

June 19, 1923.

1,458,927

W. E. ERICSON

BUMPER ATTACHING BRACKET

Filed Feb. 12, 1923

2 Sheets-Sheet 1

Fig. 1

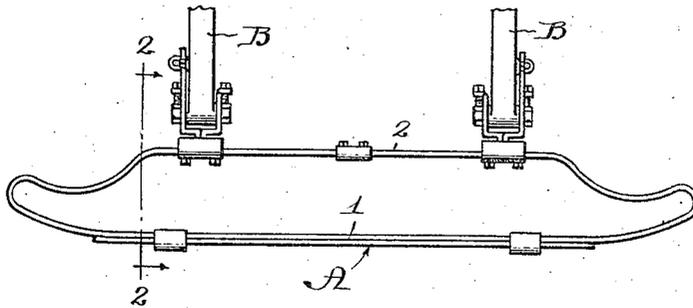


Fig. 2

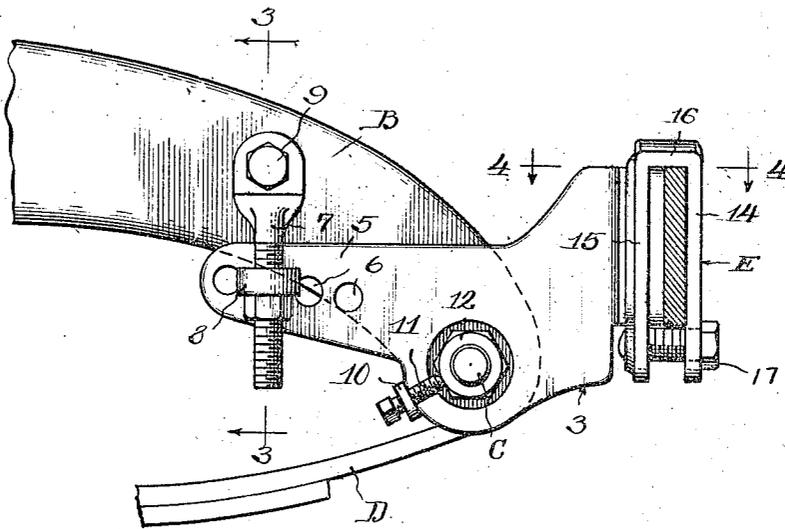
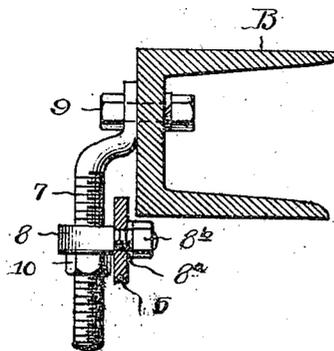


