Feb. 14, 1928. 1,659,458

C. H. CLARK ET AL

DRAFT RIGGING DETAILS

Filed Jan. 26, 1925 2 Sheets-Sheet 1

FIG. 1.

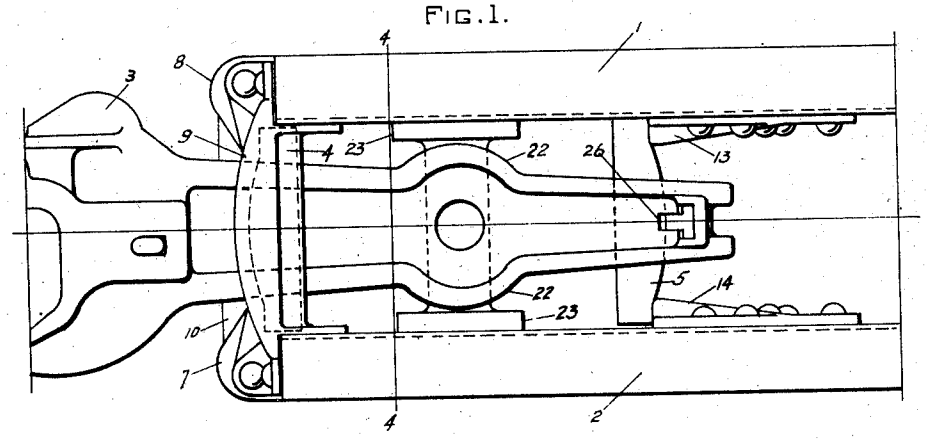


FIG. 2.

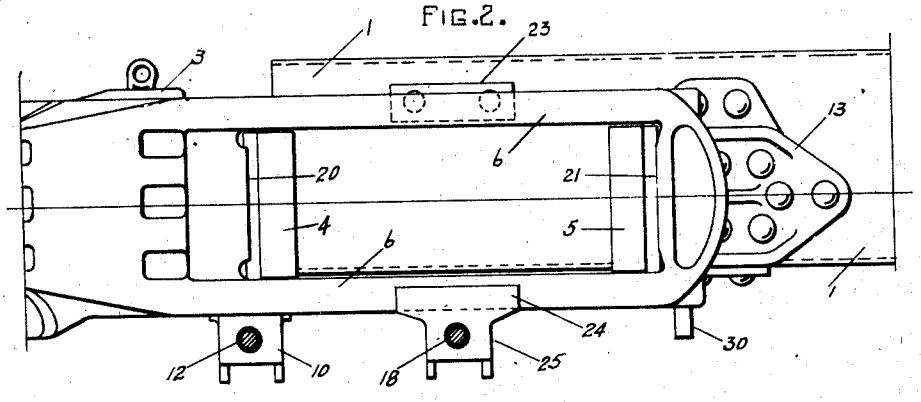
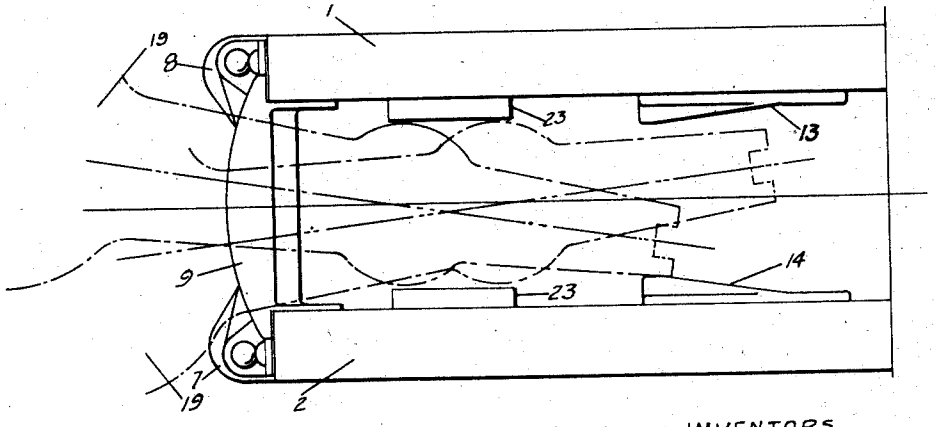


FIG. 3.



