Sept. 9, 1924. 1,507,911

C. EICHMAN

GRIPPING OR FASTENING MEANS

Filed Aug. 17, 1921

Fig:1.

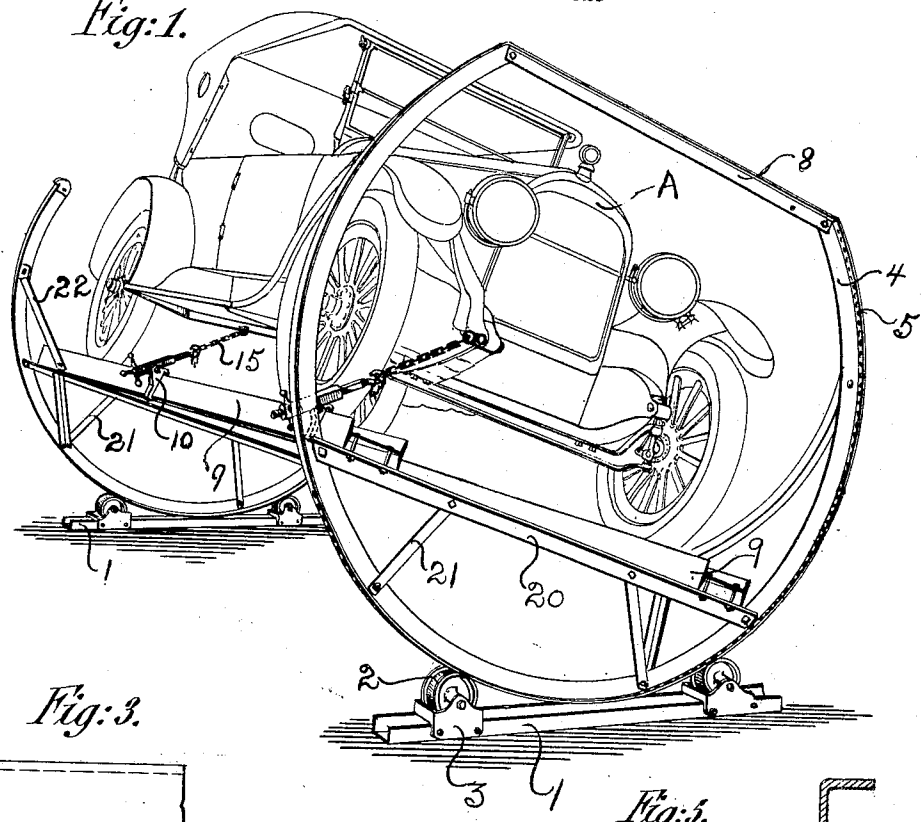


Fig:3.

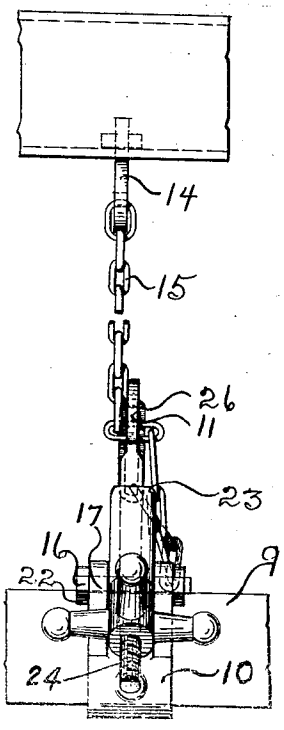


Fig:5.

Fig:4.

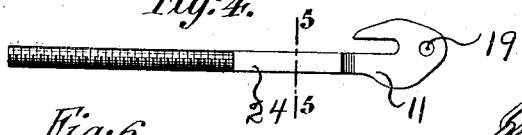


Fig:6.

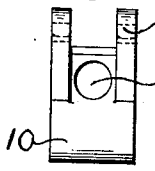


Fig:2.

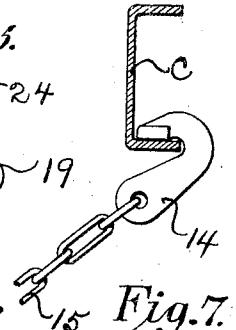
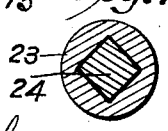


Fig.7.



