June 28, 1966 W. E. HAWKINS 3,258,133

TUBULAR UNCOUPLING DEVICE FOR CAR COUPLERS

Filed Sept. 13, 1965 2 Sheets-Sheet 1

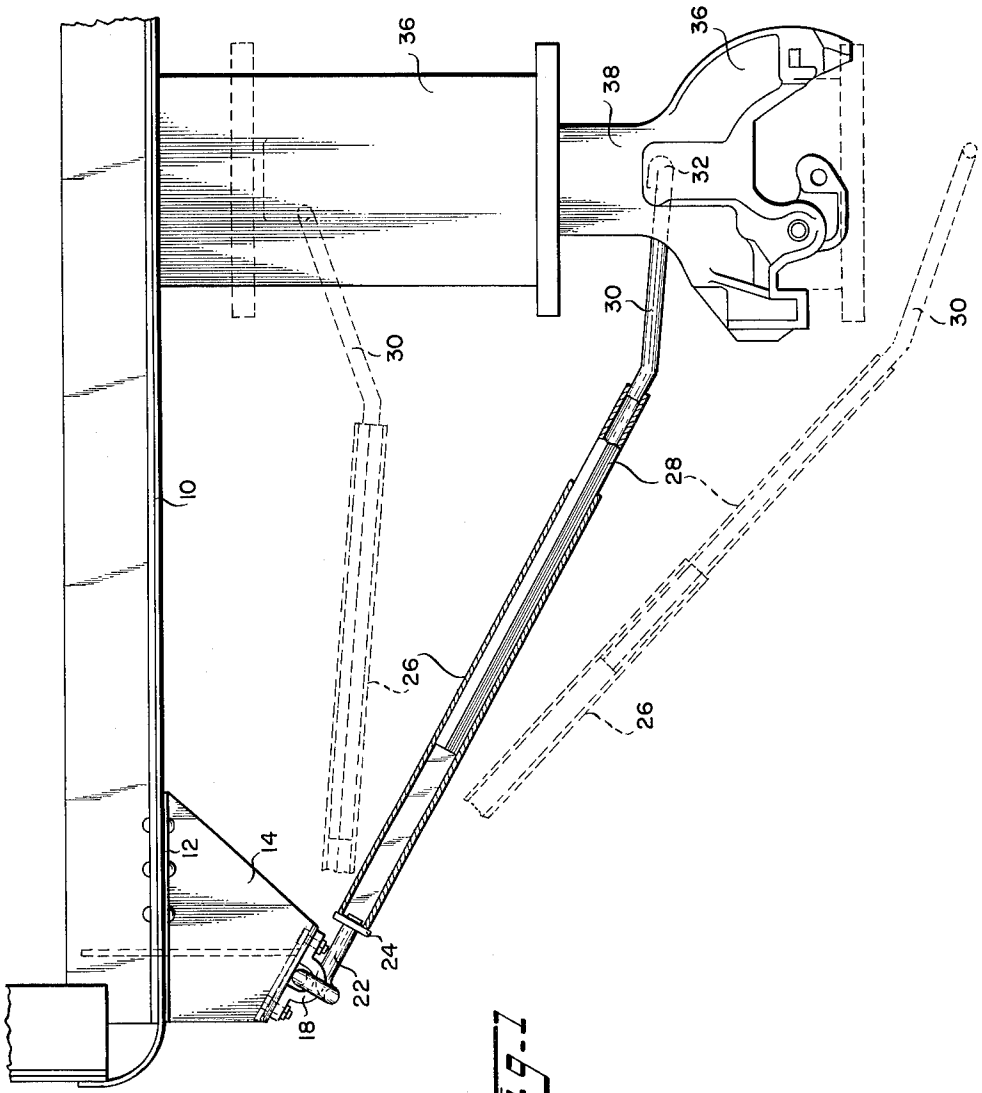


FIG. 1

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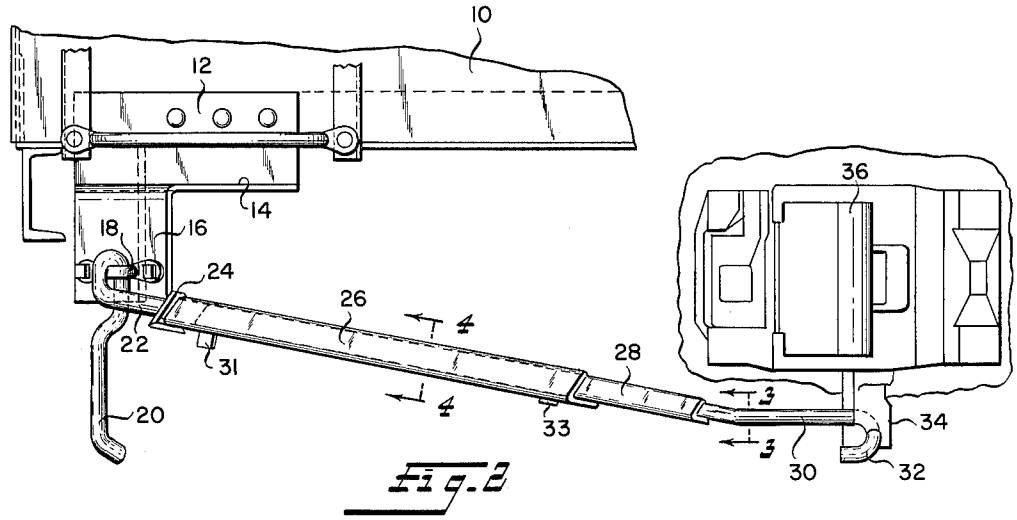


Fig. 2

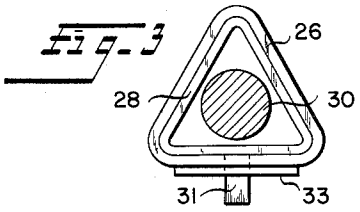


Fig. 3

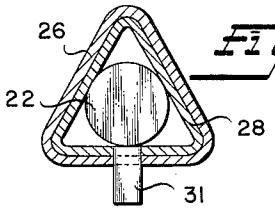


Fig. 4

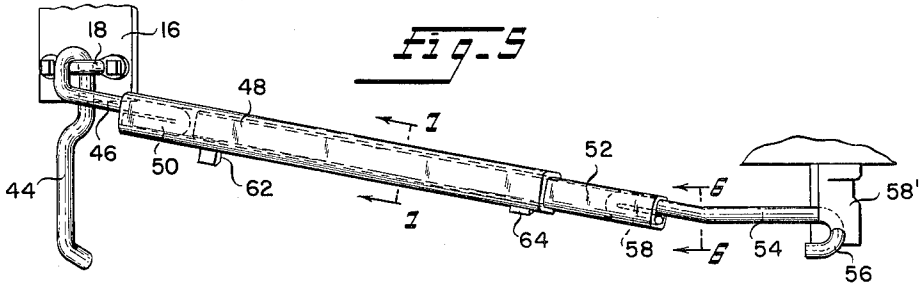


Fig. 5

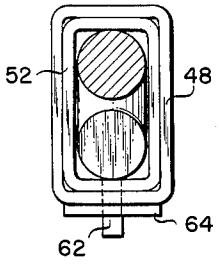


Fig. 6

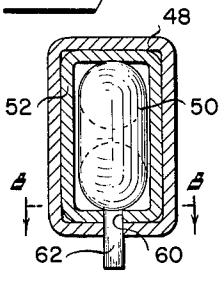


Fig. 7

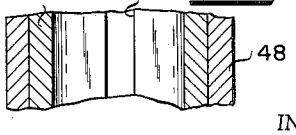


Fig. 8

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3,258,133

TUBULAR UNCOUPLING DEVICE FOR CAR COUPLERS

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Filed Sept. 13, 1965, Ser. No. 486,875
6 Claims. (Cl. 213—219)

This invention relates to railroad car couplers and more particularly to an operating lever for uncoupling a coupler upon counterclockwise rotation of the lever.

