920,759.

W. J. LAGE.

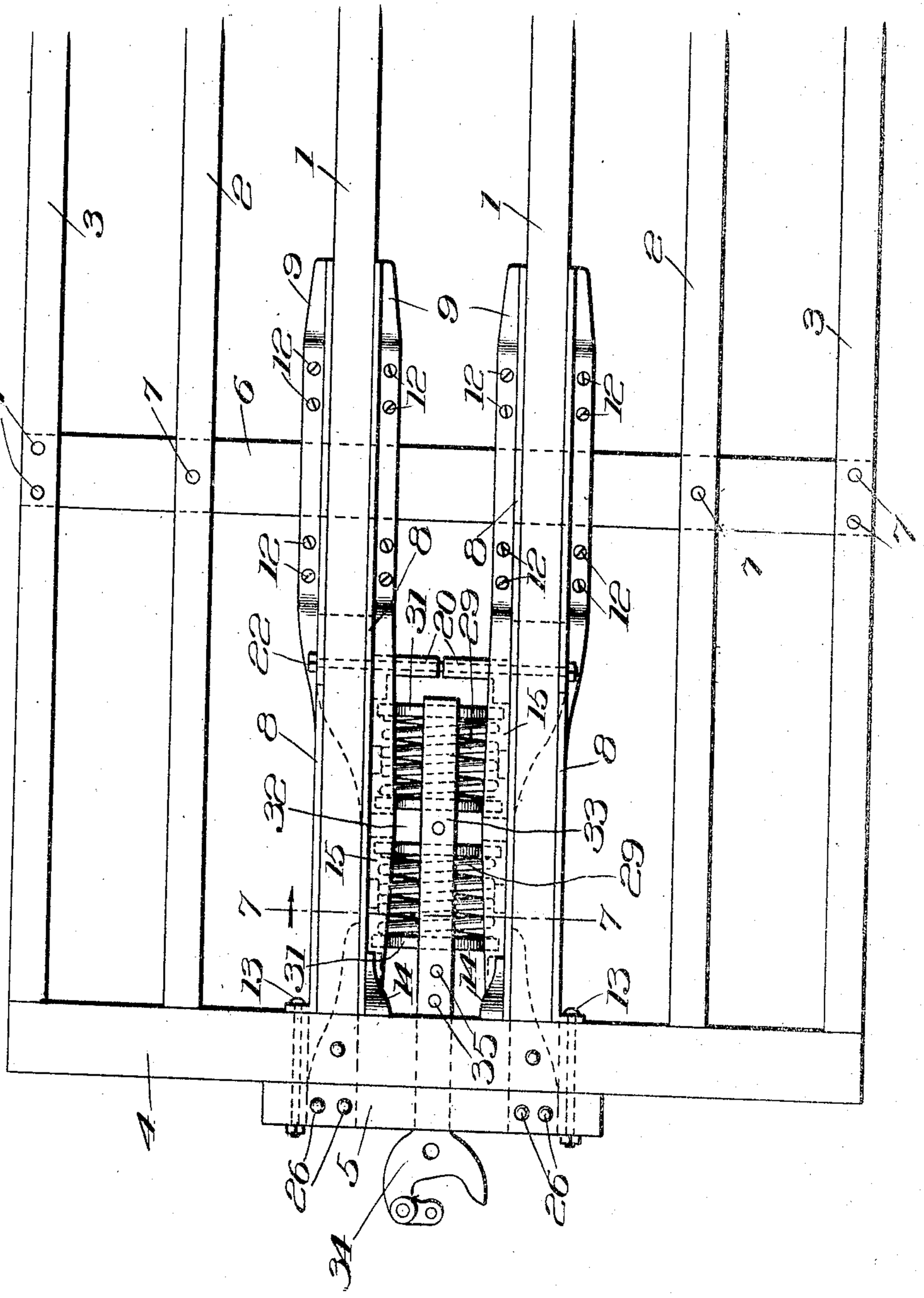
UNDERFRAME FOR FREIGHT CARS.

APPLICATION FILED OCT. 23, 1908.