Emma Eichman

INVENTOR

by Munn & Co

ATTORNEYS.

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UNITED STATES PATENT OFFICE.

CUNO EICHMAN, OF BUCYRUS, OHIO, ASSIGNOR TO TURN-AUTO CORPORATION, OF NEW YORK, N. Y., A CORPORATION OF DELAWARE.

GRIPPING OR FASTENING MEANS.

Application filed August 17, 1921. Serial No. 492,919.

To all whom it may concern:

Be it known that I, CUNO EICHMAN, a citizen of the United States, residing at Bucyrus, in the county of Crawford and State of Ohio, have invented certain new and useful Improvements in a Gripping or Fastening Means, of which the following is a specification.

My invention relates to a new and improved gripping carrier for automobiles. One of the objects of my invention is to provide such a carrier or holder having improved holding means so that an automobile can be readily mounted while the carrier is turned for inspection or repair purposes. Another object of my invention is to provide a device of this character in which the automobile can be very securely held so as to avoid any slipping or accidents, no matter how the carrier is turned or tilted.

Another object of my invention is to provide such a device in which the holding means can be quickly and firmly adjusted.

Other objects of my invention will be set forth in the following description and drawings which show a preferred embodiment thereof.

Fig. 1 is a perspective view showing my device in operation.

Fig. 2 is a side view of the mechanism for holding or securing the automobile.

Fig. 3 is an end view of Fig. 2.

Fig. 4 is an enlarged elevation of the rail hook.

Fig. 5 is a cross-section on the line 5—5 of Fig. 4.

Fig. 6 shows an end view of the rail clamp.

Fig. 7 is an enlarged cross section as on line 7—7 of Figure 2.

The frame of the carrier consists of substantially circular end members whose tops may be connected by angle bars 8 so as to stiffen them. As shown in Fig. 1, one of the angle bars 8 may be omitted. These circular end members 4 have angle bars 20 at their lower portions which are riveted to them, and stays 21 are also provided so as to strengthen and stiffen the structure. Additional stiffening members 22 may be provided at the rear of the structure as shown in Fig. 1.

A rail 9 of the ordinary type is provided at the right-hand side of the structure, as shown in Fig. 1, and another rail 9 is provided at the left-hand side of the structure.

The arcuate portions 4, which preferably have a circular outline, rest in grooved rollers 2 mounted in short shafts held in bearings 3 which are suitably connected to base rails 1. Any suitable anti-friction means may be used instead of the base rollers 2 so that the entire device may be readily tilted.

The front arcuate member 4 may be moved to and held in any desired position by any suitable and well known means, and the arcuate member 4 may be provided with ratchet teeth 5 in order to facilitate this.

It is extremely important to firmly hold the automobile while it is being repaired or inspected.

For this purpose, I use a plurality of chain clamps having chains 15 provided with end hooks 14 or any other suitable means for holding any designated part of the automobile. For example, as illustrated in Fig. 1, the front clamping members can be hooked onto or secured in any manner to the bolts of the springs. In Fig. 2, the hooks 14 engage any suitable members C of the automobile.

The rail-clamps 10 which have upper and lower hooked jaws as clearly shown in Fig. 2, can be placed over the rails 9. These clamps 10 are forked at their upper ends, as shown in Fig. 6 and the two ears or lugs thus formed have perforations 17 in which a shaft 16 can be secured by suitable end nuts 22. A sleeve 23 is pivotally secured to the rail-clamp 10 by means of the shaft 16. An adjustable hook 11 having a shank 24, the end of which is threaded, can be inserted within the sleeve 23 as shown in Figs. 2 and 3 so that the threaded end of the shank 24 projects through the sleeve. An internally threaded nut member 25 having a series of holding projections 26 is revolubly secured upon the sleeve 23 so that by suitably turning the nut member 25, the chain hook 11 can be moved to and fro.

The chain hook 11 is provided with a perforation 19 at the end thereof, through which the end link 26′ of the chain may be connected so as to be firmly held therein.

