

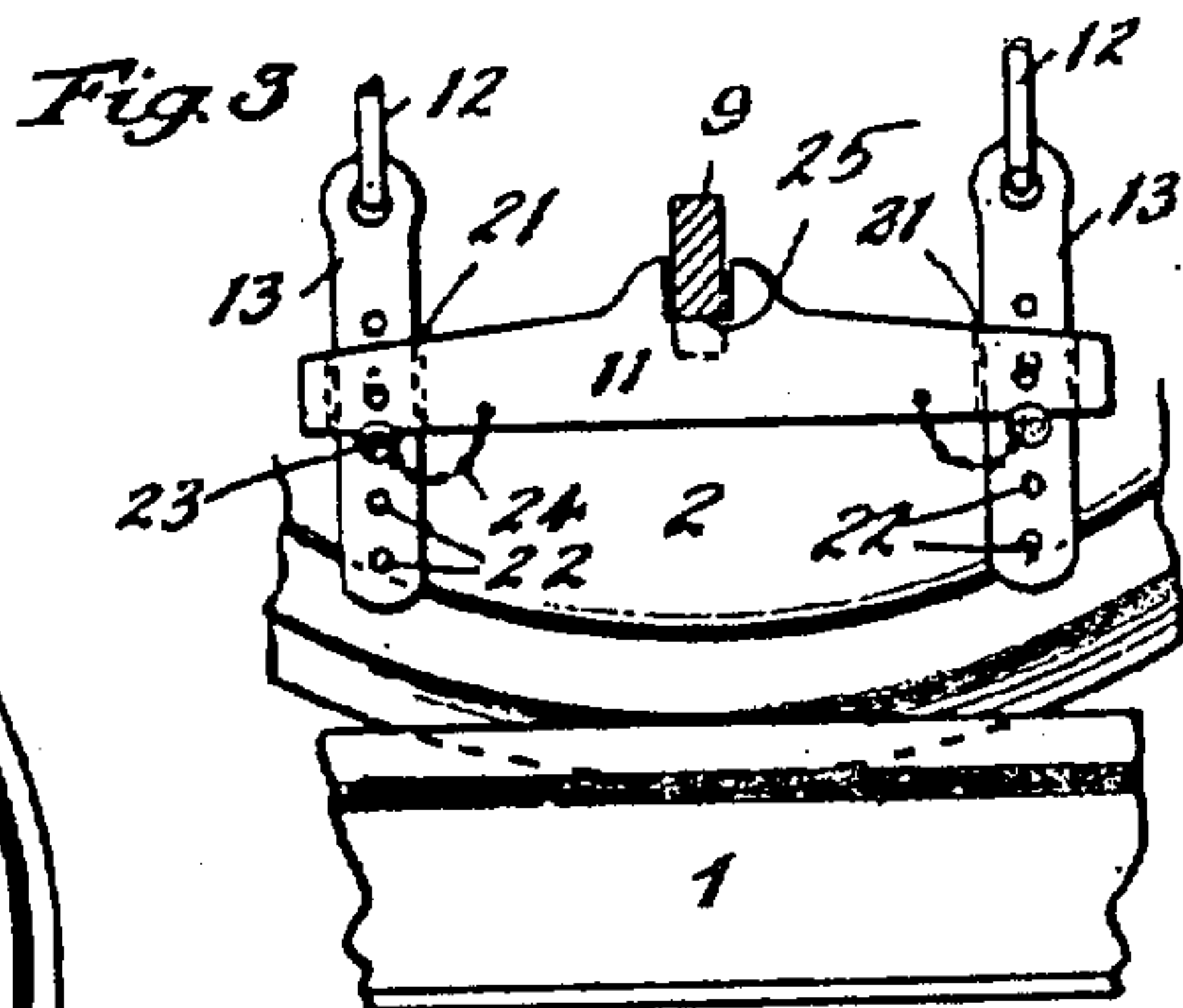
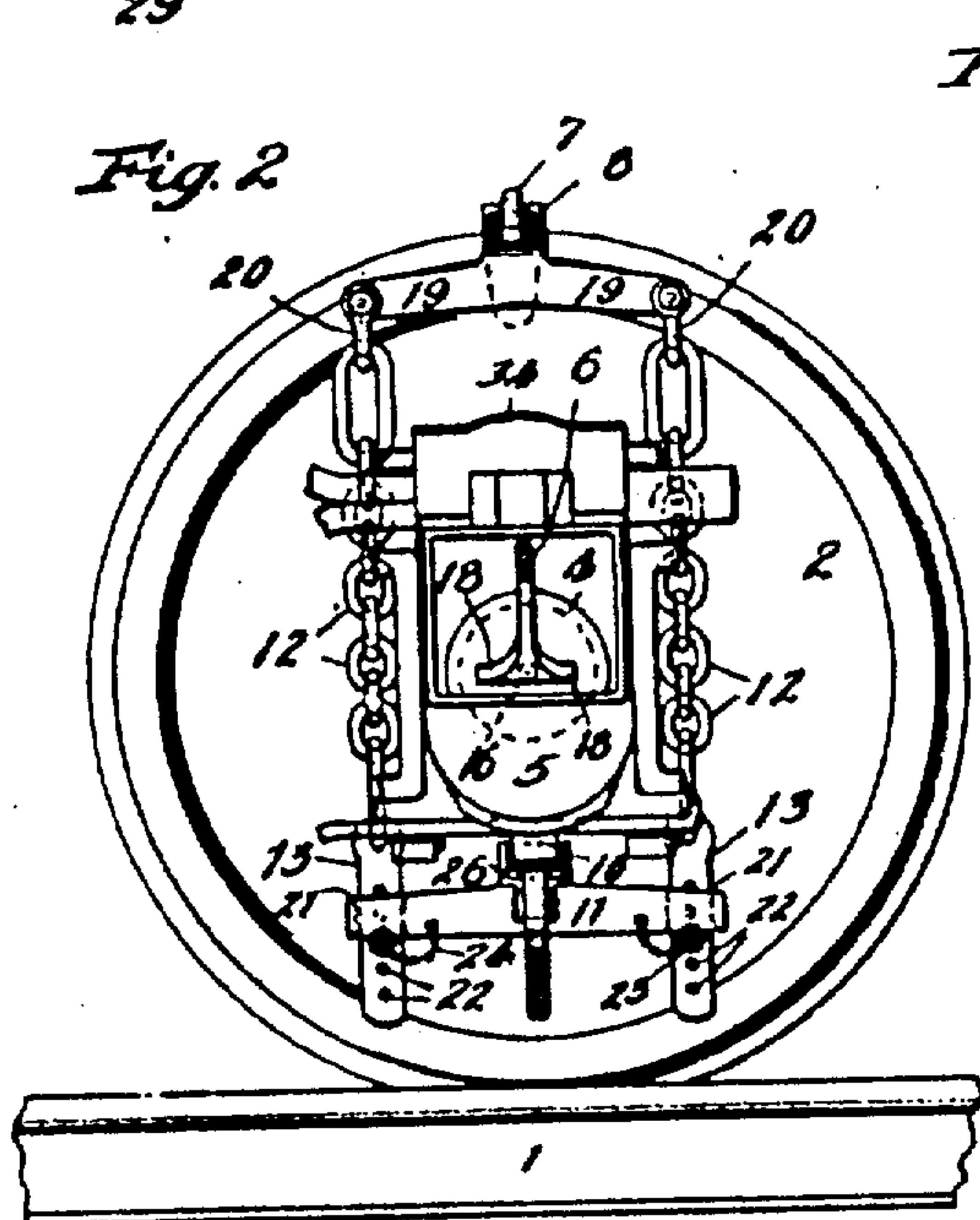
