

UNITED STATES PATENT OFFICE.

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OF DETROIT, MICHIGAN, A CORPORATION OF NEW YORK.

DOORCHECK.

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To all whom it may concern:

Be it known that I, GEORGE FAUSER, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Doorchecks, of which the following is a specification.

This invention relates to door checks and has for its object an improved door check for an automobile door.

The common construction that has heretofore been used in automobile body doors for relieving the hinges from strain, has been a door check strap, usually of leather or a strong fabric. The next step in the practical art was to employ a door check in the form of a rod with a sliding abutment engaging against the stationary abutment. This construction has been quite satisfactory, but it has certain limitations, among which is the placing of considerable strain on the door post. It is the object of the present invention to provide a door check in which the checking strain is borne by the header of the body which is better adapted to stand the strain than the door post. Furthermore, the fixture is not as unsightly in this position and no danger whatever is present for tearing the clothes. Furthermore, the stationary end of the check member may be anchored to the inside of the door header in such a way that the strain is resisted by practically the entire cross section of the header. These and other advantages will be apparent from the description which follows.

In the drawings:

Fig. 1 is a horizontal cross section through the door opening in the body and showing the top of the door in plan view.

Fig. 2 is an inside fragmentary elevation of the top of the door and the header.

Fig. 3 is a cross section taken on the line 3—3 of Fig. 1.

Fig. 4 is a vertical section taken on the line 4—4 of Fig. 1.

Fig. 5 is a vertical section taken on the line 5—5 of Fig. 4.

Fig. 6 is a view similar to Fig. 1 but showing a modified construction.

Fig. 7 is a cross section taken on the line 7—7 of Fig. 6.

Fig. 8 is a cross section taken on the line 8—8 of Fig. 6.

a designates the door header, *b* the top

cross rail of the door, *c* the stile of the door. The angle iron fixture *d* constitutes the anchor for one end of the check on the header *a*. The up-right of the angle iron plate fits into a suitable mortise cut in the inside face of the header *a*, the horizontal web of the angle iron is secured to the underside of the header by the screws *e*. This forms a very secure anchor and inasmuch as all the strains are outwardly, it will be evident that by virtue of the upright web *d*, that practically the entire cross section of the beam which forms the header resists the entailing strains and consequently there is practically no chance of the check being torn out of the member to which it is anchored as is the case with a check anchored to the door post.

This fixture is provided on its underweb with a boss or spacing sleeve *f*. This permits the cap screw *h* to be screwed down against the boss without pinching on the eyeleted end *h'* of the metal link *i*. This link *i* is eyeleted at the opposite end to take a screw machine product, to wit: a stud *j* which is riveted in place and which is provided by reason of the collars *k* and *l* with an annular groove *m* that receives the side walls of the slot *n* formed in the door plate *o*. This door plate is provided with this elongated slot which has an enlarged end *p* so that the stud may be disassembled from the plate when one can be moved relatively to the other to the extreme end of the slot. This movement cannot occur with the parts when both the plate and the anchoring fixture are secured in their intended positions as will be apparent from examining Fig. 1.

Preferably on the underside of the elongated door plate *o* is spot-welded or riveted a flat, flexible, spring strip *2*. The purpose of this member is to take up any slack in the parts and make them rattle-proof, a condition which is so necessary with high-class construction in closed body work.

It will be seen that the top of the door on the inside is cut away to receive the check parts, however, a strip *r* is nailed to the underside of the header and projects down into the mortise to conceal the check parts that intervene between the top of the door and the underside of the header.

In Figs. 6 to 8 inclusive I show a modified construction in which I use a pair of hinged links in place of the slide as shown in the

Figs. 1 to 5 inclusive. In the modified construction I use the same angle iron fixture *d* provided with the boss or spacing sleeve *f* on its underside. A link 1 is provided with the eyeleted end 2, which is adapted to fit around the boss *f* and the cap screw *h* holds the link in place as described. A second link 3 is hinged to link 1 as at 4 and the opposite end of link 3 is pivotally secured to the top of the door as will now be described. A plate 5 is secured to the top of the door by screws and is provided with a stud 6. The eyeleted end 7 of the link 3 is adapted to fit around the stud 6 and a cap screw 8 is screwed into the stud to pivotally secure the link to the door.

In Fig. 6, I show in dotted lines the position taken by the door and links when the door is opened. This modified construction of hinged links will accomplish the same result as the slide construction and is constructed of fewer parts.

What I claim is:

1. In a structure provided with a door and door frame, the combination of a header, an outwardly swinging door supported in relation to said header, an angle plate secured to the inside of the header and the underside of the header thereby stressing against the entire cross section of the header when the door opens, a slotted plate secured to the top of the door and a link pivoted to the anchor and slidably connected with the slot in the said plate.
2. In a structure provided with a door and door frame, the combination of a header, an outwardly opening door supported in relation to the said header, an anchor plate supported by the header and having a horizontal web provided with a spacing boss, a screw threaded into said boss in an opening therein, a plate secured to the top of the door, and an eyeleted link construction supported pivotally on the said boss at one end and

having its other end arranged to engage with said plate secured to the top of the door, the said link intervening between the top of the door and the underside of the header and arranged to allow only a given opening of the door.

3. In a structure provided with a door and door frame, the combination of a door supported to swing out with respect to the header, an anchor member secured to the header, a slotted plate secured to the top of the door and provided with a flat spring to prevent rattling, and a link construction secured to one end of the anchor of the header and at the other end secured to the slotted plate and stressed by said spring.

4. A door check, comprising a door header anchor, a long slotted plate for securing to the top of the door with the slot running along the plane of the door, and a link pivotally secured to the door header anchor and having a sliding engagement with the walls of the slot in the door plate, the said door plate serving to arrest the end of the link and being arranged to stress the door plate substantially longitudinally thereof when the door is arrested.

5. A door check, comprising a door header anchor, a slotted plate relatively long and narrow, said plate arranged to be secured to the top of the door with the slot running along the plane of the door, and a link pivotally supported by the door header anchor and provided with a slidable connection with the door plate, arranged to traverse the door plate slot from substantially one end to the other and be arrested by the end of the door plate slot when the door is checked, the link and the slot being substantially in line when the door is checked, whereby the tearing strains on the door plate run substantially in the plane of the door.

In testimony whereof I affix my signature.
 GEORGE FAUSER.