Hence, as clearly illustrated in Fig. 3, one of the links of the chain 15 can be turned at right angles to the general direction of the other links, and a holding loop or knot can be formed in the bight of the chain between

the end link and the said link which has been passed through the jaw of the hook 11 as before mentioned, and holds it firmly in said right-angle position.

A rough adjustment of the length of the chain 15 can thus be very quickly made and by tightening up the chain hook 11, by turning the member 25 to the right, according to the position thereof shown in Fig. 3, the chain 15 is tightened up with great force so that the rail-clamp 10 engages the rail 9 very firmly, the bottom of the rail being engaged by the bottom jaw of the said rail clamp.

By turning the member 25 in the opposite direction, the chain can be very easily loosened so that the automobile can be disconnected from the holder or carrier.

The rail clamp 10 may be cast with an opening 18 so as to secure a lighter structure. The shank 24 of the hook 11 adjacent the jaw thereof is of a square cross-section to fit a correspondingly-shaped socket in the end of the sleeve 23 to prevent any turning of the said sleeve, while the threaded end of said shank is of a round cross-section as shown in Fig. 5. The hook 14 can be caused to engage the frame member C of the automobile A.

If desired, the links of the chain 15 can be so dimensioned, that each of said links fits substantially tightly into the jaw of chain hook 11, so that if one of said links is bent substantially at right angles to the general direction of the chain, the ends thereof are substantially flush with the lateral faces of the hook, so that the said link can be held firmly in position in the jaw of the said hook, by means of two adjacent links which will fit tightly against the lateral faces of the said chain hook 11. This obviates the need of forming a tying or securing loop in the chain, because the two said adjacent links hold the intermediate link in the jaw of the said hook firmly because the said two adjacent links fit tightly against the lateral faces of the said hook, and when the force is applied by the tightening means before described, the said link which has been bent at right angles is held more firmly in the jaw of the said hook 11.

Thus it is obvious that the chain herein described could be replaced by any suitable bendable means. It is also obvious that the hook 11 can be so dimensioned that it can be inserted within any of the links of the chain, after which the tightening means can be operated. The arrangement before described is, however, preferable since a chain with relatively small links can be used with a large and strong hook.

It is also obvious that various other means could be utilized for shortening what may be called the effective length of the intermediate bendable member or chain, so that when the tightening or pulling mechanism is actuated, it rapidly exerts its action upon the hook or other member connected to the automobile.

It is preferable to have the thread of hook 11 self locking, that is, the hook cannot be longitudinally moved save by actuating member 25.

If the chain illustrated in the embodiment herein described is replaced by another bendable member such as a rope or cable, it is obvious that said rope or cable can be provided with a clamp which can be adjustably secured thereon and which can be provided with an eye into which the hook 11 can fit, so as to form a bight or loop and produce an effective length which would be shorter than the entire length of the said intermediate bendable member.

I have described a preferred embodiment of my invention, but numerous changes and omissions can be made without departing from its spirit, and I do not wish to be limited to the details hereinbefore described.

What I claim is:

1. A gripping mechanism comprising a rail-clamp, a sleeve pivoted thereto, a hook having a shank mounted in said sleeve and adapted to be guided in said sleeve so that said shank can move to and fro in said sleeve and be held against any turning movement, the end of said shank being round and threaded, a nut member mounted on said sleeve and adapted to actuate said hook, a second hook having a chain connected thereto, the other end of said chain being connected to said first mentioned hook, the respective links of said chain intermediate the ends thereof being adapted to be held between the jaws of said first mentioned hook, both said hooks being adapted to be urged in the same direction by the movement of said nut.

2. In combination with a rail-clamp, a movable hook connected to said rail-clamp operating means adapted to move said hook to and fro, a free hook having a bendable member connected thereto, the other end of said bendable member being connected to said first-mentioned movable hook, said bendable member being adapted to be connected to said first-mentioned movable hook intermediate the ends thereof, both said hooks being adapted to be moved in the same direction by said operating mechanism.

In testimony whereof I hereunto affix my signature.

CUNO EICHMAN.