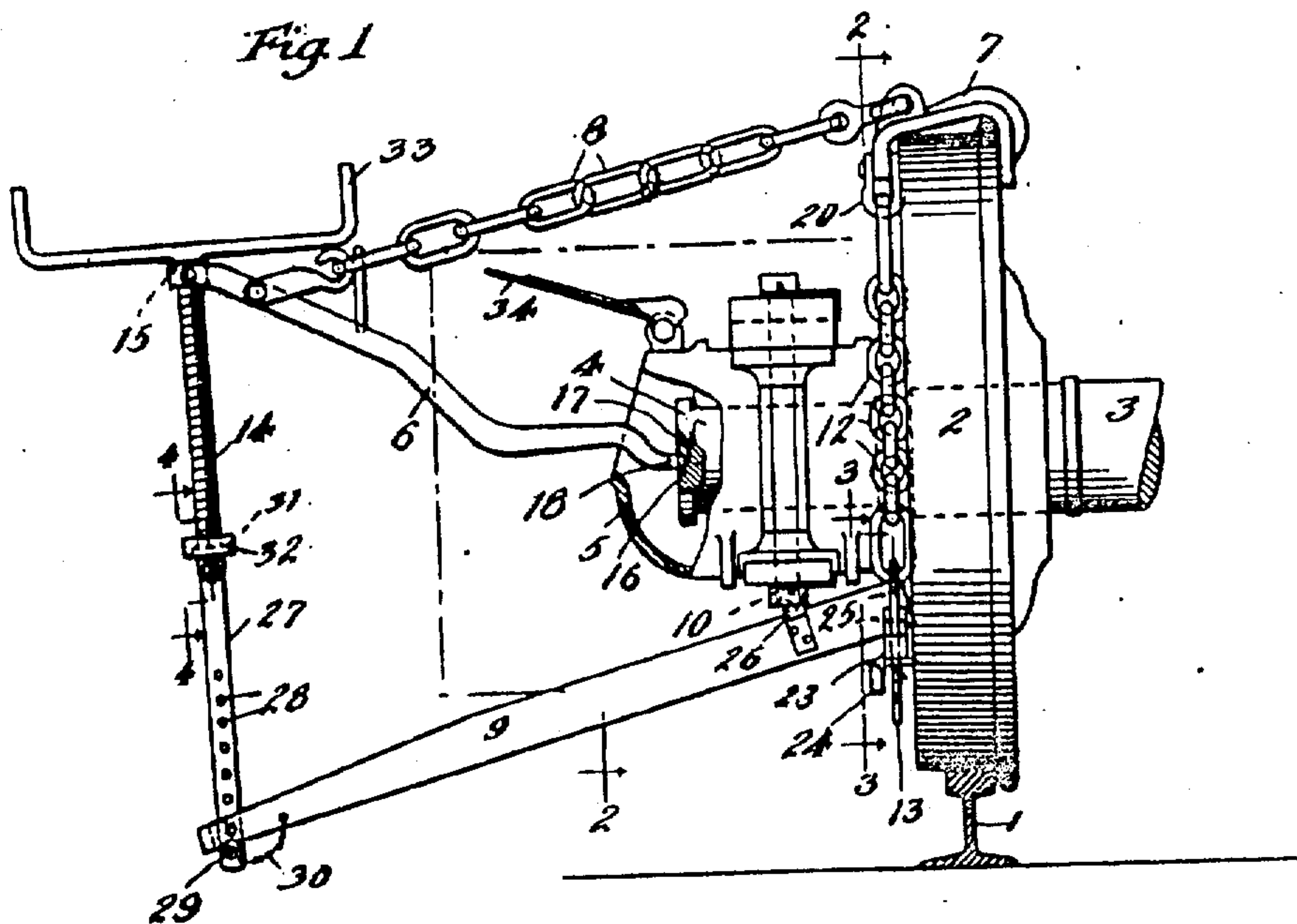
No. 876,764.

