

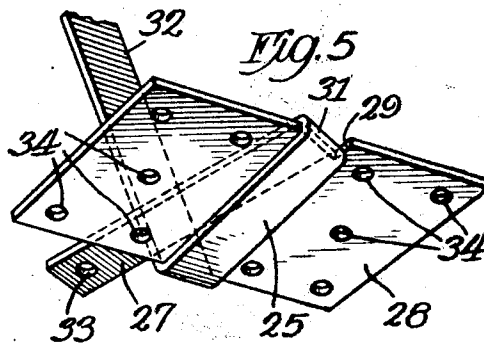
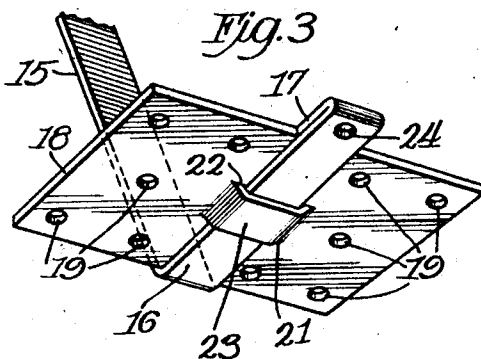
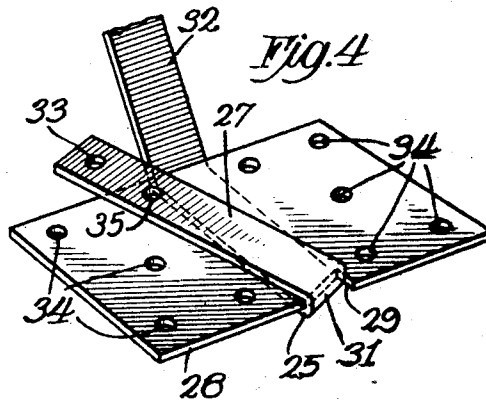
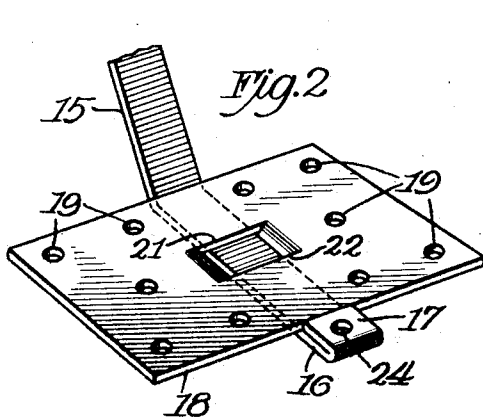
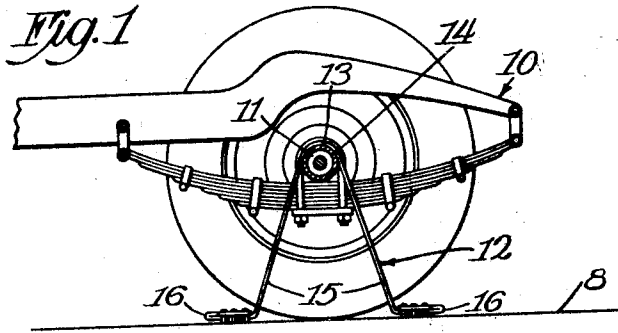
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E. S. EVANS

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ANCHORING DEVICE

Filed March 31, 1930



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## UNITED STATES PATENT OFFICE

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## ANCHORING DEVICE

Application filed March 31, 1930. Serial No. 440,241.

This invention relates to tie-down or hold-down devices for securing vehicles to the floor of freight cars or other conveyances during shipment.

One of the objects of the invention is the provision of new and improved means for securing the foot plates to the feed of the hold-down device.

Another object of the invention is the provision of a new and improved hold-down device that is provided with novel means for holding the foot plates and the feet of the hold-down device in assembled relation without the necessity of a rivet or a welding operation, between the foot and plate, the parts being so constructed that the feet are not weakened beneath the plates by nail holes or other openings.

A still further object of the invention is the provision of a new and improved hold-down device that is simple in construction, inexpensive to manufacture, easily assembled, and that may be readily attached for use.

Other and further objects and advantages of the invention will appear from the following description, taken in connection with the accompanying drawings, in which

Fig. 1 is a side elevational view of the device, showing the same applied to the axle of a vehicle;

Fig. 2 is a perspective view of the foot, attaching plate, and a portion of the leg of the device;

Fig. 3 is a perspective view of the construction shown in Fig. 2, as viewed from the underside thereof;

Fig. 4 is a perspective view similar to Fig. 2, showing a modified form of construction; and

Fig. 5 is a perspective view of the construction shown in Fig. 4 as viewed from beneath.

Referring now to the drawings, the reference character 10 designates an automobile having the usual axle 11 about which the holding device extends as will presently appear.

