

Dec. 17, 1929.

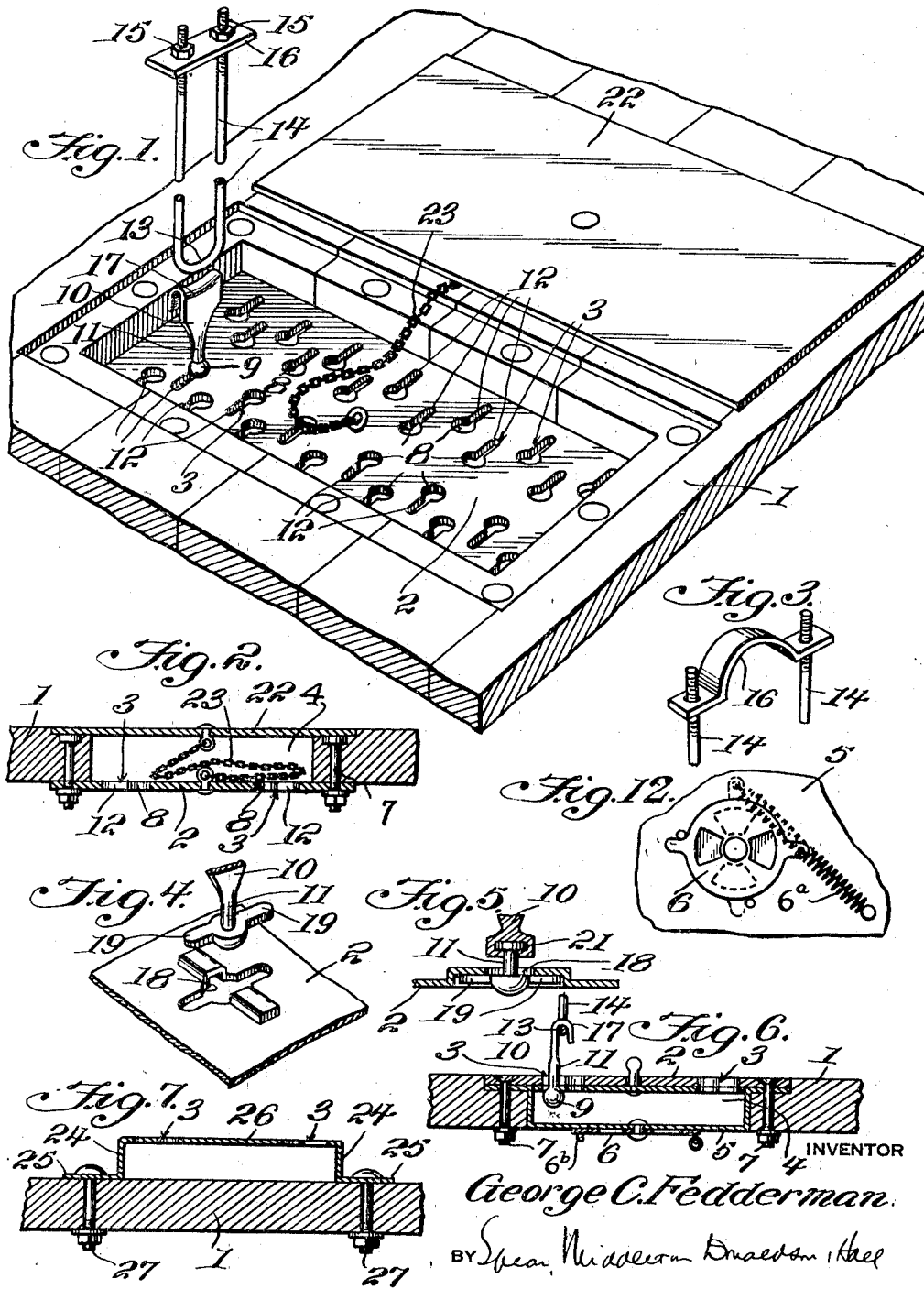
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1,739,829

DEVICE FOR HOLDING AUTOMOBILES IN FREIGHT CARS

Filed March 7, 1928

2 Sheets-Sheet 1



ATTORNEY

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Fig. 8.