PATENTED JAN. 14, 1908.

W. F. BENTLEY.
RAILWAY JOURNAL BOX APPLIANCE.

APPLICATION FILED SEPT. 23, 1907.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 4

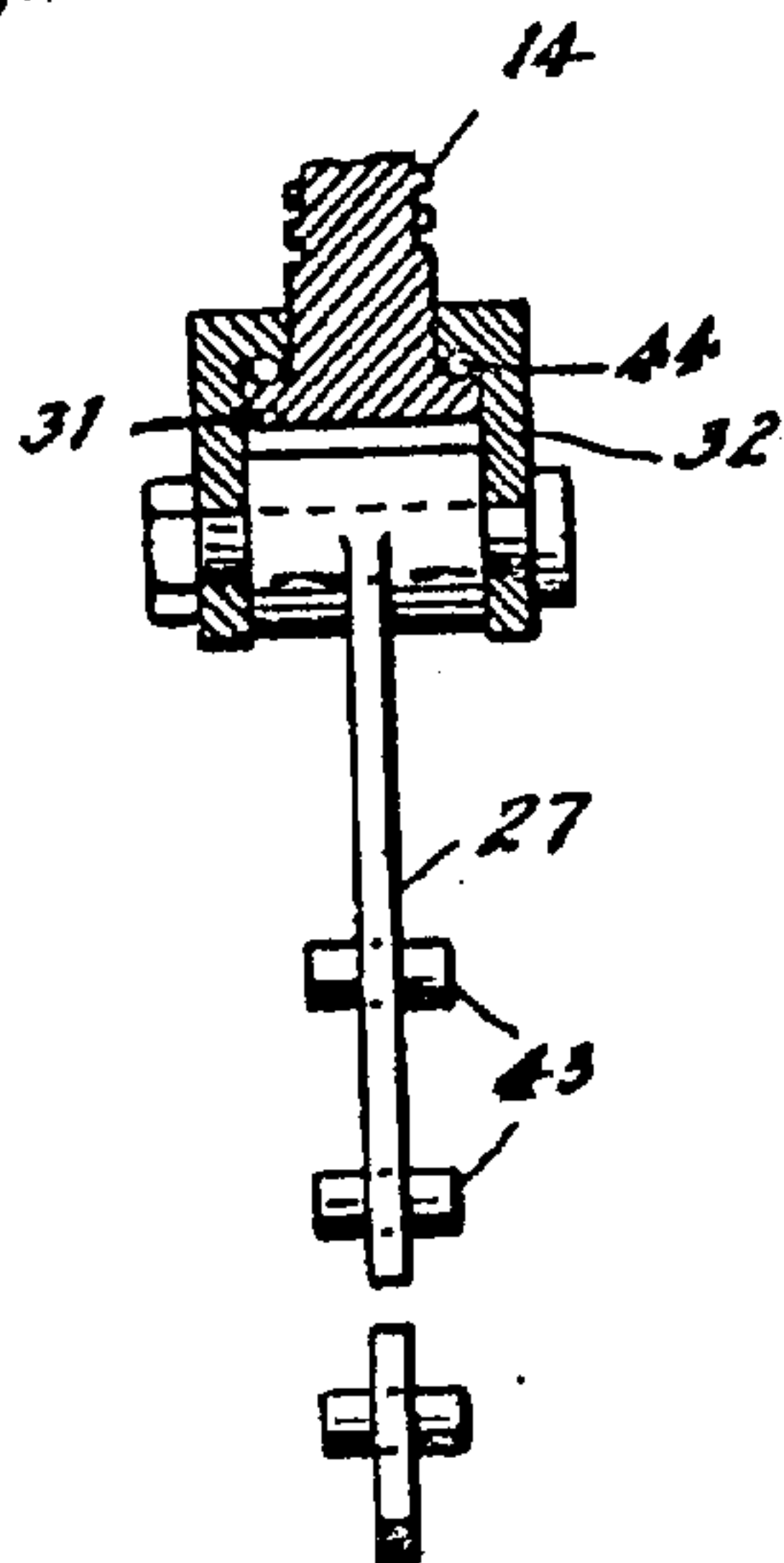


Fig. 5

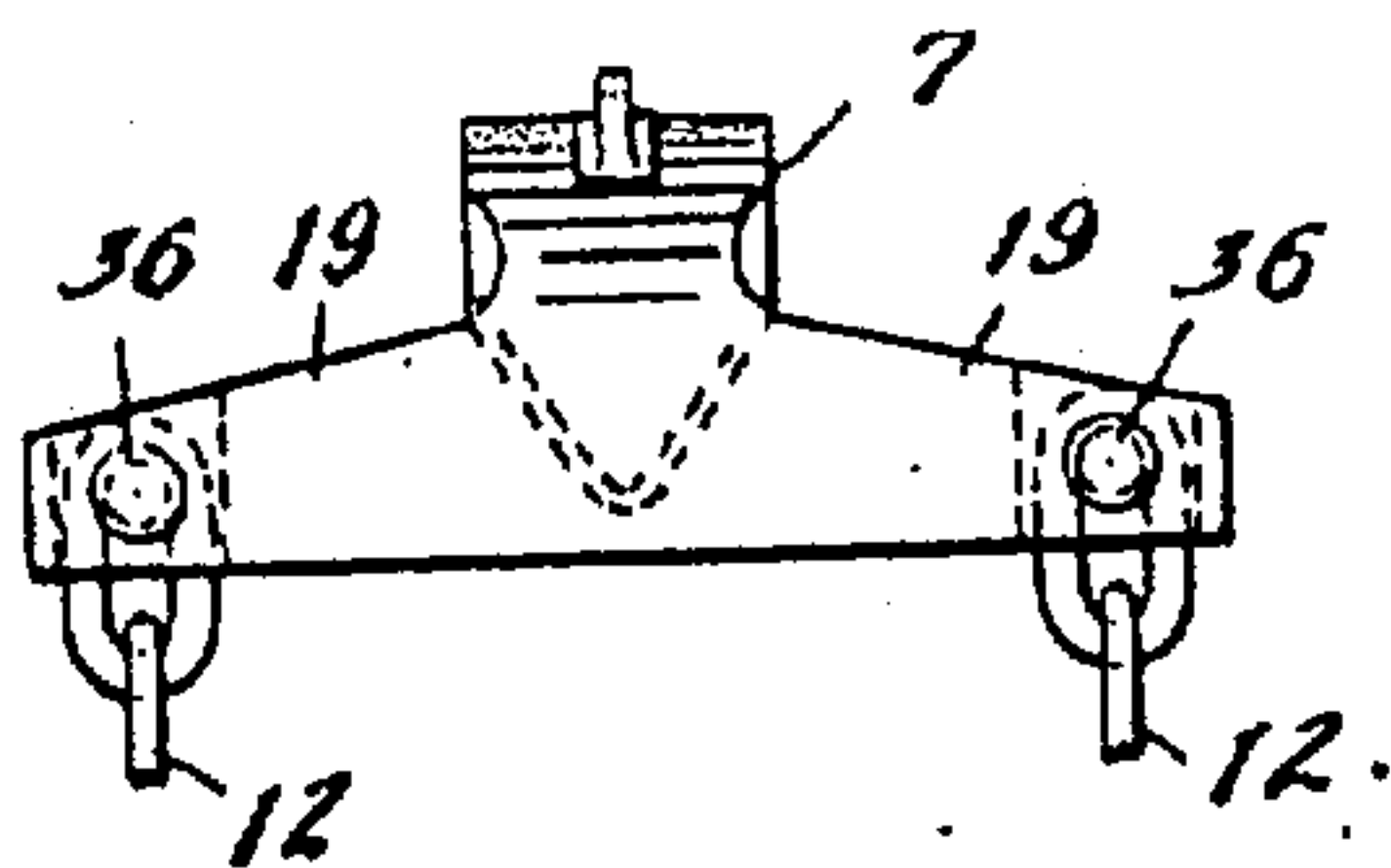


Fig. 6

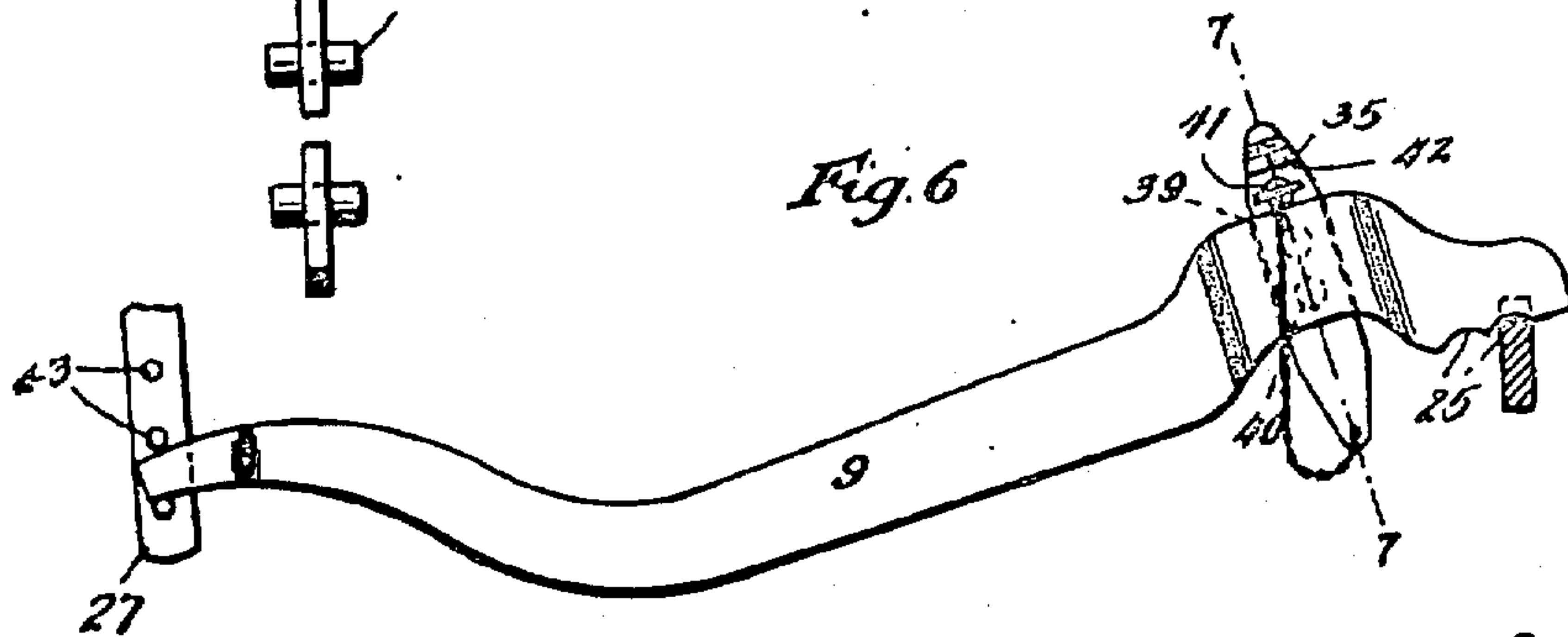