Patented May 4, 1909.

3 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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3 SHEETS—SHEET 2.

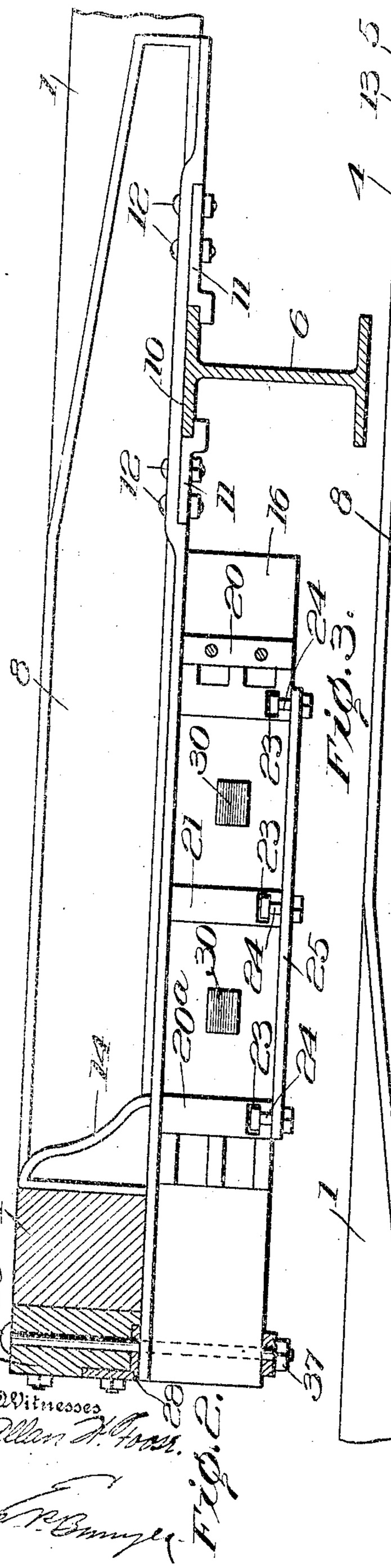

Fig. 2.

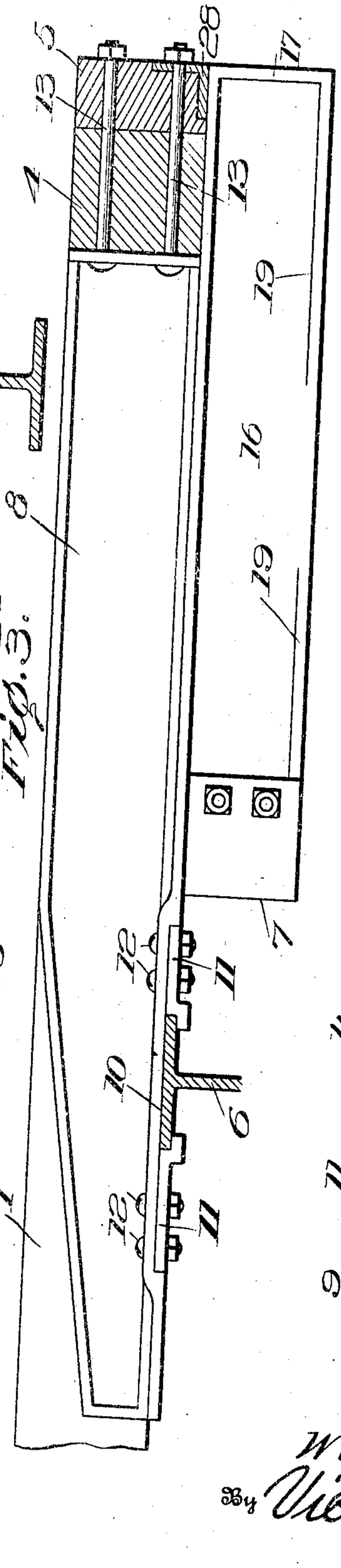

Fig. 3.