More and more railroad freight cars are being equipped with sliding center sill underframes with cushioning arrangement which have little or no recoil and which allow a considerable amount of travel of the sliding sill at all impact speeds, thereby to better protect the commodities within the car. Furthermore, cars are being built with moderate, medium and extreme cushioning.

All uncoupling devices are provided at the outer end with a handle which must be maintained, according to safety rules, within twelve inches of the side of the car end. The inner end of the device is provided with a hook which engages the lock lifter of the coupler, and, upon a 90° rotation of the device, the hook lifts the lock lifter which in turn lifts the lock and uncouples the coupler.

The coupler moves in and out of the underframe and moves laterally when the car is rounding curves in the tracks. Therefore the uncoupling device must be extendable so as to move wherever the coupler takes the inner end of the device upon full draft movement of the coupler, while at the same time maintaining the handle end within the twelve-inch limit from the car end. On the other hand the device must be contractible to about 38" to acommodate the full buff position of the coupler.

The principal object of this invention is to provide a coupler uncoupling device to meet these conditions for a coupler mounted in a sliding sill underframe with medium cushioning. This accommodates most of the cushioned underframe cars being built at the present time.

Further objects and advantages of the invention will appear in the following description thereof when considered in connection with the accompanying drawing forming part of this application and wherein like reference characters indicate like parts.

In the drawings:

FIGURE 1 is a top plan view of one embodiment of the invention;

FIG. 2 is a side view of FIG. 1 looking at the end of a car;

FIG. 3 is a section on the line 3—3 of FIG. 2;

FIG. 4 is a section on the line 4—4 of FIG. 2;

FIG. 5 is a view similar to FIG. 2 of a modified form of the invention;

FIG. 6 is a section on the line 6—6 of FIG. 5;

FIG. 7 is a section on the line 7—7 of FIG. 5; and

FIG. 8 is a section on the line 8—8 of FIG. 7.

Referring in particular to FIGS. 1–4, **10** indicates the end of a car to which the uncoupling device is mounted. The mounting for the lever comprises a bracket having a vertical plate member **12** riveted or otherwise secured to the end **10** of the car adjacent one corner thereof. Issuing outwardly from the lower edge of the plate member **12** is a horizontal somewhat triangularly shaped plate member **14**, which member **14** at its outer edge is bent downwardly at an angle to the plate **12** forming a vertical member **16**. To the lower margin of this plate member **16** is removably fastened a clevis **18** which with the included portion of the member **16** forms an eye having a substantially vertical axis. The uncoupling lever has a handle at the outer end and which is formed of round rod

bent intermediate its ends and supported by the clevis **18**. The handle part **20** extends upwardly and over the clevis **18** and is then turned laterally at at **22** and extends through a small plate **24** secured to the end of a tube **26** which is triangular in cross section. The end of the laterally extending rod portion **22** is welded or otherwise secured to the small plate member **24** which in turn is welded to the end of the triangular tube **26** effectively closing same. The axis of tube **26** is coincident with the axis of the rod portion **22** and extends inwardly toward the coupler. Another tube **28** also triangular in cross section of smaller dimension telescopically extends within the tube **26**. A rod **30** extends a short distance within the inner end of the tube **28** and is welded therein. This rod **30** angles inwardly under the coupler and is provided with a hook **32** which engages the lock lifter **34** of the coupler **36**. The tube **26** has a slot **29** formed in its lower surface extending longitudinally from a point adjacent its outer end to its inner end. The tube **28** has a short key **31** at its outer end, said key projecting through the slot and slidable therealong. A stop **33** is spot welded across the inner end of the slot to limit the separation of the two parts **28** and **26** of the device. Thus the tube **28** can be withdrawn from tube **26** when required by movement of the coupler until the key **31** engages the stop **33**.

From the foregoing it is apparent that the telescoping parts can follow a coupler mounted in a sliding sill with moderate cushioning, and that in any position of the coupler, a 90° rotation of the handle **20** will correspondingly rotate the tubes **26–28** and rod **30**, thereby lifting the lock lifter and uncoupling the coupler.