Fig. 7

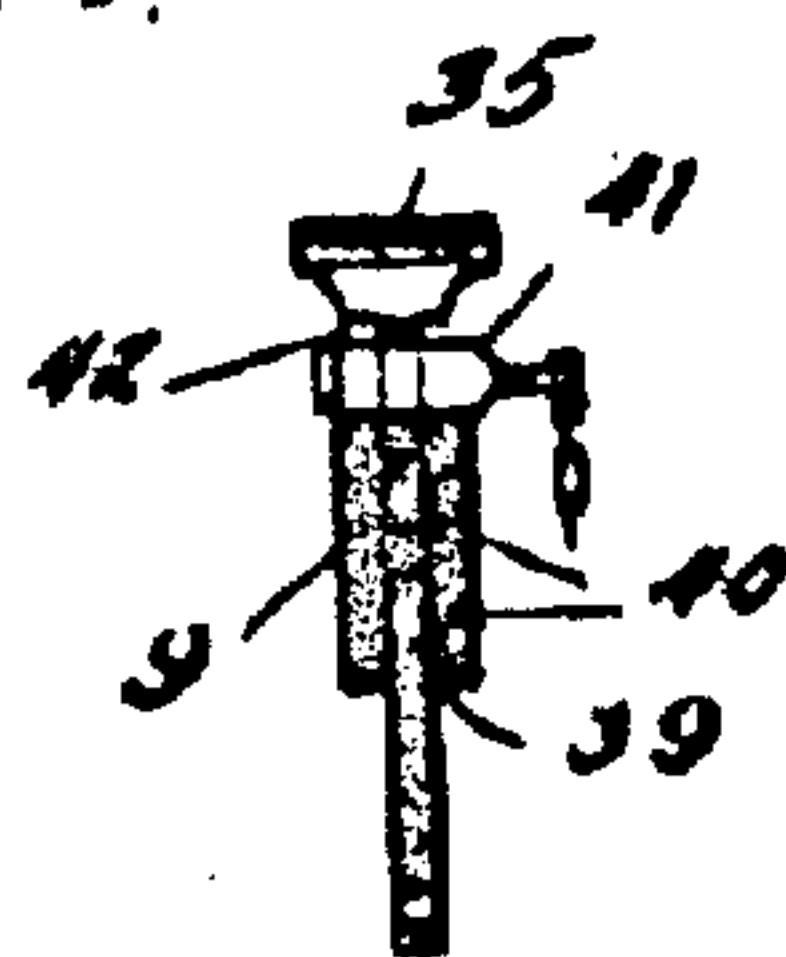


Fig. 8

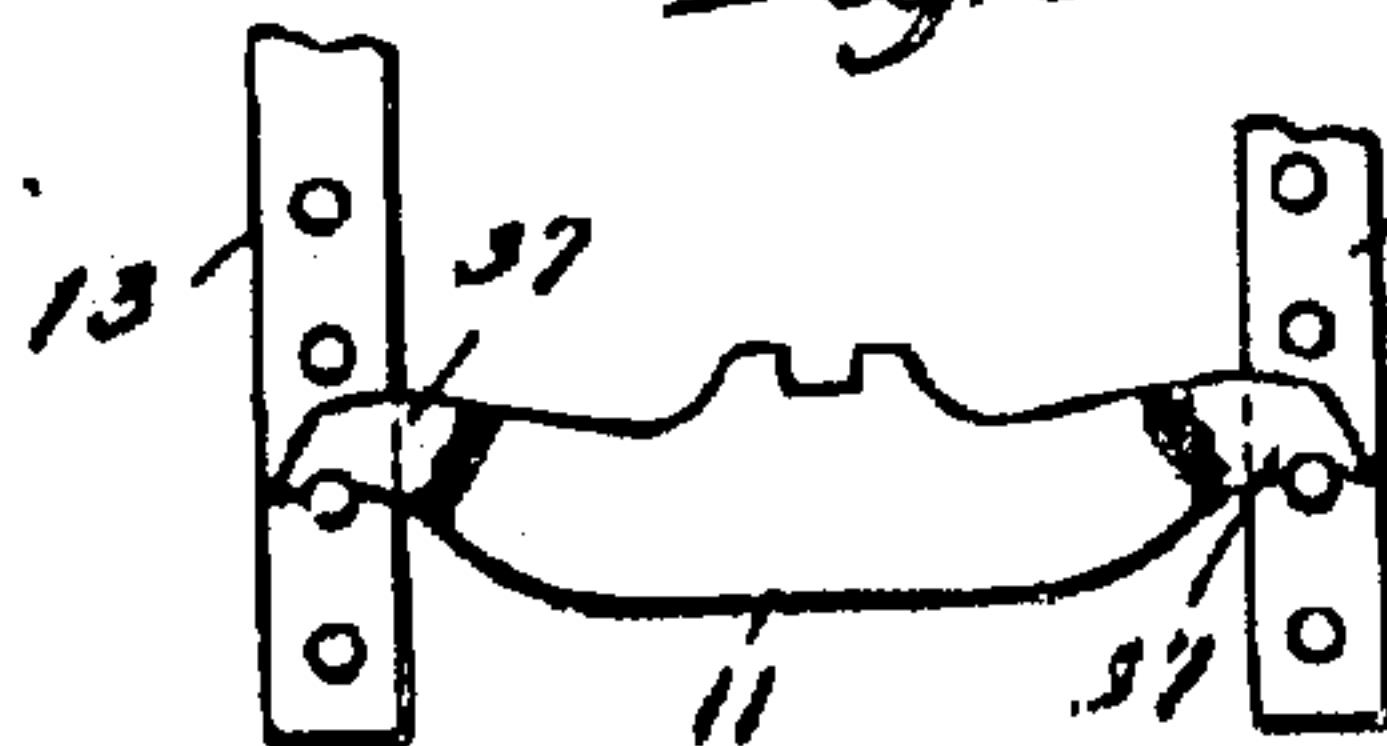
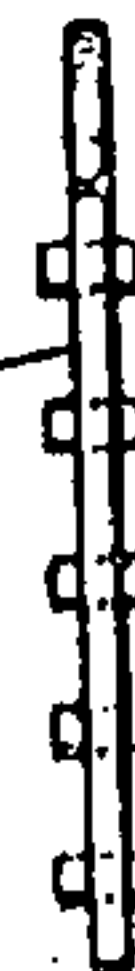


