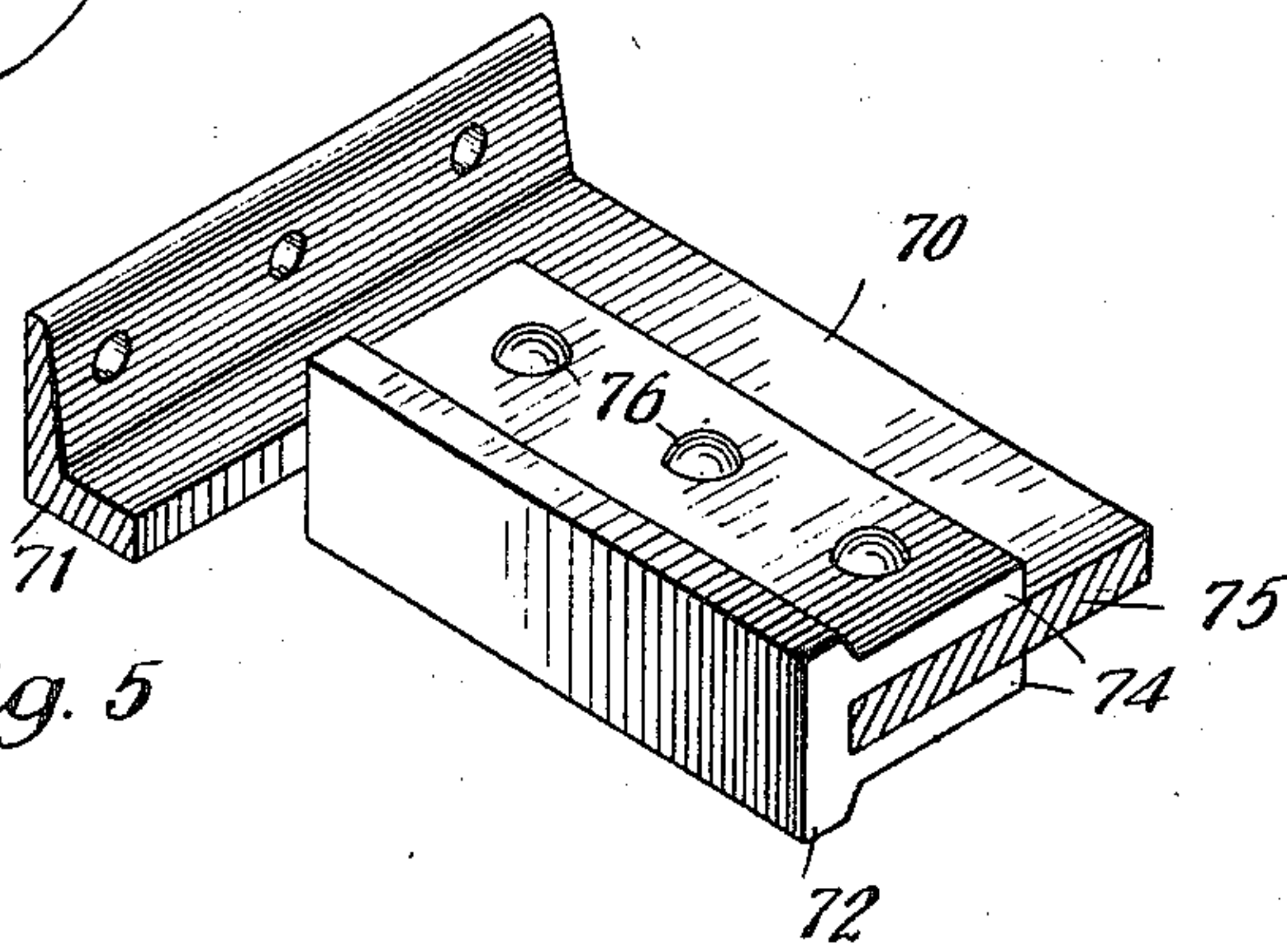


Fig. 5



WITNESSES:

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# UNITED STATES PATENT OFFICE.

WILLIAM H. MINER, OF CHAZY, NEW YORK.

## DRAFT-RIGGING FOR RAILWAY-CARS.

1,155,079.

Specification of Letters Patent.

Patented Sept. 28, 1915.

Application filed April 18, 1914. Serial No. 832,689.

*To all whom it may concern:*

Be it known that I, WILLIAM H. MINER, a citizen of the United States, residing at Chazy, in the county of Clinton and State of New York, have invented a certain new and useful Improvement in Draft-Rigging for Railway-Cars, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to improvements in draft rigging for railway cars.

The object of my invention is, to provide a draft rigging of efficient operation.

In the drawings forming a part of this specification, Figure 1 is a side elevation, partly in vertical longitudinal section, of a draft rigging embodying my invention; Fig. 2 is a plan view, partly in horizontal section, on line 2—2 of Fig. 1; Fig. 3 is a cross section taken on line 3—3 of Fig. 1; Fig. 4 is a perspective view of the rear follower; Fig. 5 is a detail perspective view showing a modification of one of the stop shoulders.

