R. G. TAYLOR & C. J. W. CLASEN.

DRAFT RIGGING.

APPLICATION FILED JUNE 22, 1912.

1,167,131.

Patented Jan. 4, 1916.

2 SHEETS—SHEET 1.

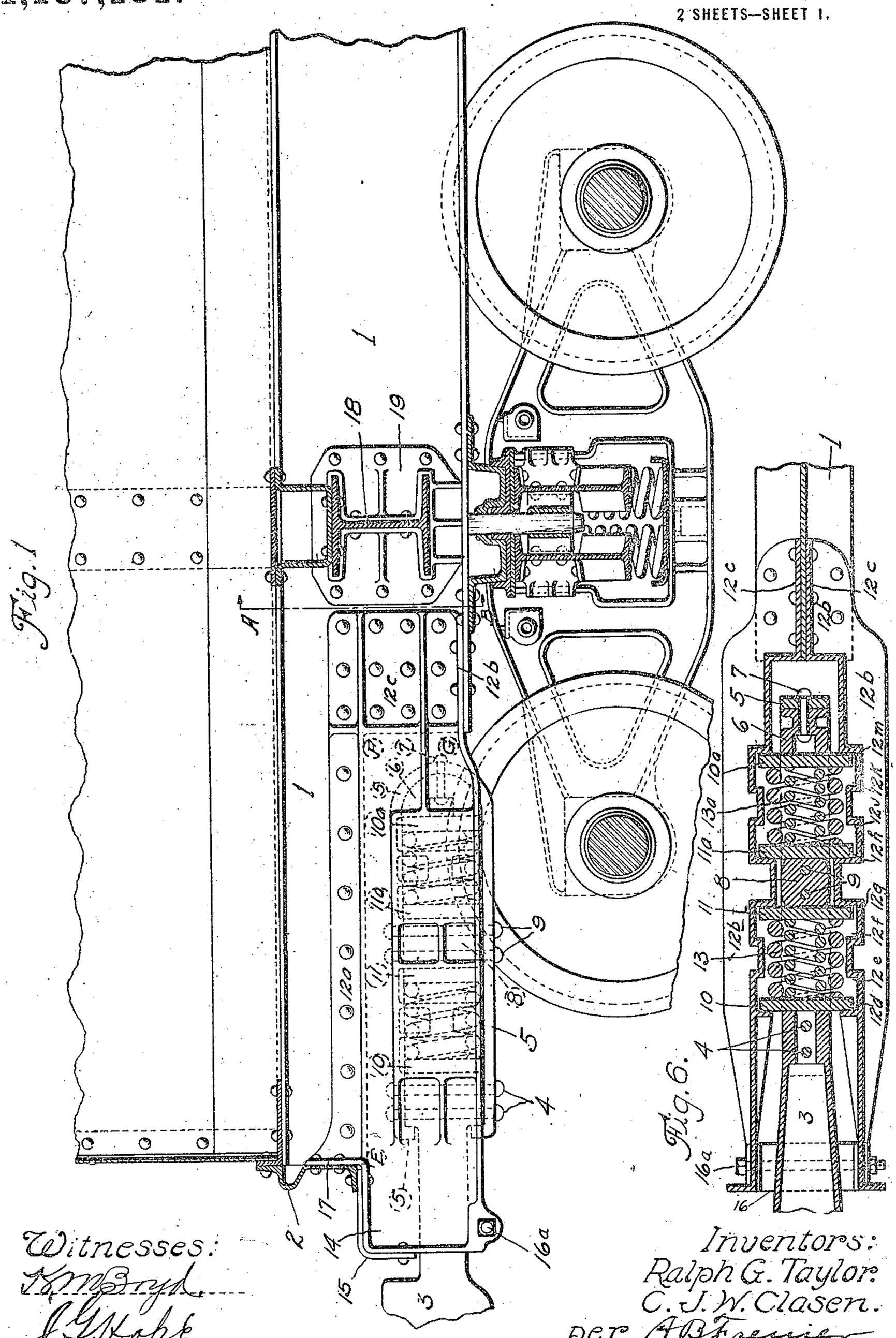

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Fig. 2.