Fig. 9



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RAILWAY JOURNAL-BOX APPLIANCE.

No. 876,764.

Specification of Letters Patent.

Patented Jan. 14, 1908.

Application filed September 23, 1907. Serial No. 394,016.

To all whom it may concern:

Be it known that I, WILLIAM F. BENTLEY, a citizen of the United States, residing at Baltimore, in the county of Baltimore and State of Maryland, have invented a new and useful Improvement in Railway Journal-Box Appliances, of which the following is a specification.

My invention relates to improvements in means for raising the journal boxes of railway cars for the purpose of removing and replacing the brasses.

The object of my invention is to provide an appliance of a strong, simple and durable construction, composed of few parts, capable of being quickly applied to the car wheel and axle, and by means of which the journal box may be easily and quickly raised sufficiently to permit of the removal and replacement of the brasses, and by which at the same time the car wheel will be held down and the necessity avoided of going to the ground for a lifting bed or foundation.

My invention consists in the novel construction of parts and devices and in the novel combination of parts and devices herein shown and more particularly set forth in the claims by which this object or result is accomplished.

In the accompanying drawing, which forms a part of this specification, Figure 1 is a side elevation of one form of an appliance embodying my invention, some of the parts being sectioned or partly broken away; Fig. 2 is an end elevation, partly in vertical section on line 2—2 of Fig. 1; Fig. 3 is a vertical section on line 3—3 of Fig. 1; Fig. 4 is a detail section on line 4—4 of Fig. 1; Fig. 5 is a detail view showing the preferred form of supporting hook and its connection with the fulcrum chains; Fig. 6 is a detail elevation showing the preferred form of lifting lever and lifting lever adjusting piece; Fig. 7 is a detail section on line 7—7 of Fig. 6; Fig. 8 is a detail view showing the preferred form of the fulcrum bar, and Fig. 9 is an edge view of the connecting link shown in Fig. 6.

In the drawing, 1, represents one of the rails of a railway track, 2 a car wheel resting thereon, 3 the axle, 4 the journal portion of the axle, 5 the journal box, all arranged in the usual manner, so that the brasses in the upper portion of the box may take over the axle.

The journal box lifting device or mechanism

embodying my invention comprises, essentially, a supporting bar 6 adapted to engage and receive support from the end of the axle, a supporting hook 7 adapted to engage any suitable part of the car, preferably the car wheel, a connection 8, preferably a chain between the supporting hook and supporting bar, a lifting lever 9 adapted to engage the journal box and preferably furnished with an adjustable piece 35 to engage the journal box (see Fig. 6) or with an antifriction wheel or roller 10 (see Fig. 1), a fulcrum 11 for the lifting lever, the fulcrum being preferably a bar, a fulcrum connection 12 between the supporting hook and the fulcrum bar, such fulcrum connection preferably being a pair of chains having adjusting links or bars 13, and a lifting screw 14, turning in a swivel nut 15 on the outer end of the supporting bar 6, and connecting the supporting bar and lifting lever. The fulcrum piece or bar 11 is preferably given a curved shape or set, as shown in Fig. 8, as the same does away with any tendency to a rolling action when the journal box is being lifted.

To adapt the supporting bar 6 to engage the end of the car axle, I preferably provide it with a pointed end 16 which may enter the customary centering cavity 17 in the end of the axle. The inner end of the supporting bar 6 is also preferably furnished with an integral cross arm 18 to engage the end face of the axle, and thus prevent the supporting bar from swinging to one side.

The supporting hook 7 is preferably furnished with integral arms 19, 19, to which the fulcrum chains or connections 12, 12 are preferably connected by rivets 36 (see Fig. 5), or by clevises 20, 20, (see Figs. 1 and 2). These integral arms on the supporting hook thus cause the supporting hook to also serve as an equalizing lever for the fulcrum bar, at the lower end of the fulcrum chains 12, 12.