Fig. 3



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Fig. 4

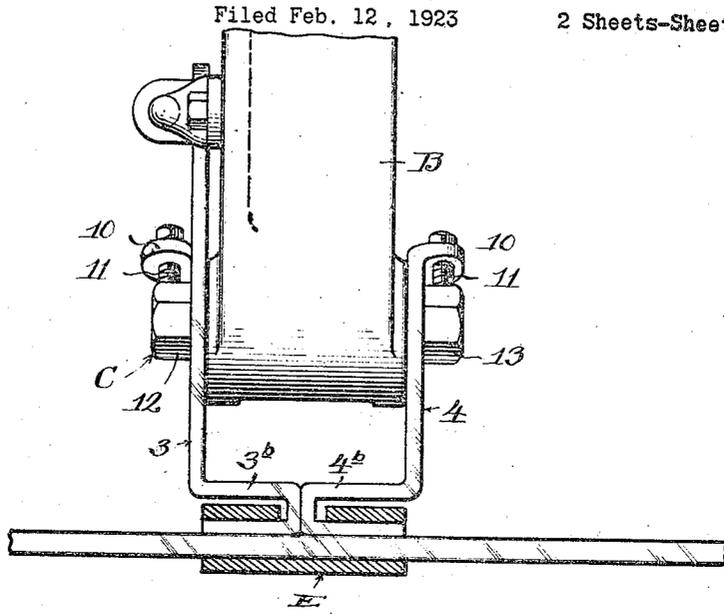


Fig. 5

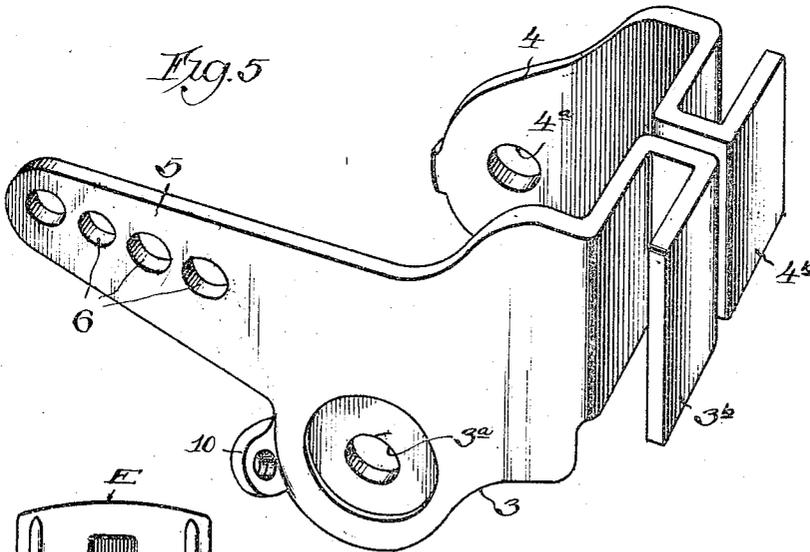
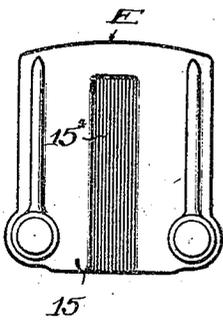


Fig. 6



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UNITED STATES PATENT OFFICE.

WILLARD E. ERICSON, OF EVANSTON, ILLINOIS, ASSIGNOR TO BIFLEX PRODUCTS COMPANY, OF WAUKEGAN, ILLINOIS, A CORPORATION OF DELAWARE.

BUMPER-ATTACHING BRACKET.

Application filed February 12, 1923. Serial No. 618,583.

To all whom it may concern:

Be it known that I, WILLARD E. ERICSON, a citizen of the United States, and resident of Evanston, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Bumper-Attaching Brackets, of which the following is a specification.

This invention relates to bumper attaching brackets for automobiles, and more particularly to certain new and novel features in the construction of devices for attaching a bumper to the frame members of an automobile.

The object of the invention is to provide a simple and strong construction for a bracket which may be readily applied to various makes of automobiles, and having ample latitude of adjustment to afford a secure mounting, without drilling or cutting away parts of the frame members.

A further object of the invention is to provide a bracket constructed of sheet metal, that is, the parts stamped from sheet metal, such as steel, and shaped to final form. Brackets made in this manner have a decided advantage over cast or forged metal brackets, principally in the low cost of manufacture and superior shock resisting qualities.

Manifestly the use of sheet metal as the material involves considerable departure in design and treatment, and it is therefore to the construction and assembly of the several parts that the present invention relates.

A preferred embodiment of the invention is fully illustrated in the accompanying drawings, which may be briefly described as follows:

Fig. 1 is a top plan view of a bumper attached to the frame members of a vehicle by the attaching brackets embodying the invention,

Fig. 2 is an enlarged view in side elevation of the bracket as taken on line 2—2 of Figure 1,

Fig. 3 is a detailed view in vertical section taken on line 3—3 of Figure 2, and

Fig. 4 is a top plan view of the part shown in Figure 2, with a portion of the bracket in horizontal section, as taken on line 4—4 of Figure 2,

Fig. 5 is a perspective view of the com-

panion plates constituting the main part of the bracket.