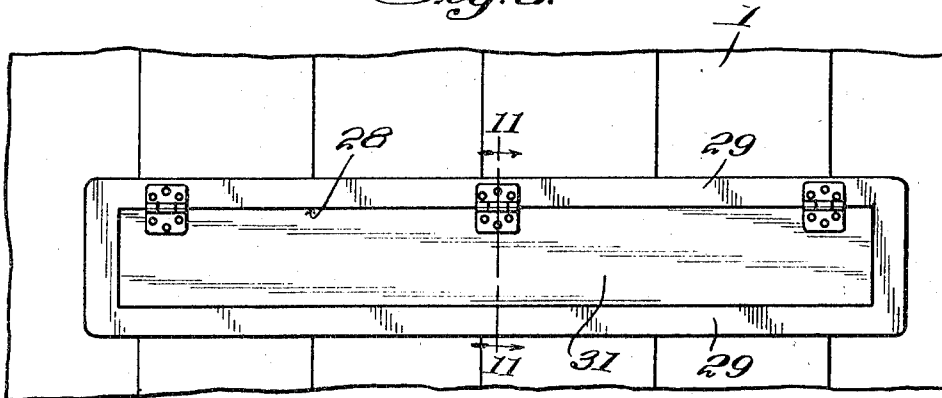


Fig. 9.

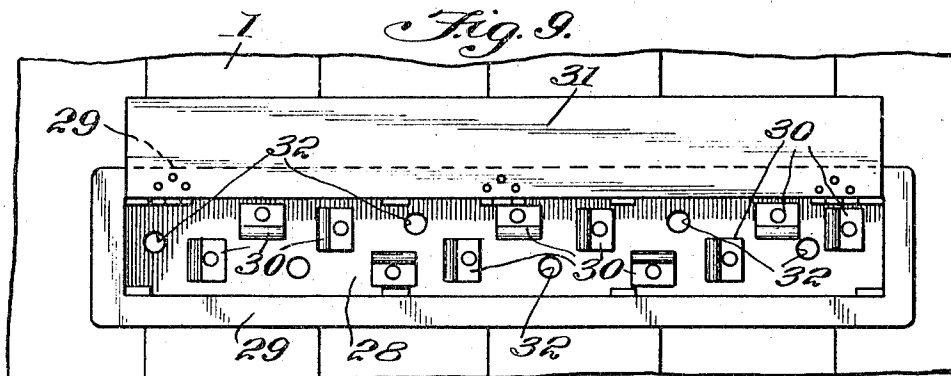
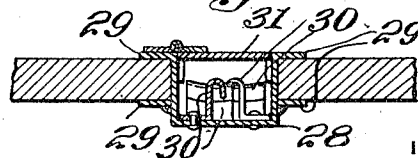


Fig. 10.



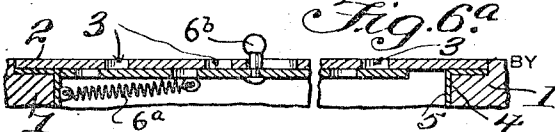
Fig. 11.



INVENTOR

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Fig. 6^a



BY Special Master in Mason, Hall

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UNITED STATES PATENT OFFICE

GEORGE C. FEDDERMAN, OF DETROIT, MICHIGAN, ASSIGNOR TO AUTO LOADING DEVICE
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DEVICE FOR HOLDING AUTOMOBILES IN FREIGHT CARS

Application filed March 7, 1928. Serial No. 259,885.

This invention relates to means whereby automobiles or like vehicles may be secured to the floor of a freight car during shipment.

Heretofore it has been customary to secure such vehicles by means of rope, round or strap iron which is in turn nailed to the floor. This practice results in abnormal wear and tear on the car floor particularly due to indifferent workmen in removing the straps and nails at the destination end of the shipment. This invention then is primarily designed to overcome this serious difficulty while at the same time providing means whereby such a vehicle may be more efficiently secured and held during shipment.

To this end the invention contemplates the provision of a perforated plate secured either above, flush with, or below the car floor, said plate to receive readily detachable means such as hook or eye elements which in turn receive for instance the looped or curved end of a round iron hold down, the upper portion of which passes over a part of the vehicle being held. In one form of the invention, the hook or eye elements may be permanently secured to the bottom of a trough or the like so arranged with relation to the car floor that no part of the assembly projects above the bottom thereof.

The invention further consists in the novel arrangement, combination and construction of parts more fully described hereafter and shown in the accompanying drawings, in which:

Fig. 1 is a composite perspective view of one form of the invention.

Fig. 2 is a sectional elevation of the device of Fig. 1.

Fig. 3 is a detail of a modified cross plate.

Fig. 4 is a perspective of a modified retaining device.

Fig. 5 is a sectional view of still another form of retaining device.

Fig. 6 is a sectional elevation of a modified form of assembly.

Fig. 6^a is a further sectional elevation of the modified assembly of Fig. 6.