WITNESSES.

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FIG. 4.

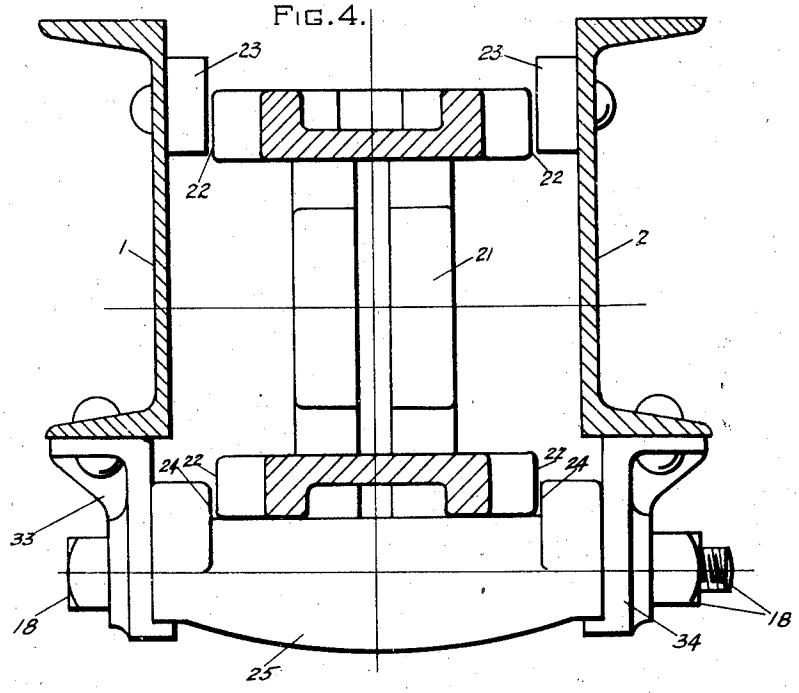


FIG. 5.

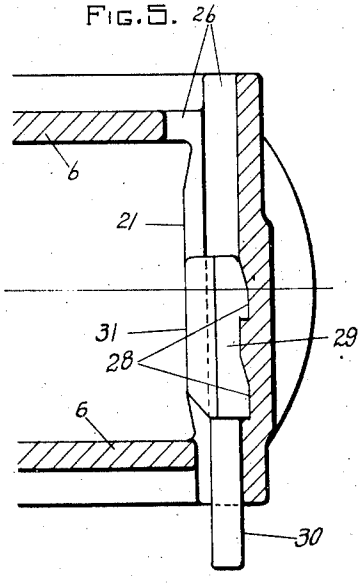
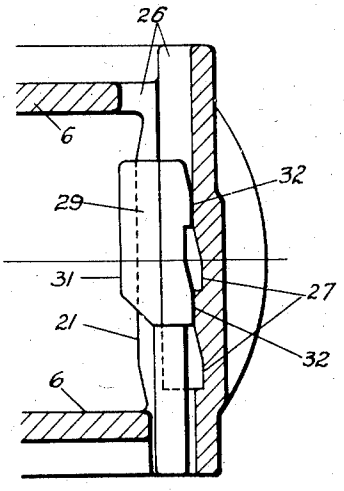


FIG. 6.



WITNESSES.

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Patented Feb. 14, 1928. 1,659,458

UNITED STATES PATENT OFFICE.

CHARLES H. CLARK, OF BETHEL TOWNSHIP, ALLEGHENY COUNTY, AND HOWARD L. BEACH, OF MOUNT LEBANON TOWNSHIP, ALLEGHENY COUNTY, PENNSYLVANIA; ORIL CLARK BEACH ADMINISTRATOR OF SAID HOWARD L. BEACH, DECEASED.

DRAFT-RIGGING DETAILS.