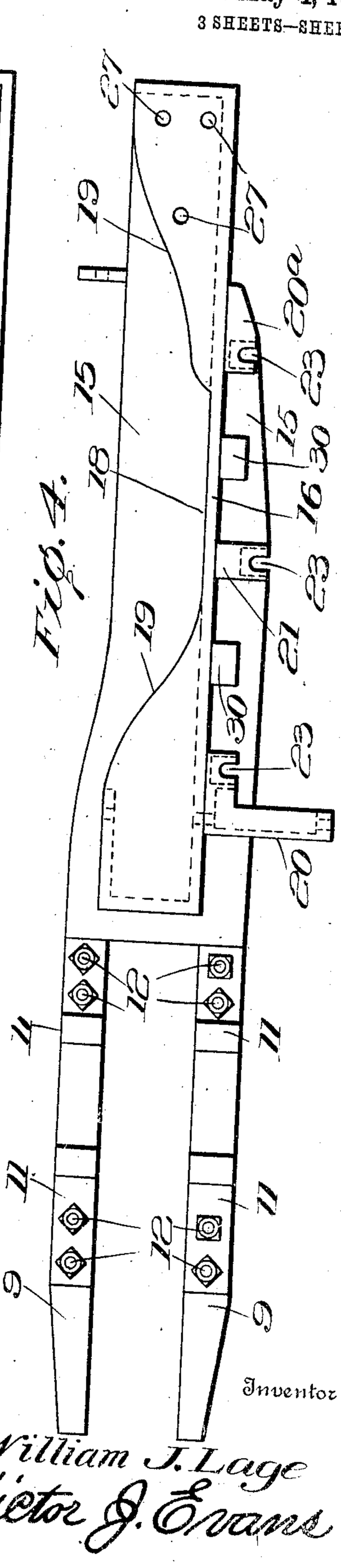

Fig. 4.

Witnesses

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3 SHEETS—SHEET 3.

Fig. 5.

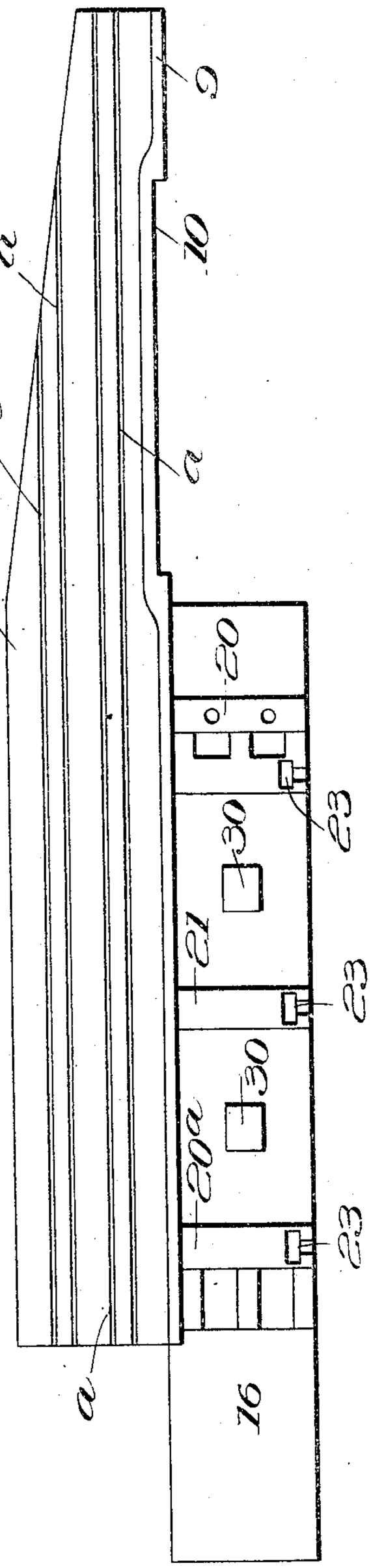

Fig. 7.