Fig. 7 is still another view of a modified form of the invention.

Fig. 8 is a plan view of another modification.

Fig. 9 is a plan view of Fig. 8 showing the cover lifted.

Fig. 10 is a longitudinal sectional view of Fig. 8.

Fig. 11 is a sectional elevation along the line 11—11 of Fig. 8.

Fig. 12 is a detail of a dumping device.

In the embodiment illustrated in Fig. 1 the car floor is shown at 1 to the bottom of which is secured a perforated plate 2 having irregular apertures 3 therein. The plate 2 covers the bottom of an opening 4 in the car floor.

The plate 2 is adapted to be secured to the floor 1 as by bolts 7. An imperforate plate 22 is countersunk into the floor 1 and overlies the heads of the bolts 7 so that the well 4 is closed thereby. A chain 23 or the like secures the plates 2 and 22 together.

As shown the apertures in the plate 2 are somewhat key hole shaped, the larger portion 8 thereof being adapted to receive the enlarged head 9 of a retaining device 10, having a shank 11 of a size to slip into the restricted portion 12 of the plate apertures, the device 10 being prevented from being withdrawn upwardly by reason of its enlarged head 9.

As shown the plate 2 is provided with a plurality of these apertures so that a retaining device or devices may be inserted at any desired point.

The upper portion 17 of the device 10 is of a hook shaped contour and arced from side to side to receive the curved portion 13 of a hold down element. This element may advantageously comprise a section of round iron 14 bent upon itself to form a substantially curved portion 13, the extremities of the straight ends being threaded to receive the nuts 15 which serve to retain a cross plate 16 adapted to pass over a convenient portion of a vehicle such as the axle or spring.

In use, assemblies such as in Fig. 1 are located at various places in the car floor so that for instance there may be one at substantially each of the four corners of the vehicle, being shipped. Due to the fact that the lateral distance between front and rear

springs and the wheel bases of different automobiles vary, the arrangement of apertures 3 shown, provide for sufficient latitude in adapting the device for different cars.

5 The vehicle being run into the car so that there is an assembly in proximity to each wheel thereof, a retaining device 10 is fitted to each plate 2 in the most advantageous position dependent of course as to what part
10 of the vehicle is to be utilized for attaching the hold down. The hold down proper 14 is then looped over the curved portions 17, the parallel threaded ends of the hold down straddling the spring or axle, when these
15 parts are used. Cross plate 16 is now placed over the spring or axle, and the hold down ends, and nuts 15 applied until the vehicle is held securely to the car floor. This is repeated with at least four assemblies, located
20 adjacent the four wheels of the vehicle. In some instances it may be desirable to utilize more than four hold downs and retaining devices and this may be done without unduly multiplying the number of perforated plates
25 2, due to the fact that a large number of perforations are provided in each plate.

In some instances it will be found desirable to utilize an irregular shaped opening 18 and a similarly shaped head on the securing device provided with side extensions 19
30 adapted to fit into corresponding depressions in the underside of the plate 2 upon rotation of the securing device through an angle of say 90°. Such an arrangement makes for
35 security. Obviously many varieties of head shapes may be utilized.

In still another form it may be advantageous to provide the shank of the securing device with a swivel 21 capable of more or
40 less universal movement.

As a modified form of assembly, it may be desirable to arrange the plate 2 flush with the top of the car floor as shown in Fig. 6. This plate is similar in all details to that of
45 Fig. 1, the only change being that it is bolted or otherwise secured to the top of the car floor. In such a form, it is necessary to provide a light gauge cover pan 5 preferably secured within the well 4 and beneath the
50 perforated plate 2. As in the form of Fig. 1, the above described securing devices are used.

As a third modification of the perforated plate idea, an inverted pan arrangement may
55 be used, such pan being shown in Fig. 7 to consist of side walls 24 supported upon the car floor by flanges 25, the bottom 26 of the pan being provided with the above described perforations to receive the headed securing
60 devices. In this last modification, it would not be necessary to mutilate the car floor except for bolts 27.

In all the aforementioned forms, it will be noted that the securing devices or hooks are
65 readily detachable from the perforated plate.

In some instances, it will be desirable to more or less permanently secure the hooks against removal or displacement, and such an arrangement is shown in Figs. 9 and 11
70 in which a depressed trough 28 is provided, held between floor boards by flanges 29. To the bottom of this trough there are secured a plurality of hook elements 30 adapted to receive the hold downs as in other forms. Due to the fact that such hooks if not provided
75 with swivels are not rotatable, it is necessary to arrange alternate devices at right angles to each other in order that the assembly may be utilized for various sized vehicles. In such a device a hinged lid 31 is provided flush
80 with the car floor.