Application filed January 26, 1925. Serial No. 4,910.

Our invention relates to particular details of the draft rigging, being especially adapted to the parts described in co-pending application of Chas. H. Clark, railroad car parts, Serial No. 642,783. Further consideration of the structure described in that application has determined that definition of the center about which the coupler and yoke swing, is desirable; and, an object of this invention is, therefore, to define that center in such a manner as to maintain it relative to vertical contact surfaces between the yoke and followers for all positions of the coupler and yoke.

A further object of this invention is to support the draft gear and yoke as nearly under their combined center of gravity as possible, and in such a manner as to produce a minimum of friction between the moving parts and the stationary parts when the coupler and yoke swing. Simplification of parts is also attained by so forming this support as to co-operate in defining the axis about which the coupler and yoke swing.

Another object of this invention is to provide means for slightly compressing the draft gear in the yoke during preassembly of these parts before application to a car, or at any time while in the car if occasion arises for removing. This relieves the pressure between the followers and the lugs, thus materially diminishing the labor required to install or remove the coupler, yoke and draft gear assembly.

These improvements are illustrated as applied to the railroad car parts of the co-pending application of Chas. H. Clark, above cited, and are illustrated in the accompanying drawings, in which Fig. 1 is a plan view of the yoke and coupler in place between two draft sills marked respectively 1 and 2; and, Fig. 2 is an elevation of the parts included between the draft sills with draft sill 2 and the parts fixed to it removed. Fig. 3 illustrates the extreme positions of travel and swing to which the coupler and yoke are subjected, and the manner in which the centering device, hereinafter described, functions for these positions. Fig. 4 is a cross section on line 4—4, Fig. 1. Fig. 5 and Fig. 6 are both partial longitudinal sections on center line of the back end of the yoke, the difference in these two figures being set forth in the detailed descriptions of the various parts.

Throughout the accompanying drawings, the invention is illustrated in place in relation to a pair of draft sills of an American standard railroad car, they being marked respectively 1 and 2 wherever shown. 3 is a coupler head, the one illustrated conforming in outline to what is known in American railroad practice as type "D".

The draft gear is indicated by the space left between front follower 4 and rear follower 5, the particular type of draft gear being no part of this invention. Although front and rear followers are shown, their use is not the invariable practice, and, therefore, for the purpose of this description, the draft gear will be considered as including the followers 4 and 5.

The ends of the draft sills 1 and 2 are equipped respectively with front draft lugs 7 and 8 riveted to the outer surfaces of the draft sills, and so formed as to overlap the ends of the draft sills and engage the ends of front follower 4. These draft lugs are so formed in their forward upper portions as to provide convenient riveted connection for striking bar 9. Front bottom carrier bar 10 is of usual form supported on depending portions of draft lugs 7 and 8, and held in place by bolt 12.

Definition of the center about which the coupler and yoke swing is provided in the arrangement illustrated by forming two arcs 22, of a common circle, in the upper and lower bars 6 of the yoke, these arcs having clearance contact for the upper bar 6 of the yoke, with guides 23 fixed to the draft sills 1 and 2, and for the lower bar 6 of the yoke, upper extending guide portions 24 on the yoke carrier bar here marked 25, which is located under the center of gravity of the yoke and draft gear. This location of the yoke carrier bar materially reduces the weight on the front carrier bar, and also reduces the frictional resistance to the swing of the yoke. Supporting carrier bar 25 are brackets 33 and 34 fixed respectively to draft sills 1 and 2.

