ABSTRACT: A hose hanger for a trainline arrangement includes an L-shaped bracket having a vertical mast which is provided with a pair of hooks hooked into the core openings on the side face of a standard type E coupler. The mast includes a bracket which removably secures the hanger arrangement to the coupler. A horizontal channel-shaped base member is connected to the mast and removably supports an elbow connection which has connected thereto a flexible hose extending to an angle cock arrangement. The angle cock arrangement is supported on the end sill of the car and communicates with a trainline conduit extending the length of the car. A second flexible hose from the elbow and having a glad hand connected thereto extends forwardly and includes a chain arrangement supporting the latter hose from the hanger bracket arrangement. The car includes an end-of-car cushioning unit and swinging and longitudinal movement of the coupler is facilitated by means of the hanger arrangement.
Hose Hanger Arrangement for Railway Car Trainline

Summary

The present invention is concerned with the positioning of the angle cock of a trainline arrangement on the end sill of a railway car and is laterally spaced with respect to the coupler and coupler shank which in turn is connected to a suitable cushioning means such as an end-of-car cushion disclosed in U.S. Pat. Re. No. 26,472, patented Oct. 1, 1968, for Hydraulic Draft Gear Arrangement. Further, the angle cock is in communication with a flexible hose which is securely supported on a hanger bracket arrangement connected to the coupler head of the coupler. The coupler head is provided with a side having pairs of laterally spaced core openings and the bracket includes a pair of hooks disposed through the core openings and which include hook ends overlying portions of the coupler for securely and removably suspending the hanger bracket. The bracket also includes an improved connecting means for removably connecting the hanger bracket to the coupler head by the utilization of a single bolt connection. The bracket arrangement includes a mast and a base member with the base member including a U-bolt arrangement which supports the flexible hose underneath the coupler.

The present arrangement is particularly suited for relatively larger end-of-car cushions, such cars being particularly vulnerable to the accidental bypassing of the coupler when the cars are coupled in train makeup. Such bypassing of the couplers may occur if the cars are being coupled on a curve and misalignment of the coupler occurs so that one coupler overlaps the other and damage to the trainline elements can occur. With the present arrangement, if bypassing of the coupler occurs the hanger bracket and angle cock arrangement are so disposed that there is considerably less likelihood of damage to these parts. Furthermore, the present arrangement provides an improved hanger arrangement which is readily disconnectable from the coupler and provides an effective arrangement for supporting the flexible hose elements of the trainline. Further, the arrangement is ideally suited to the longitudinal movement which takes place on part of the coupler during coupling as a result of the coupler being connected to an end-of-car cushioning unit.

Brief Description of the Drawings

Fig. 1 is a side elevational view of one end of a railway car underframe having a coupler and trainline bracket arrangement connected thereto;

Fig. 2 is a plan view of the arrangement shown in Fig. 1;

Fig. 3 is a side elevational view of a hanger bracket arrangement for a trainline;

Fig. 4 is an end elevational view of the hanger bracket arrangement shown in Fig. 3; and

Fig. 5 is a plan view of a hanger bracket arrangement shown in Figs. 3 and 4.

Detailed Description

The railway car underframe 10 shown in Fig. 1 includes a center sill 11 of rectangular configuration open at its end as indicated at A in Fig. 2. The underframe 10 in this case may be a part of a railway flat car of sufficient length to accommodate two 40-feet long trailer bodies in TOFC operation. Of course the present invention may also be as readily utilized with other railway cars as desired. The center sill 11 projects outwardly from an end sill 12 at opposite ends of the car and is provided at each end with a coupler 13 having a shank 14 projecting into the center sill 11. The shank 14 has connected at its outer ends a coupler head 15. The coupler head 15 may be of the Type disclosed in the Carbuilders Encyclopedia, 21st Edition, 1961, pp. 591—594, as compiled for the A. A. R. Mechanical Division. Each end of the center sill 11 may have contained therein an end-of-car cushioning device as shown in the aforementioned patent which may permit longitudinal cushioned movement of each coupler within a range of up to 15 inches.

Details of the end-of-car cushioning device and the manner of connection to the coupler shank are not illustrated but are adequately described in the aforementioned patent.

The coupler head 15 comprises a side face 16 having pairs of core openings 17 and 18. In the E-type coupler such core openings 17 and 18 are provided and the upper core openings 17 are separated from the lower core openings 18 by wall portions designated at 19. The upper openings 17 and lower openings 18 are separated relative to each other by means of a vertically extending wall portion designated at 20 and best shown in Fig. 1. The E-type coupler head 15 also includes a bored boss 21 which is supported thereon a chain which extends to the flexible hose of the trainline. In the present arrangement the bored boss 21 is utilized for another purpose.