The adjustable links or bars 13, 13, at the lower end of the fulcrum chains 12, 12, pass between the forks 37 of the ends of the fulcrum bar 11 (see Fig. 8), or through slots 21 in the fulcrum bar 11, and are furnished with a series of holes 22 to receive the pins 23 by which the fulcrum bar is adjustably connected to the fulcrum chains. The pins 23 preferably have attaching chains 24 to fasten them to the fulcrum bar so that they may not become lost.

The lifting lever 9 is preferably of a curved shape, about as shown in Fig. 6, as this curved shape of the lever prevents tendency or danger of the lever turning on its axis when sustaining the load. The lifting lever 9 has preferably two notches 25 at its inner end to engage the fulcrum bar. The anti-friction wheel or roller 10 of the lifting lever is journaled on a bracket 26 attached to the lifting lever. The lifting lever 9 preferably is furnished with an adjustable piece 35 which passes through a slot 39 in the lifting lever and is furnished with holes 40 to receive a pin 41 so that the adjusting piece may be adjusted to different positions on the lifting lever. The adjusting piece 35 also has integral shoulders 42 to permit of a still lower adjustment.

The lifting screw 14 is preferably connected to the lifting lever by an adjustable link 27, having preferably a series of fixed pins or integral lugs 43 (see Fig. 9) or in lieu thereof a series of holes 28 and a movable pin 29, the pin 29 having an attaching chain 30. The lifting screw 14 has a head 31 at its lower end which turns in a swivel or clevis 32 at the upper end of the adjusting link 27, the same preferably having anti-friction balls 44 interposed. The lifting screw is furnished with a handwheel or handle 33 by which it is turned in the screw threaded swivel nut 15 carried on the outer end of the supporting bar 6.

34 is the lid or cover of the journal box.

In operation the lid or cover of the journal box is opened and the supporting bar 6 inserted into the open journal box and the supporting hook 7 slipped over the flange of the wheel, as illustrated in the drawing, and then by turning the lifting screw the lifting lever is caused to raise the journal box and thus free the brasses between the upper sides of the journal and the upper part of the journal box from the weight of the car, so that the same may be slipped out and replaced when desired. By means of my apparatus this work may be done in a very few minutes.

The supporting chain 8 of the supporting bar 6 may be connected to the car truck frame or car body frame instead of to the car wheel.

I claim:

1. In a car journal box lifting mechanism, the combination with a supporting bar adapted to engage the end of the car axle, of a supporting hook adapted to engage the car wheel, a connection between said supporting bar and hook, a lifting lever, a fulcrum for the lifting lever, a connection between the fulcrum and the supporting hook, and a lifting screw connecting the supporting bar and lifting lever, substantially as specified.

2. In a car journal box lifting mechanism,

the combination with a supporting bar adapted to engage the end of the car axle, of a supporting hook adapted to engage the car wheel, a connection between said supporting bar and hook, a lifting lever, a fulcrum for the lifting lever, a connection between the fulcrum and the supporting hook, and a lifting screw connecting the supporting bar and lifting lever, said lifting lever having an adjustable piece to engage the journal box, substantially as specified.

3. In a car journal box lifting mechanism, the combination with a supporting bar adapted to engage the end of the car axle, of a supporting hook adapted to engage the car wheel, a connection between said supporting bar and hook, a lifting lever, a fulcrum for the lifting lever, a connection between the fulcrum and the supporting hook, and a lifting screw connecting the supporting bar and lifting lever, said supporting hook having a pair of integral arms, and the connection between the supporting hook and the fulcrum being a pair of chains extending one on each side of the journal box and car axle, substantially as specified.

4. In a car journal box lifting mechanism, the combination with a supporting bar adapted to engage the end of the car axle, of a supporting hook adapted to engage the car wheel, a connection between said supporting bar and hook, a lifting lever, a fulcrum for the lifting lever, a connection between the fulcrum and the supporting hook, and a lifting screw connecting the supporting bar and lifting lever, said supporting bar having a swivel nut at its outer end for the lifting screw, substantially as specified.

5. In a car journal box lifting mechanism, the combination with a supporting bar adapted to engage the car wheel, a connection between said supporting bar and hook, a lifting lever, a fulcrum for the lifting lever, a connection between the fulcrum and the supporting hook, a lifting screw connecting the supporting bar and lifting lever, and an adjusting link connecting the lower end of the lifting screw to the outer end of the lifting lever, substantially as specified.

6. The combination with a supporting hook having integral arms, of a supporting bar, adapted to engage the end of the car axle, a connection between the supporting bar and supporting hook, a fulcrum bar, a pair of connections between said fulcrum bar and the arms of said supporting hook, a lifting lever, and an operating device between the supporting bar and lifting lever, substantially as specified.

7. The combination with a supporting hook having integral arms, of a supporting bar, a connection between the supporting bar and supporting hook, a fulcrum bar, a pair of connections between said fulcrum bar and the arms of said supporting hook, a

lifting lever, an operating device between the supporting bar and lifting lever, and an adjusting piece on the lifting lever engaging the journal box, substantially as specified.

8. In a car journal box lifting mechanism, a supporting hook adapted to engage the car wheel and provided with a pair of integral arms, a fulcrum bar, connections between said fulcrum bar and the arms of said supporting hook, a supporting bar engaging the car axle and connected with said supporting hook, a lifting lever, and a screw connection between said lifting lever and supporting bar, substantially as specified.