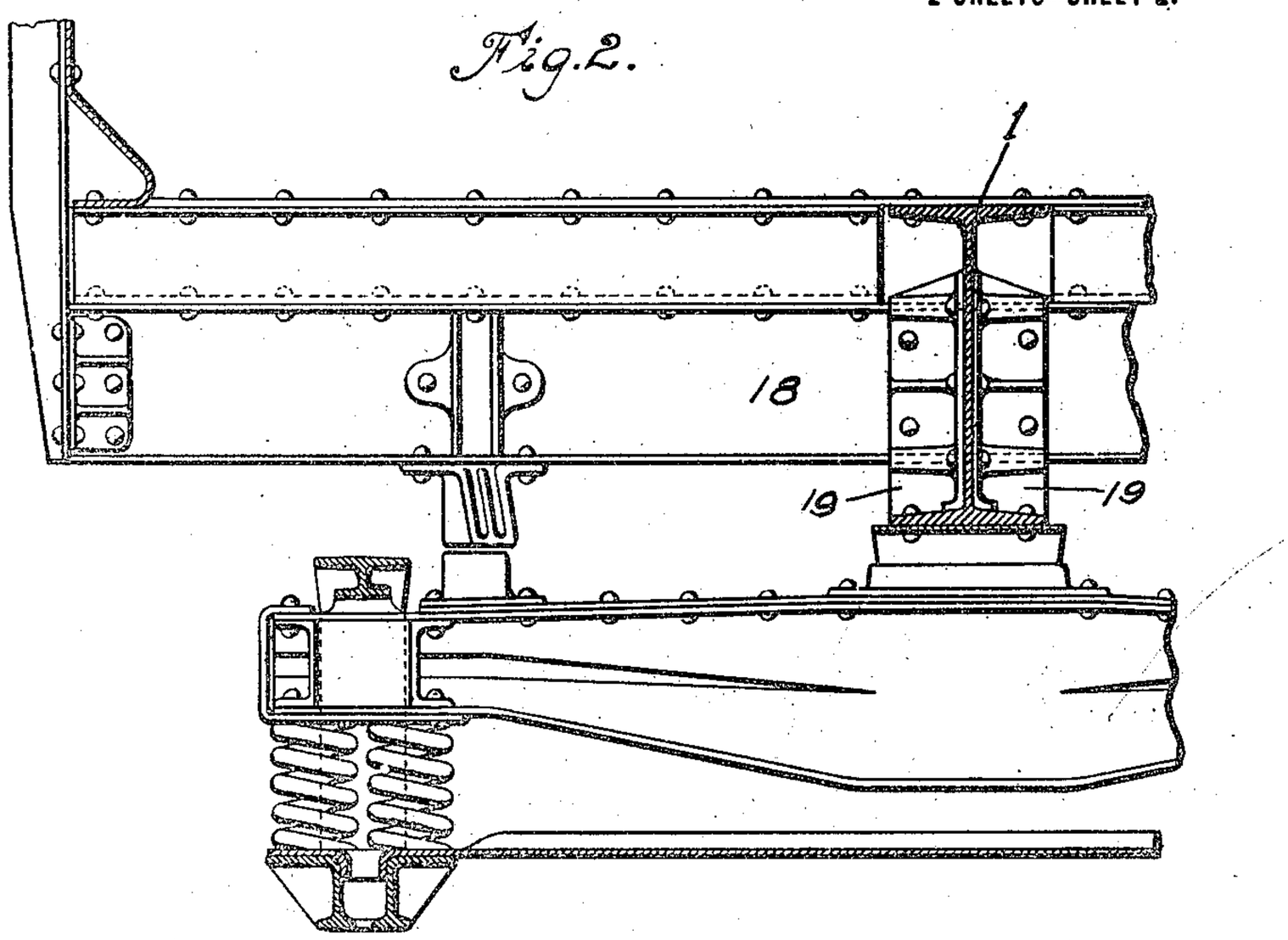


Fig. 3.