The means for slightly compressing the draft gear and shortening the distance be-

tween the outside faces of the front and rear followers 4 and 5, is illustrated in plan in Fig. 1 and in vertical section in Fig. 5 and Fig. 6. This device consists of a key 29 movable vertically in T shaped guideway 26. Guideway 26 is open into the draft gear space in the yoke through the perpendicular arm of its T form. T groove 26 is opened through the upper part of the yoke sufficiently to drop key 29 into groove 26 from the top, but its bottom opening through lower bar 6 is restricted to form a stop to prevent the key from dropping out of its lowest operative position. The upper portion of key 29 is T shaped with the horizontal arm of the T formed with projections 28 corresponding to recesses 27 in groove 26. When the key is in lowest position, surface 31 of the key is flush with surface 21 of the yoke as shown in Fig. 5. Depending from the key is driving portion 30 extending below the bottom of the yoke when key is in lowest position. The parts here shown are assembled with draft gear and followers with the key in position shown in Fig. 5. To compress the draft gear slightly, driving portion 30 is either pressed or driven upward until its lower end is flush with the bottom line of the yoke, thus driving key 29 inward as it rises and bringing it to rest on vertical surfaces 28 of the key resting on vertical surfaces 32 of the yoke. This forces surface 31 of the key inward beyond surface 21 of the yoke, thus compressing the draft gear and slightly shortening the distance between the outside faces of followers 4 and 5.

With the various parts in positions described and as shown in Fig. 6, they can be vertically raised into position between the draft sills 1 and 2 and draft lugs 7 and 8, and 13 and 14, respectively. After the car is placed in service, the first time the draft gear is compressed beyond the range of the key 29, the latter will drop by gravity from position shown in Fig. 6 to position shown in Fig. 5, and thereafter remain inoperative until it is again driven upward to position shown in Fig. 6 for the purpose of removing the coupler, yoke and draft gear from the car. The forms and arrangement of the parts of this device may be changed materially without departing from the invention.

While this invention has been described in its application to structure shown in copending application of Chas. H. Clark, its utility is not limited to application with that arrangement.

We claim:

1. In a combined coupler head and yoke comprising a yoke adapted to receive a standard draft gear and a coupler head integrally and directly joined to the yoke arms, a portion of the coupler head closing the draft gear space, arcs projecting laterally to the yoke arms for limiting the swing of the coupler and yoke unit to predetermined axes when installed in a railroad car.

2. In a combined coupler head and yoke comprising a yoke adapted to receive a standard draft gear and a coupler integrally and directly joined to the yoke arms, a portion of the coupler head closing the draft gear space, arcs projecting laterally to the yoke arms for limiting the swing of the coupler and yoke unit to a predetermined axis relative to the coupler and yoke unit when installed in a railroad car.

3. In a draft rigging, a combined coupler head and yoke comprising a yoke adapted to receive a standard draft gear and a coupler head integrally and directly joined to the yoke arms, a portion of the coupler head closing the draft gear space, yoke arms having enlargements thereon in the top and bottom bars of the yoke cooperating with adjacent parts of the draft rigging.

4. In a draft rigging for railroad cars, draft sills, draft lugs attached to the draft sills, a combined coupler head and yoke comprising a yoke adapted to receive a standard draft gear and a coupler head integrally and directly joined to the yoke arms, a portion of the coupler head closing the draft gear space, a yoke and draft gear carrier bar under the center of the draft gear opening having vertical portions co-operating with the yoke to direct the side motion of the yoke intermediate between the front and rear draft lugs.

5. In a draft gear yoke, the inside rear transverse face being formed with a vertical keyway, wedge formations on the yoke, a key in the keyway having wedge formations thereon, the wedge formations on the key cooperating with those on the yoke to move the key forwardly as it is moved upwardly, and means to limit the downward movement of the key.

In testimony whereof, we have hereunto subscribed our names this twenty-third day of January, 1925.

CHAS. H. CLARK.
HOWARD L. BEACH.

CERTIFICATE OF CORRECTION.

Patent No. 1,659,458. Granted February 14, 1928, to

CHARLES H. CLARK ET AL.

It is hereby certified that the assignee in the above numbered patent was erroneously described and specified as "Oril Clark Beach, Adminstrator of the estate of said Howard L. Beach, deceased", whereas said assignee should have been described and specified as "Oril Clark Beach, Executrix of said Howard L. Beach, deceased.", as shown by the records of assignments in this office; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 6th day of March, A. D. 1928.

Seal.

M. J. Moore,
Acting Commissioner of Patents.

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