A trainline, generally designated by the reference character 22, extends from one end of the car to the other. On each end of the car an angle cock structure 24 is provided which includes a regulator handle 25 and a bracket 26 which securely mounts the angle cock structure 24 on the end sill 12 of the car. A flexible hose 27 is connected to each angle cock structure 24 and extends longitudinally outwardly from the end sill 12 and is connected to an elbow 28 by means of a connector 29.

An L-shaped bracket 30 includes a channel base 31 having an adjustable U-bolt 32 mounted thereon for adjustably securing the trainline thereto the elbow 28. The U-bolt 32, as best shown in Fig. 4, extends through openings 33 in the base 31 and is connected by nuts 34. The L-shaped bracket 30 includes a vertical mast 36 which is secured to the base 31 by means of a gusset 35. The upper ends of the mast 36 are provided with horizontally extending hook-shaped members 37 and 38 which are respectively provided with hook elements 39 and 40. Each of the hook-shaped members 37 and 38, as best shown in Fig. 5, includes a relatively flat connector portion 41 which is suitably connected to the vertical mast 36 by means of rivets 42.

A strap or bracket 43 projects outwardly from the mast 36 to which it is rigidly secured and includes openings 44 and 45. The opening 44 is adapted, as shown in Fig. 1, to be placed into registry with the bored boss 21 and is secured thereto by means of a bolt 47. A chain 46 has one link secured in the opening 45 and supports an end of a flexible hose 48 having a glad hand or connector 49 connected thereto.

Operation

The disclosure in the above-mentioned patent of an end-of-car cushioning unit is incorporated herein by reference. In operation, upon impacts on the end of the coupler the cushioning unit provides for a cushioned travel of the coupler shank 14 which may be within a range of up to 15 inches of travel. By virtue of the flexible hose connection 27 and the hanger bracket arrangement 30 such travel of the coupler and shank are readily facilitated relative to the fixed angle cock 24. Further swinging movement of the coupler shank 14 is facilitated by this arrangement. The angle cock 24 is positioned to one side of the center sill 11 and damage which could be occasioned by a bypassing coupler is largely eliminated. Furthermore the hanger bracket arrangement 30 permits the quick assembly and removal of the same with the coupler head 15. By simply inserting the hook-shaped members 37 and 38 through the core openings 17 and 18 in the manner indicated in Fig. 1, wherein the hooks 39 and 40 overlap the vertical wall portion 20, the hanger bracket 30 is effectively supported for movement with the coupler head 15. Furthermore by the insertion of one bolt 47 through the bracket 43 the hanger bracket 30 is rigidly fixed onto the coupler head 15. Further the hanger bracket 30 provides means whereby the chain 46 is supported for suspending the flexible hose end 48 in the manner desired.

Thus by utilizing the core openings of the coupler head 15 and by securing the vertical mast 36 by means of the readily
insertable hook-shaped elements 37 and 38, quick assembly and disassembly of the arrangement is achieved. Thus in the event of replacement of the hanger bracket 30 such may be readily accomplished in the field in a minimum amount of time with readily available tools.

It is of course understood that the arrangement indicated in FIG. 1 is provided on opposite ends of the car, each of which contains an end-of-car cushion of a type which may be as indicated in the aforementioned patent. Similarly, while the E-type coupler includes the core openings which are present as a result of manufacture it is understood that similar openings or means in other couplers may be provided which provide anchoring means for the hooks 39 and 40 so that the advantages of the invention are achieved.

1 claim:

1. In a railway car underframe including an end sill, a center sill having an open end, a coupler including a shank carried within said center sill and projecting outwardly with respect thereto, and a coupler head connected to said shank;
a trainline arrangement comprising:
an angle cock supported on said underframe adjacent one end thereof and being communicatively connected with a conduit extending between the ends of the car;
a flexible conduit connected to said angle cock and extending forwardly with respect to said one end;
means supporting said flexible conduit on said coupler including an L-shaped bracket having a vertical mast;
a horizontal base connected to said mast and including hanger means supporting said first conduit; and
means connecting said L-shaped bracket to said coupler head including hook-shaped means on said mast engaging said coupler to suspend said mast thereon, and fastener means releasably connecting said mast to said coupler head.

2. The invention in accordance with claim 1,