Since most couplers are now mounted in sliding center sills such as indicated at **36**, the movement of the center sill in and out of the underframe plus the movement of the coupler shank **38** in and out of the sliding center sill is quite material, and therefore the telescoping parts of the uncoupling device must extend sufficiently to follow these movements of the coupler and compensate therefor. On the other hand in the full buff position of the coupler the telescoping parts of the uncoupling device must be contractible to approximately 38".

Tubular telescoping uncoupling levers are not new. Patent No. 2,885,095 illustrates one form of telescoping uncoupling lever but to applicant's knowledge no one has utilized the advantages of the tube triangular in cross section. When the triangular sections are telescoped together, the rotating force applied thereto when the handle is rotated will be transmitted from one triangular section to the other. One advantage of the triangular form of tube over square tubes or rectangular tubes is that if a collapsing force is applied to a triangular tube, it cannot collapse without at least one side failing. This is not true in the square or rectangular tubes because if a collapsing force is applied to either of such tubes, opposite corners would act as hinges and the tube would be pressed together without any side failing. It therefore is felt that the triangular form of tube has inherent advantages of its own.

Now referring to the modification shown in FIGS. 5–8, the handle of this modification is shown at **44** and is practically identical with that shown in the previous modification. The bracket is identical and the clevis **18** is mounted on the depending plate member **16** of the bracket and supports the handle of the device. The handle **44** extends upwardly and around the clevis **18** and extends laterally as at **46** within a tubular member **48** a short distance and is then turned backwardly upon itself as at **50**. This folded over end of the rod **46** is welded within the outer tube **48**, which is of elongated rectangular cross section as shown in FIGS. 6 and 7. An inner rectangular tube **52** extends within the tube **48** and a rod

54 having a hook 56 at its inner end extends within the inner end of the inner tube 52 a short distance and is turned backwardly upon itself as at 58 and is welded to the tube 52. The hook 56 is fastened into the lock lifter 58' of the coupler. Thus when the handle 44 is rotated, similar movement will be transmitted to the tubes 48 and 52 and the rod 54 which will in turn rotate the hook 56, lifting the lock lifter 58' and uncoupling the coupler.

The bottom of the tubes 48 and 52 are provided with registering slots 60 which extend between opposite margins of each tube. These form effective drain openings whereby moisture or foreign material finding its way within the tubes will drop out due to vibration and service movements of the car.

In this modification also the outer end of the elongated rectangular tube 58 is provided with a key 62 which extends through the slot 60 and is slidable therealong. At the inner end of the outer tube 48 a stop 64 is welded across the slot to limit the relative movement of the telescoping tubes.

This arrangement of slots and stops in either modification of the invention is also advantageous when more than two telescoping parts are required so that the device may extend to a greater distance. Furthermore, should the device become seriously bent, the parts could separate and fall off the car, but with the stops this would be practically impossible.

From the foregoing it is apparent that there has been provided a new and novel telescoping uncoupling device for railroad car couplers which is relatively easy to fabricate, economical and very easy to repair in case of damage.

I claim:

1. In a railroad car or the like, having a coupler mounted in a sliding center sill with cushioning medium, an uncoupling rod mounted at one end to the end sill of the car and connected at the opposite end to the coupler lock mechanism, said uncoupling rod consisting of a plurality of telescoping parts, each part connected to its adjacent part to allow relative coaxial longitudinal movement, and being of non-circular cross section, and provided with a longitudinal drainage slot along the lower surface of the outer of said telescoping parts.

2. The structure set forth in claim 1, and a key on the outer end of the inner part, said key projecting through said drainage slot and limiting the movement of the inner part within the outer part.

3. The structure set forth in claim 2 and a stop across the inner end of the outer part engageable by said key to prevent separation of said parts.

4. The structure set forth in claim 1, wherein each part is a hollow tube slidable within the next adjacent tube.

5. The structure set forth in claim 1, wherein each part is a hollow tube of triangular cross section.

6. The structure set forth in claim 1, wherein each part is a hollow tube of elongated rectangular cross section.

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B. FAUST, *Assistant Examiner.*