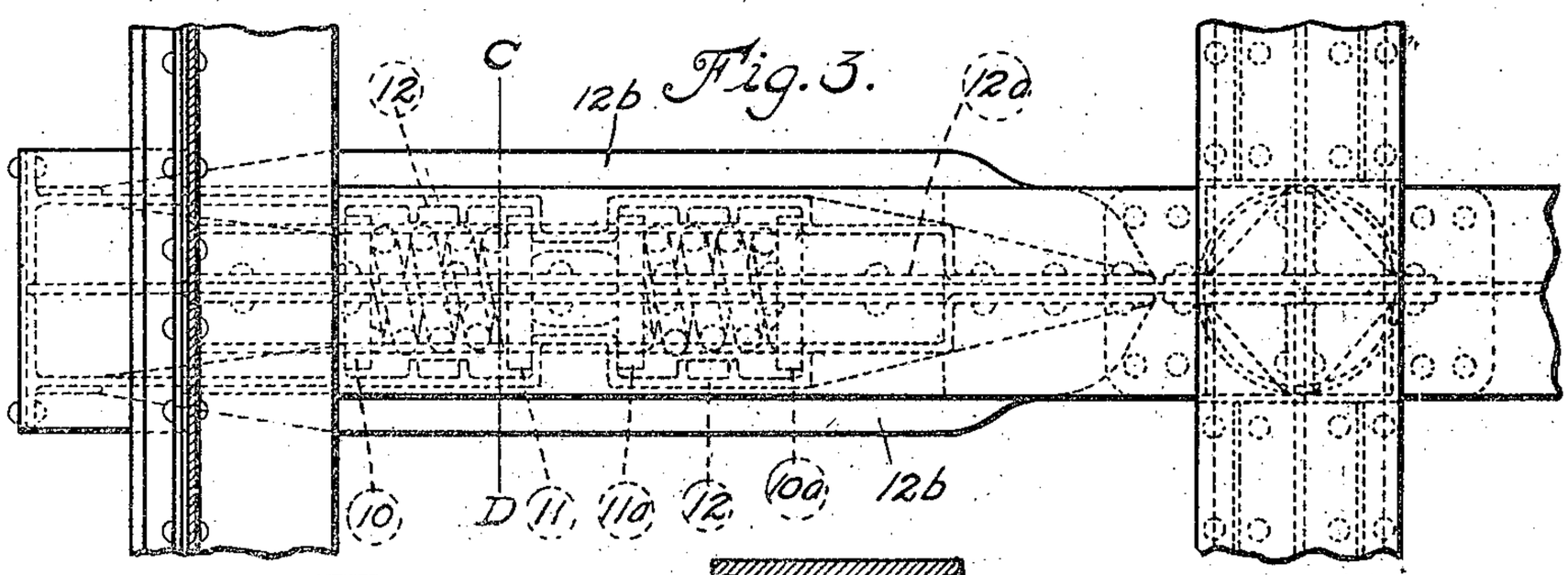


Fig. 5.

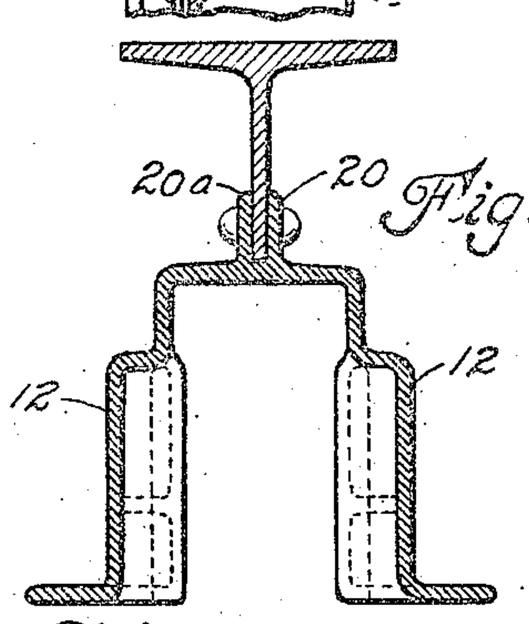
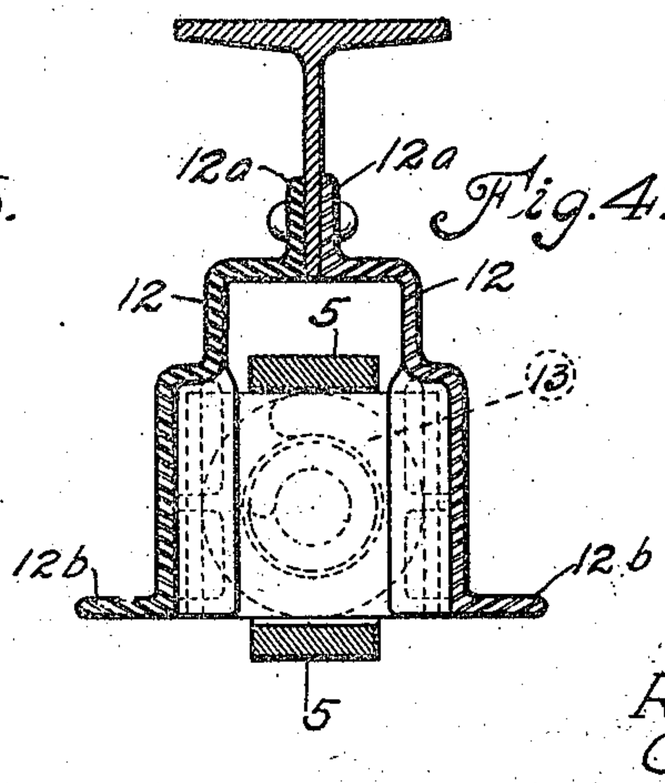


Fig. 4.