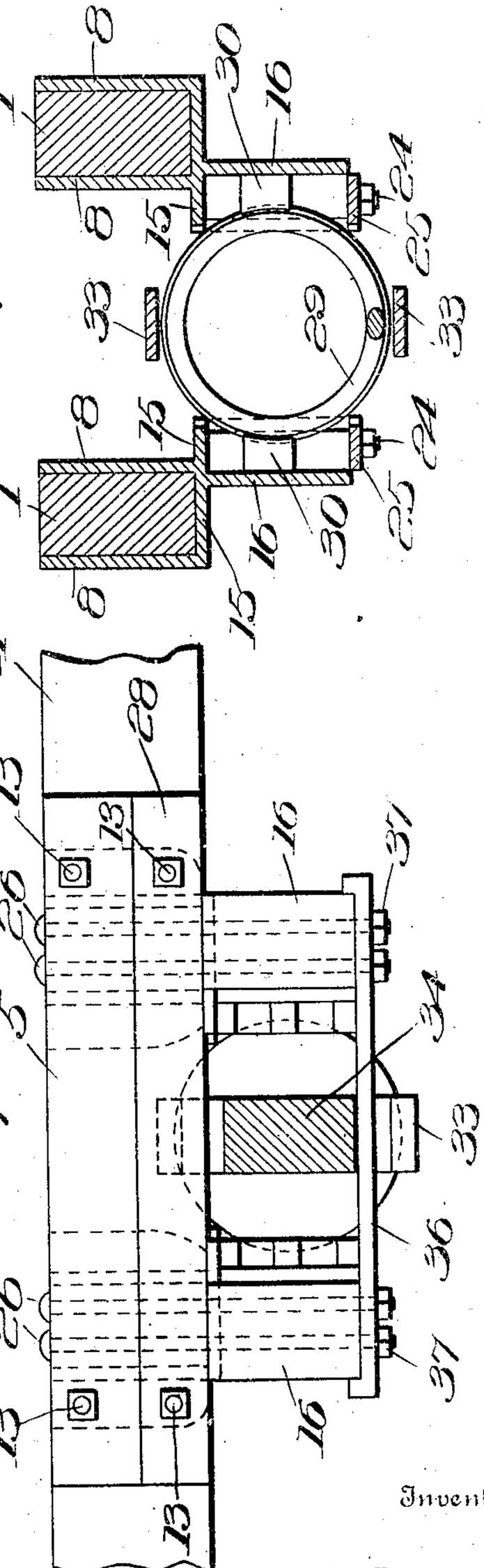

Fig. 6.

Witnesses

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UNITED STATES PATENT OFFICE.

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UNDERFRAME FOR FREIGHT-CARS.

No. 920,759. Specification of Letters Patent. Patented May 4, 1909.

Application filed October 23, 1908. Serial No. 459,157.

To all whom it may concern:

Be it known that I, WILLIAM J. LAGE, a citizen of the United States of America, residing at Topeka, in the county of Shawnee and State of Kansas, have invented new and useful Improvements in Underframes for Freight-Cars, of which the following is a specification.

This invention relates to underframes for freight cars, and one of the principal objects of the same is to provide an underframe in which the center sills will be held in place without the use of bolts.

Another object of the invention is to provide an underframe for cars in which the draft rigging will be connected to the transom instead of to the center sills.

In the underframes of freight cars, as at present constructed, the center sills are bolted in place, and owing to the bolt holes these sills are materially weakened and are very liable to become broken or injured when undue strain is placed upon them.

It is one of the principal objects of my invention to overcome this defect in underframing and to mount the center sills in guards without the use of bolts and to connect the draft rigging to the transom or body bolster, thus providing a strong and durable structure without weakening the center sills which are usually subjected to the greatest strain.

These and other objects may be attained by means of the construction illustrated in the accompanying drawings, in which,—

Figure 1 is a top plan view of an underframe made in accordance with my invention. Fig. 2 is a central longitudinal section of the frame with the draft appliances removed. Fig. 3 is a longitudinal section of the same, looking from the outside of the sill guards inwardly. Fig. 4 is a bottom plan view of one of the sill guards and the casing for the draft springs. Fig. 5 is a side elevation of the same. Fig. 6 is a detail elevation with the draft bar shown in section. Fig. 7 is a transverse section on the line 7—7 of Fig. 1, looking in the direction indicated by the arrow.