9. In a car journal box lifting mechanism, a supporting hook adapted to engage the car wheel and provided with a pair of integral arms, a fulcrum bar and connections extending on each side of the journal box between said fulcrum bar and the arms of said supporting hook, a supporting bar engaging the car axle and connected with said supporting hook, a lifting lever, and an adjustable operating screw connection between said lifting lever and supporting bar, substantially as specified.

10. In a car journal box lifting mechanism, a supporting hook adapted to engage the car wheel and provided with a pair of integral arms, a fulcrum bar and connections extending on each side of the journal box between said fulcrum bar and the arms of said supporting hook, a lifting lever, a device on the lifting lever for engaging the journal box, a supporting bar engaging the car axle and connected with said supporting hook, and a screw connection between said supporting bar and said lifting lever, substantially as specified.

11. In a car journal box lifting mechanism, a supporting hook adapted to engage the car wheel and provided with a pair of integral arms, a fulcrum bar and connection extending on each side of the journal box between said fulcrum bar and the arms of said supporting hook, a lifting lever, an operating device for lifting the lever, a supporting bar engaging the car axle and connected with said supporting hook and with said operating device for the lifting lever, substantially as specified.

12. In a car journal box lifting mechanism, a supporting hook adapted to engage the car wheel and provided with a pair of integral arms, a fulcrum bar and connections extending on each side of the journal box between said fulcrum bar and the arms of said supporting hook, a lifting lever, an operating device for the lifting lever, and a supporting bar for said operating device engaging the car axle and connected with said supporting hook, substantially as specified.

13. In a car journal box lifting mechanism, a supporting hook adapted to engage the car wheel and provided with a pair of

integral arms, a fulcrum bar and connections extending on each side of the journal box between said fulcrum bar and the arms of said supporting hook, a lifting lever, an operating device for the lifting lever, a supporting bar for said operating device, said supporting bar engaging the outer end of the car axle and receiving support therefrom, substantially as specified.

14. In a car journal box lifting mechanism, a supporting hook adapted to engage the car wheel and provided with a pair of integral arms, a fulcrum bar and connections extending on each side of the journal box between said fulcrum bar and the arms of said supporting hook, a lifting lever, an operating device for the lifting lever, a supporting bar for said operating device, said supporting bar engaging the outer end of the car axle and receiving support therefrom, and a connection between said supporting bar and said supporting hook, substantially as specified.

15. The combination with a supporting hook, a fulcrum connected therewith, a lifting lever, a supporting bar engaging the car axle and connected with said supporting hook, and a lifting screw connecting said supporting bar and lifting lever, substantially as specified.

16. The combination with a supporting hook, a fulcrum connected therewith, a lifting lever, a supporting bar connected with said supporting hook, and a lifting screw connecting said supporting bar and lifting lever, said supporting bar being adapted to engage the end of the car axle and to receive support therefrom, substantially as specified.

17. In a car journal box lifting mechanism, a supporting bar adapted to engage and receive support from the end of the car axle, in combination with a lifting lever and an operating connection between said lifting lever and supporting bar substantially as specified.

18. In a car journal box lifting mechanism, a supporting bar having a pointed end adapted to enter the centering cavity in the end of the car axle and thus receive support from the axle, in combination with a lifting lever and an operating connection between said lifting lever and supporting bar substantially as specified.

19. In a car journal box lifting mechanism, a supporting bar having a pointed end adapted to enter the centering cavity in the end of the car axle and thus receive support from the axle, said supporting bar having also a cross arm adapted to engage the end piece of the car axle to prevent the supporting bar from swinging to one side, in combination with a lifting lever and an operating connection between said lifting lever and supporting bar substantially as specified.

20. In a car journal box lifting mechanism, a supporting bar adapted to engage and re-

ceive support from the end of the car axle, and means connecting the upper end of said supporting bar with the car, in combination with a lifting lever and an operating connection between said lifting lever and supporting bar substantially as specified.

21. In a car journal box lifting mechanism, the combination with a supporting bar engaging at its inner and lower end the end of the car axle, of means connecting the upper and outer end of said supporting bar with the car, a fulcrum and a lifting lever, substantially as specified.

22. In a car journal box lifting mechanism, the combination with a supporting bar engaging at its inner and lower end the end of the car axle, of means connecting the upper and outer end of said supporting bar with the car, a fulcrum and a lifting lever, and means for supporting the fulcrum from the car, substantially as specified.

23. In a car journal box lifting mechanism, the combination with a supporting bar engaging at its inner and lower end the end of the car axle, of means connecting the upper and outer end of said supporting bar with the car, a fulcrum and a lifting lever, and an operating device for the lifting lever, substantially as specified.

24. In a car journal box lifting mechanism, the combination with a supporting bar en-

gaging at its inner and lower end the end of the car axle, of means connecting the upper and outer end of said supporting bar with the car, a fulcrum and a lifting lever, means for supporting the fulcrum from the car, and an operating device for the lifting lever, substantially as specified.

25. In a car journal box lifting mechanism, the combination with a supporting bar engaging at its inner and lower end the end of the car axle, of means connecting the upper and outer end of said supporting bar with the car, a fulcrum and a lifting lever, an operating device for the lifting lever connecting the same with the outer end of the supporting bar, substantially as specified.

26. In a car journal box lifting mechanism, the combination with a supporting bar engaging at its inner and lower end the end of the car axle, of means connecting the upper and outer end of said supporting bar with the car, a fulcrum and a lifting lever, means for supporting the fulcrum from the car, an operating device for the lifting lever connected with the outer end of the supporting bar, substantially as specified.

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