Referring to the drawings, the numerals 5—5 indicate draft members, or parts of the car-frame to which the draft rigging is applied; 6 a draw-bar, only the rear end thereof being shown in the drawings, the said draw-bar having a transverse slot 7 for the passage of a coupler-key 8, the said coupler-key extending through slots 9—9 in the draft links 10—10 and being received at its ends in the slots 11—11 in adjacent portions of the draft members 5. The slots 11—11 are longitudinally extended to permit forward and rearward movement of the key therein, the slots 9 in the draft links 10 being rearwardly extended to permit the rearward travel of the key therein on rearward movement of the draw-bar. Near their rear ends, the draft links 10 are provided with the transverse slots 12—12 adapted to receive the transverse rear key 13, the ends of the key 13 passing through slots 14—14 in adjacent portions of the draft members, the said slots 14 being longitudinally extended to permit longitudinal movement of the key 13 therein. Upper and lower stop members 15 and 16, respectively, are secured between the draft members, the upper stop member consisting preferably of a channel-shaped member having the main web 17 and lateral up-turned flanges 18—18, by means of which the said stop member is secured to

the draft members, preferably by the rivets 19—19. Similarly the lower stop member 16 is a channel-shaped member having a main web 20 and lateral dependent flanges 21—21, by means of which the said stop member 16 is secured to the draft members, preferably by the bolts 22—22. Each of the stop members is provided intermediate its ends with a vertical opening 23, the material forming the ends of each opening being in-turned, forming the upper front stop shoulder 24, the lower front stop shoulder 25, the rear upper stop shoulder 26, and the rear lower stop shoulder 27. A draft gear is mounted between the draft members, the draft gear comprising a shell 260, consisting preferably of a spring-cage 270 and a preferably integral friction shell 28. The friction shell is preferably a hollow cylinder in form, and contains the friction elements 29, consisting preferably of a plurality of shoes 30—30 and a wedging member 31 therefor. The wedging member is connected to a movable spring seat 32 mounted within the spring-cage 270 by means of a connecting bolt 33, the nut of which is received in a forwardly opening recess 34 in the wedge, and the head of which is received in the rearwardly opening recess 35 in the movable spring seat. The movable spring seat is provided with a forwardly projecting collar 37 adapted to engage against the friction members, preferably the friction shoes 30—30 upon the compression of the spring 38 which is mounted within the said collar and between the movable spring seat and the friction shoes 30. The spring cage is preferably open at its upper face 39, its lower face 40, and the rear end 41, the cage consisting preferably of the front plate 42 and the spaced-apart lateral plates 43—43. Within the spring cage is mounted spring elements, preferably an upper set 44 and a lower set 45, each set preferably comprising an outer spring 46 and an inner spring 47 nested therein. The springs thus mounted in vertical twin arrangements are seated at their forward ends against the movable spring seat, and at their rear ends against the rear follower 48, the rear follower consisting preferably of a plate 49 forwardly provided with upper and lower lugs 50 and 51, respectively, the inner spring 47 of the lower set of springs being seated about the lower lug, and the inner spring 47 of the upper set of springs being seated about the



upper lug. The rear follower is provided with rearwardly extended spaced-apart, preferably integral, arms 52—52, and a preferably integral sleeve 53 between them.  
 5 The sleeve and arms are provided with registering transverse slots 54 through which passes the rear key 13. The spring cage of the shell is preferably of a general box-like shape, and is received within the vertical  
 10 openings in the stop members, the forward plate 42 thereof abutting against the front stop shoulders 24 and 25, and the rear end thereof abutting against the rear stop shoulders 26 and 27.

15 The friction shell is of lesser vertical height than the spring cage, and is received between the upper and lower stop members forwardly of the vertical openings there-through. Thus the shell of the draft gear is  
 20 secured against longitudinal movement between the draft members. The shell is provided along the lateral faces of the spring cage with outwardly extending longitudinal shoulders 60—60, and the lower stop mem-  
 25 ber is provided along the edges of the vertical opening thereof with shoulders 61—61, preferably angularly formed, as indicated at the numerals 62—62 in Fig. 3 of the drawings. The lower stop member is remov-  
 30 ably secured to the draft members by the bolts 22—22, and the said lower stop member through the shoulders 61 thereof in their engagement with the shoulders 60—60 with which the spring cage 27 is provided, aid  
 35 in supporting the shell in its position between the draft members. In preferable construction, the upper and lower portions of the friction shell are in close proximity to the adjacent portions of the upper and  
 40 lower stop members, and the in-turned portions of the stop members forming the upper and lower front stop shoulders preferably are in close proximity to the rear portion of the upper and lower faces of the friction  
 45 shell. At their rear ends, the side plates 43—43 of the spring cage are provided with rearwardly opening longitudinally extending slots 64—64 adapted to permit the entry of the rear key 13 therein in its reciprocating  
 50 movements in the operation of the draft rigging. The rear follower is of a suitable width to be mounted between the said plates, and may be forwardly drawn into the spring cage in its forward movement.