Referring to the drawings, the numerals 1 designate the center sills; 2 are the intermediate sills, and 3, the side sills of the underframe. The front cross timber 4 has bolted to it the dead block 5. The intermediate and side sills are secured to the transom 6 by means of bolts 7.

The guards for the center sills each comprise the side plates 8 provided with outwardly extending base flanges 9. Near the rear ends of the sill guards a recess 10 is formed in the underside thereof, and secured in these recesses are the oppositely disposed clamp plates 11 secured by means of bolts 12 to the flanges 9, and the transom 6, in any suitable form, is secured to the center sill guards by means of these plates, as shown more particularly in Fig. 2. The front ends of the center sill guards are connected by bolts 13 which extend through outwardly turned flanges and through the timber 4 and the dead block 5, as shown more particularly in Fig. 1. The center sills 1 are placed between the side plates 8 and are not bolted to the guards. It is to be noted that there are two center sill guards which are connected together, as will be hereinafter described. A description of one of these guards will suffice for both.

At the front of the inner side plate 8 is a hollow bracket 14 which bears against the timber 4. The bottom or floor 15 of the guard extends from the front inward to a point beyond the draft spring housing 16, as shown more particularly in Fig. 4, and the latter is preferably formed integral with the floor 15. This draft spring housing is of box-like form provided with integral ends 17, the lower portion of said housing being cut away at the center, as at 18, Fig. 4, and the flooring thereof is provided with curved inner edges 19. Connected to the sides of the housing 16 are the L-shaped bolt brackets 20 and 20^a and the intermediate bolt bracket 21. Extending through the brackets 20 are the connecting bolts 22. Formed in these brackets are the bolt head pockets 23, and the bolts 24 with their heads disposed within said pockets are connected to the longitudinal plates 25. The draft spring housings extend in front of the center sill guards and are secured by means of bolts 26 to the timber 4 and dead block 5, said bolts passing through the bolt holes 27. The dead block 5 is supported above the housing by means of the angle iron bar 28, through which one of the bolts 13 passes. The draft springs 29 are disposed between and within the housings, and curved stop lugs 30 formed upon the

housing serve to prevent undue lateral motion to said springs. Buffer blocks 31 at the opposite ends of the springs bear against the L-shaped brackets 20 and 20ª. Disposed centrally between the springs is the follower block 32, and secured to said follower block at the top and bottom are the draft bars 33 to which the coupler head 34 is secured by means of bolts 35. Extending across the front ends of the draft spring housings is a tie bar 36 through which the bolts 26 extend, the nuts 37 being applied to the lower ends of said bolts. The sides of the sill guards may be provided with grooves *a* for insulated conductors when used on refrigerator cars.

From the foregoing, it will be obvious that the center sills 1 are not bolted in place and hence are not weakened by bolt holes and that repairs may be readily made to either the draft rigging or the underframe without injury to the car body.

By means of my invention repairs may be readily made to any form of underframing, such as steel transom eight-sill car frames or to any form of six-sill frame with steel or double-leaf transom.

My invention is of simple construction, can be readily applied to cars without alteration in the draft rigging and provides a strong, durable and efficient underframe.

I claim:—

1. An underframe for freight cars comprising center sill guards secured to the transom, draft spring housings formed integral with said guards, brackets formed on said housings, said brackets having bolt head pockets, and bolts extending through said brackets to connect said housings.

2. An underframing for freight cars comprising side sills, intermediate sills and center sills, guards for the center sills, said guards being secured to the transom, draft spring housings formed integral with said guards, brackets on said housings, bolts extending through said brackets to connect said housings, bolt head pockets formed in said brackets, and draft springs mounted in said housings.

3. In an underframing for cars, the combination of center sills, guards within which said sills are disposed, means for securing said guards to the transom, integral draft spring housings connected by a transverse bolt, draft springs disposed within the housings, a follower between the springs, and a draft bar secured to said follower and provided with a coupler head.

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

WILLIAM J. LAGE.

Witnesses:
JAMES GILLETT,
H. D. KULP.