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UNITED STATES PATENT OFFICE.

RALPH G. TAYLOR AND CLAUS J. WERNER CLASEN, OF DAVENPORT, IOWA, ASSIGNORS, BY MESNE ASSIGNMENTS, TO THE BETTENDORF COMPANY, OF BETTENDORF, IOWA, A CORPORATION OF IOWA.

DRAFT-RIGGING.

1,167,131. Specification of Letters Patent. Patented Jan. 4, 1916.

Application filed June 22, 1912. Serial No. 705,211.

To all whom it may concern:

Be it known that we, RALPH G. TAYLOR and CLAUS J. WERNER CLASEN, citizens of the United States of America, and residents of Davenport, Scott county, Iowa, have invented a certain new and useful Improvement in Draft-Rigging, of which the following is a specification.

This invention relates to draft rigging for railway cars and particularly to a supporting structure that will accommodate the standard type of draft gear as ordinarily applied to freight cars.

The main object of the invention is to provide a draft rigging of improved construction for a car underframe having a single rolled beam center sill extending continuously from end sill to end sill and which will permit of the use of a standard draft gear, such as the tandem spring type provided with the usual vertically disposed yoke.

Another object of the invention is to provide a draft rigging for application to a continuously disposed single I beam center sill in a manner to leave unencumbered the upper portion of the web and all of the upper flange by any part or portion of the draft rigging in the vicinity of its connection thereto.

These and other objects which will hereinafter appear, are attained by the structure illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation, partly in section, of the end of a car, provided with a single I beam center sill and showing the improved draft rigging applied to same. Fig. 2 is a vertical cross section of a portion of the car taken on line A—B of Fig. 1. Fig. 3 is a pl n view of the end of a single I beam center sill showing in dotted lines the manner of attaching the draft rigging thereto. Fig. 4 is a vertical cross section of the center sill and draft rigging taken on line C—D of Fig. 3. Fig. 5 is a modification of the structure shown in Fig. 4. Fig. 6 is a plan view in longitudinal, horizontal section of a single center sill draft rigging embodying this invention.

Similar numerals refer to similar parts throughout the several views.

Among the various elements of an M. C. B. standard draft rigging are the coupler shank or draw bar 3 and the vertically disposed yoke 5. By a vertically disposed yoke is meant one as shown in Fig. 1, that is, extending from the rear end of the draw bar back over the top of the follower plates and springs, around the rear buffing block and passing forward again under the follower plates and springs to the draw bar to which it is securely fastened. Any draft rigging in which these yokes pass along the sides of the followers and springs, or are horizontally disposed are not considered "standard" but are known as "specials".

Now the main object of this invention is to apply a "standard" form of draft rigging to a single rolled beam center sill, preferably of I cross section, that does not terminate in the vicinity of the body bolsters of the car underframe, but a center sill that is made to extend continuously from end sill to end sill. If it were not for the necessity of maintaining the M. C. B. established center plate height and distance, or height from top of rail to center of coupler it would be a comparatively simple matter to attach a standard draft rigging to the underside of the center sill as has long been the practice in wood car construction, but in substituting a single metal sill of equal carrying capacity for the old wood sills, a beam of comparatively great depth of section must be employed, so deep, that in attaching the coupler to the underside thereof M. C. B. measurements could not be maintained. The I beam center sill 1 which extends from end sill 2 at one end of the car to a similar end sill at the other end is coped or cut away by removing a portion of the web and all of the lower flange for some distance back from each end as indicated by the dotted line E, F, G in Fig. 1. Extending into the pocket thus formed is the horizontally disposed draw-bar 3, to which is connected, by the rivets 4, the vertically disposed draw-bar yoke 5. This yoke is preferably made of a single piece, passing over the draft gear, bending around the rear end and returning underneath thereof. The filler block 6 is fitted to the rear bent end of the yoke and riveted thereto as shown at 7. Intermediate the longitudinal length of the yoke and between the top and bottom members the block 8 is securely riveted thereto by the rivets 9. The front and rear followers 10, 10ª and the intermediate followers 11, 11ª extend transversely through the vertically disposed draw-bar yoke 5.