55 On rearward movement of the draw-bar, the same engages the friction elements in the shell, the coupler-key 8 traveling rearwardly in the slots 9 in the draft links 10; the compression resisting parts within the  
 60 shell are brought into compression resisting action, the same being rearwardly stopped by the rear follower, which is held against rearward movement by the rear stop shoulders 26 and 27 extending transversely be-  
 65 tween the draft members.

On forward movement of the draw-bar, the coupler key 8, through engagement against the forward ends of the slots 9 in the draft links 10, draws the rear key 13 forwardly, the key forwardly actuating the  
 70 rear follower and sliding forwardly in the slots 64 in the spring cage, thus compressing the spring elements between the rear follower and the movable follower, the movable follower being stopped against forward  
 75 movement by its engagement against internal shoulders 66—66 at the forward end of the spring cage, the spring cage in forward movement of the draw-bar being stopped against the front stop shoulders. In rear-  
 80 ward movement of the draw-bar, the spring cage is stopped against the rear stop shoulders. The draft gear may be dismounted from between the draft members by removing the bolts 22 and dropping the lower  
 85 stop member, and may be mounted between the draft members by reversing the operation.

In Fig. 5 of the drawing, a different form of stop shoulders for the upper and lower  
 90 stop members is shown. In said figure, the numeral 70 indicates the end of one of the channel shaped stop members 71, the end of the slot in said stop member being provided with a stop shoulder 72 which comprises a  
 95 U-shaped clip having longitudinally extending, spaced flanges 73—74 between which the transversely extending portion 75 of the stop member is received. The U-shaped clip is secured to the stop member by any suitable  
 100 means such as the rivets 76—76

I claim:—

1. In a draft rigging for railway cars, in combination, draft members, upper and lower stop members having vertical open-  
 105 ings therein and secured between the draft members, a shell having a spring cage, and friction shell mounted between the draft members, compression resisting elements within the shell, a draw-bar, and means op-  
 110 eratively connecting the draw-bar to the compression resisting elements, the spring cage of the shell being received in the vertical openings in the stop members, and secured against longitudinal movement there-  
 115 in.

2. In a draft rigging for railway cars, in combination, draft members, upper and lower stop members having vertical open-  
 120 ings therein and secured between the draft members, a shell having a spring cage, and friction shell mounted between the draft members, compression resisting elements within the shell, a draw-bar, and means op-  
 125 eratively connecting the draw-bar to the compression resisting elements, the spring cage of the shell being received in the vertical openings in the stop members, and secured against longitudinal movement there-  
 130 in, the friction shell extending forwardly



of said openings and being received between the upper and lower stop members.

3. In a draft rigging for railway cars, in combination, draft members, stop members, 5 a draft gear shell secured against longitudinal movement in the stop members, a draw-bar, draft links, a key connecting the draft links to the draw-bar, and a rear key connecting the draft links to each other, a rear 10 follower engaged by the rear key and supported thereby, compression resisting elements within the shell, the shell being provided with lateral rearwardly opening slots for the reception of the rear key and by 15 which it is supported.

4. In a draft rigging for railway cars, the combination with draft members, of upper and lower stop members secured thereto and having openings therein, a friction shell hav- 20 ing a spring cage connected thereto, the spring cage being received in said openings in the stop members and engaging the edges thereof and the friction shell being extended beyond said openings and between the front 25 portions of said upper and lower stop members, whereby the shell and cage is held stationary, friction devices within said shell, springs within said cage, a rear follower, a 30 draw bar, means connecting said rear follower with the draw bar, the lower one of said stop members being detachably secured to the draft members whereby upon removal of said stop member the shell and cage may be removed.

35 5. In a draft rigging for railway cars, in combination, draft members, a draft gear shell secured against longitudinal movement between said draft members, a draw-bar, a rear follower, a draft yoke slidingly

connected to the draw-bar and engaging the 40 rear follower, compression resisting elements in the shell, the shell having a vertical opening to receive the rear follower.

6. In a draft rigging for railway cars, in combination, draft members, a draft gear 45 shell secured against longitudinal movement between said draft members, a draw-bar, a rear follower, a draft yoke slidingly connected to the draw-bar and engaging the rear follower, compression resisting elements 50 in the shell, the shell having a vertical opening to receive the rear follower, and rearwardly opening longitudinal slots to receive the rear portion of the draft yoke.

7. In a draft rigging for railway cars, in 55 combination, draft members, a draft gear, a spring cage, and a friction shell secured to said cage, the shell and cage being mounted between the draft members, an upper stop member having a vertical opening therein, 60 the ends forming said opening engaging the spring cage, a lower stop member removably secured to the draft members, the said lower stop member having a vertical open- 65 ing, the ends forming the same engaging the ends of the spring cage, the friction shell extending between the upper and lower stop members, friction elements in the friction shell, and spring elements in the spring 70 cage, a rear follower engaging the spring elements, a draw-bar, a draft yoke slidingly connected to the draw-bar and connected to the rear follower.

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Witnesses:

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