In all forms a cover of some kind is necessary, as frequently cars used to ship vehicles are also used to ship grain. Such commodity
85 would naturally leak out of any apertures in the car floor or into any depressions therein. In the latter case the jarring and jolting of the car during its travel would tend to so pack the grain and accompanying dust and dirt into the cavity that it would take considerable time to clear the same in order to fit
90 the hold down or securing devices. For this reason the perforated plate modifications are provided with quick dumping devices shown in Figs. 6 and 6^a.

In Fig. 12 this dumping device is shown
95 as a plate adapted to rotate to bring its openings into registration with the openings, shown in dotted lines, in the perforated plate. The rotary plate is normally held in closed
100 position by a spring 6^a against a suitable stop.

In Fig. 6^a the plate is slidably mounted. It is operable by a handle member 6^b against the tension of a spring 6^a so as to bring its
105 openings to register with the openings 3 through the plate 2 for dumping purposes. The form in which the securing devices are permanently secured to a trough, is provided with a permanently open aperture 32 through
110 which the small quantity of dust and dirt leaking through the cracks of the cover may spill.

It is to be understood that in all forms, the hold down element 14 with its associated parts
115 will be sold to the automobile shipper either with or without the hook or securing device 10. The railroad company will equip their cars with the perforated plate assemblies or the trough assembly, ready to receive the
120 hooks or hold downs. For this reason each element of the entire assembly constitutes a marketable article of manufacture in itself and in some cases may be used independently of the remainder.

It is to be understood that I do not limit
125 myself to the specific form of hold down device illustrated specifically in Fig. 1, as various modifications will occur to those skilled in the art. A hook element being provided in the car floor, obviously strips, rods, cables
130

or fabric materials may be used to secure the vehicle or other load to the hook element.

In the same manner it will be obvious that this invention may be likewise utilized to secure crates, packages and various types of loads in a freight car, and it is desired to cover in this application in addition to the above, any machinery, such as traction engines, threshing machines, farm implements and the like.

I claim:

1. A device for holding vehicles during shipment which includes a member adapted to be secured to a car floor, a hook element secured to the above mentioned member, and a hold down adapted to removably engage the hook element.

2. A device for holding vehicles during shipment which includes a plate adapted to be secured to a car floor, a hook element removably secured to the plate and a hold down adapted to removably engage said hook.

3. A device for holding vehicles during shipment which includes a perforated plate member adapted to be secured to a car floor, a hook element detachably secured to said plate, said hook element having a head passing through one of the plate apertures and engaging the under side of the plate, and a hold down adapted to engage said hook element.

4. A device for holding vehicles during shipment which includes a perforated plate adapted to be secured to a car floor, a hook element having a restricted shank and an enlarged head detachably engaging said plate, and a hold down detachably engaging said hook.

5. A device for holding vehicles during shipment which includes a perforated plate, substantially flush with a car floor, a headed hook having the head thereof engaging the under side of said plate, and a hold down engaging said hook.

6. In combination with a vehicle standing on the floor of a freight car, a plate secured to said car floor, a hook secured to said plate, a hold down detachably engaging said hook, said hold down passing over a portion of said vehicle whereby the vehicle is secured to the car floor.

7. In combination a hold down comprising a metallic element bent upon itself into substantially U shape, having its ends threaded, a retaining plate over the ends, nuts threaded to the ends of the U element, and means to secure the metallic element to a floor including a hook engaging the bottom of said U.

8. As a new article of manufacture, a member having a restricted shank with an enlarged head at one end thereof, and with the other end bent back upon itself in the form of a hook.

9. As a new article of manufacture, a flat

plate bent back upon itself in the form of a hook at one end with a restricted shank and a shouldered head at the other end.

10. A hold down for automobiles and the like comprising a hook member having a swivel connection with the floor of the car and a member to be connected with the vehicle and movable relative to the hook.

11. A hold down for automobiles comprising a perforated floor plate, a hook element detachably engaging in the perforation of said plate, and a U shaped member movably engaging the hook and detachable therefrom with means for connecting the U shaped member with the vehicle.

12. A hold down for automobiles and the like comprising a member with means for connecting it with a part of the vehicle, a hook member with which said first mentioned member is detachable and has substantially a universal joint connection, said hook member having a shank and an enlarged head, and a slotted plate on the car floor with which said head removably engages, substantially as described.

In testimony whereof, I affix my signature.
GEORGE C. FEDDERMAN.