The holding device 12 comprises a strip of material preferably, though not necessarily, strap iron, bent at its central portion to form a loop 13 for engaging a portion of the ve-

hicle, such as the axle, spring, hub or the like. In the drawing, the device is shown as being applied to the axle housing 14 adjacent to the spring at one side of the vehicle, a similar one being employed at the other end of the axle housing. A pair of leg members 15 integral with the loop portion have their lower ends bent to form feet 16 having what for convenience of description will be termed their outer portions return bent or folded over as at 17.

In order to securely fasten the tie-down devices to the floor 8 of the freight car, a suitable foot plate 18, apertured as at 19 is provided for each foot.

Openings in the feet beneath the foot plates remove a certain amount of the metal and consequently tend to weaken the hold-down devices at that point. Welding is also objectionable because in performing the operation the parts will often be burned and thereby weakened at that point. The present invention seeks to eliminate the necessity for welds, rivets or holes of any kind through the portion of the feet that extends beneath the plate, thereby adding materially to the strength of the hold-down device. This is considered an important feature of the invention.

In the form of construction selected to illustrate the embodiment of the invention shown in Figs. 1 and 2, which is by way of example only, the foot plate 18 is slit at 21 and 22 and the portion between the slits bent to provide a depending loop 23, see Fig. 3, through which the foot 16 extends for holding the plate and foot in assembled relation.

The foot portion 16 extends outwardly beyond the plate 18 and has the end of its return bend 17 engaging the outer edge of the plate 18, thereby forming an abutment for preventing the removal of said foot from the plate. This abutment not only holds the parts in assembled relation when not in use, but also prevents the disengagement of the foot from the plate while the parts are in use, without in any way weakening that part of the foot beneath the plate. The folded portion of the foot may be, and preferably is provided with one or more nail openings 24 for

receiving fastening means for anchoring the device to the floor.

In the use of a tie-down device on automobiles during shipment, it has been found that where the foot plates are made of heavy gauge material the same will either act as a lever for assisting in drawing the nails that attach the same to the floor, or the plate will have a tendency to shear off the leg at the point where the same engages the plate unless heavy padding be employed between the loop and the portion of the vehicle that the device engages. In other words, it is necessary to have a slight yielding movement in the device, and in order to accomplish this the plates 18 are preferably made of light gauge material, whereby they will yield to permit a slight movement of the vehicle during the pulling and buffing shocks to which the same is subjected during shipment.

Any suitable number of holes 19 may be provided through the foot plate 18 through which nails are driven into the floor for anchoring the device to the floor of the car.

In Figs. 4 and 5 is shown a modified form of construction. In this form of construction the foot 25 of the holddown device 26 is provided with an extension 27 formed by bending the end of the foot 25 inwardly at an angle to said foot. A foot plate 28 extends between the foot 25 and the extension 27. The outer edge of the plate 28 is provided with a notch 29 to accommodate the diagonal bend 31 in the foot 25. When the parts are assembled the notch 29 will prevent the plate 28 from sliding laterally and the bend 31 and leg 32 will prevent the plate from moving inwardly or outwardly.

The inner end of the extension 27 is preferably provided with an opening 33 through which a nail may be driven for assisting in anchoring the foot and plate to the floor of the shipping conveyance. The plate 28 is provided with a suitable number of apertures 34 for receiving nails or other fastening means for securing the device to the floor of the car. The extension 27 may be and preferably is provided with an aperture 35 in alignment with one of the apertures 34 for receiving one of the fastening means.

I claim as my invention:

1. A tie-down device for automobiles comprising a metallic strap bent to provide a vehicle-engaging loop and a pair of legs, the end portions of said legs being bent to form feet, the ends of said feet being return-bent, and a plate for each foot extending over and permanently attached thereto, the portion of said foot beneath said plate being imperforate, said plates and feet having openings therethrough.

2. A tie-down device comprising a strip of material bent to provide a vehicle-engaging loop and a pair of legs terminating in feet bent at an angle to said legs, said feet termi-

nating in a perforated return-bent portion, a perforated attaching plate for each foot permanently connected thereto and extending thereover, the portion of said feet over which said plates extend being imperforate.

3. A device for anchoring vehicles in freight cars or other shipping conveyances, comprising a strip of material bent between its ends to form a loop and a pair of leg portions, the end portions of said legs being bent to form feet having return bent portions, an attaching plate for each foot, extending over and permanently attached thereto, the portion of the foot over which said plate extends being imperforate, said plates and return-bent portions being provided with openings.

4. A device for anchoring an automobile to the floor of a freight car during shipment, comprising a strip of material bent to form a loop for engaging a portion of an automobile, a pair of legs integral with said loop portion and having their end portions bent to form attaching feet, the ends of said feet being return-bent and having an opening therethrough, said opening being so arranged that a member extending therethrough will not extend through said plate.

In testimony whereof I affix my signature.  
EDWARD S. EVANS.