The draft arms 12—12, one on each side

of the center sill web, forming a housing or supporting structure for the draft gear mechanism and through which the buffing shocks and pulling strains are transmitted to the center sill, are securely riveted thereto along its severed edge through the medium of the vertical flanges 12^a made integral therewith. From the lower edge of these vertical flanges 12^a the walls of the draft arms, for the greater portion of their length, extend laterally a short distance and thence downwardly thus forming a passage-way for the upper limb of the draw-bar yoke 5. These walls again extend laterally for another short distance and thence downwardly, terminating in the outwardly projecting flanges 12^b, thus forming the housing proper for the reception of the draft gear mechanism. At the rear end the walls of the draft arms are bent or brought in toward and closely embrace the web of the center sill to which they are securely riveted as shown at 12^c. The flanges 12^b lap over and are riveted to the lower flange of the center sill. The side walls of the draft arms in the vicinity of the draft gear mechanism are recessed forming the stops or shoulders 12^d 12^e 12^f 12^g 12^h 12^j 12^k 12^m for the followers $10—10^a$ and $11—11^a$ to abut against. The stops 12^e 12^f 12^j and 12^k are limiting stops for the followers 11 and 11^a to guard the cushioning springs $13—13^a$ against crushing. These followers 11 and 11^a are reciprocated longitudinally with the draw-bar yoke 5 in pulling or buffing through their contact with the block 8 which is secured to the draw-bar yoke by the vertical rivets 9 heretofore referred to. It is thus seen that these draft arms assume such shape when assembled to permit the use of a vertically disposed draw-bar yoke and differs materially in this respect from all draft riggings applied to the web of a single center sill.

The forward ends 14 of the draft arms extend beyond the end sill 2 to receive the striking plate 15. In the lower part of the outer end the draw-bar carrier 16 is fitted and held in position by bolt 16^a. The outer end of the vertical flange 12^a is increased in height and terminates in the laterally extending flange 17 by which it is secured to the end sill 2. The draft gearing including the followers and springs are supported by the usual carrier plates (not shown) bolted to the underside of the flanges 12^b.

In the structure shown in the drawings the draft rigging including the draft arms are in no manner connected to the body bolster 18 which passes through a suitable opening in the web of the center sill adjacent the rear end of the draft arms and is surrounded by the supporting gusset 19. The draft rigging is thus secured to the single center sill in a most substantial and workmanlike manner and is so attached as to leave the upper flange of the center sill unobstructed or unencumbered, free to receive the hinges of dump doors or other devices as the occasion may require. Fig. 5 shows a modification of these improved draft arms, by casting same in a single piece and providing the vertical flanges $20—20^a$ also cast integral between which the web of the center sill is riveted. This is to be considered the full equivalent of the device herein described and in no manner departing from the spirit of this invention.

What we claim as new is:

1. In a tandem spring draft rigging, the combination with a draw-bar and vertically disposed draw-bar yoke connected to said draw-bar, tandem arranged springs, front, rear and intermediate followers; a single center sill in line with the draw-bar and having a longitudinal indent at each end made by cutting away the lower flange and lower portion of the web, to receive the draw-bar, followers and cushioning device; and draft arms or stop castings occupying the said indent and secured to the web of the center sill, and provided with integral front, rear and intermediate draft lugs or stops for the front, rear and intermediate followers to abut against.

2. In a tandem spring draft rigging, the combination with a single center sill having a vertically disposed web and having the ends reduced vertically, a draw-bar in line with the center sill, a vertically disposed draft yoke connected to the draw-bar and lying in the plane of the center sill web, a pair of vertically disposed devices connected to said yoke in the plane of the center sill web, a spring and a pair of followers arranged between said devices, a second spring and a pair of followers arranged between one of said devices and the end of the draw-bar, intermediate stops and end stops vertically disposed and secured to the center sill and coöperating with said followers.

3. A draft and buffing gear comprising an I beam with the lower flange and a portion of its web removed for a distance at each end, cheek plates secured to opposite sides of the beam, a draw-bar, followers, a cushioning device in connection with the followers, and a vertically disposed yoke connecting the draw-bar with the rear follower.

Signed by us at Davenport, Iowa, this 20th day of June, 1912.

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