Fig. 6 is a detail view in rear elevation of the clamping member removed.

In disclosing the invention, the brackets are illustrated in Figure 1 as supporting a bumper A at the forward end of an automobile, and upon the side frame members B—B. The bumper A may be of any particular form, altho preferably of that type known as the resilient bar bumper made up of bars shaped to provide a forwardly disposed impact member 1, and a rear bar 2 extending between and beyond the ends of the side frame members B—B and directly connected or clamped to the brackets.

As clearly shown in Figure 2, the forward ends of the side frame members terminate in a downwardly curved extremity at the end of which is an enlargement or frame head which supports a spring bolt C, and serving as a pivotal connection between the adjacent side frame members B—B and the forward vehicle spring D.

In general, each bracket consists of two companion plates which are applied against the inner and outer sides of the frame head and secured primarily by the spring bolt C, which passes thru the central portion of the plates, each plate has a portion extending forwardly for clamping engagement with the bumper, and one of the plates has a portion or arm extending rearwardly and having supplementary connection with the side frame member beyond the spring bolt, thereby providing means for preventing the rotation of the bracket about the spring bolt or main point of connection.

Referring now more in detail to one of the brackets, the same consists of three main parts, to-wit: a pair of companion plates 3 and 4, and a clamping member E. The plates 3 and 4 as already mentioned, are formed from sheet steel, first stamped in blank form, and subsequently punched and bent into finished form. For the most part, the plates 3 and 4 are identical in conformation, having wide central portions which bear against the sides of frame head, and in which are punched holes 3^a and 4^a respectively, to receive the spring bolt C.

As clearly shown in Figure 5, the forward portions of the plates 3 and 4, are

offset upwardly beyond the spring bolt holes 3^a and 4^a, these forward portions being extended to clear the frame heads whereupon they are bent inwardly at right angles, and thence outwardly and finally doubled back thereby forming two vertically disposed U shaped clips 3^b and 4^b respectively. These clips are counterparts of each other, opening in opposite directions, and having two short parallel webs, disposed in close proximity intermediate the plates 3 and 4, and two forwardly disposed webs or flanges, lying in the same plane, and forming a continuous abutment face throughout the entire width of the bracket.

The only material structural difference between the two plates is that the outer one 3 has a rearward extension or arm 5, along which are punched a series of holes 6 spaced apart a suitable distance.

Connecting the arm 5, of the outer plate 3, with the frame member B, at a point rearwardly of the frame end, is an adjustable connecting link, comprising a bolt 7, consisting of a threaded shank, having a flattened head at its upper end, offset from the axis of the shank, and a block 8, secured to the outer face of the arm 5, by means of a short stud 8^a extending through one of the holes 6 in said arm and secured by a nut 8^b (Figure 3). The bolt 7 is capable of being turned in the block, thus providing for its lengthwise adjustment, whereas the block may be rotated, thus providing for the angular adjustment of the bolt. To secure the free end of the bolt 7, a hole is drilled in the frame and a bolt 9, is inserted through the flattened bolt head and the hole. Finally the nut 8^b is tightened and the link becomes a permanent connection between the arm 5, and the frame member B. In order to lock the parts more securely together, a nut 10, is applied to the lower end of the bolt, before the stud 8^a is finally inserted in the selected hole 6, and turned against the under side of the block 8. When the parts are thus assembled the nut 10 is disposed sufficiently close to the arm 5 so that it is held against rotation upon the bolt 7. If desired the portion of the bolt 7, projecting beyond the nut 10 may be cut off.

The setting of the links is manifestly performed after the plates have been applied on opposite sides of the frame head, this being done by removing the spring bolt C, and immediately replacing the same, with the plates in place, said plates being thus clamped securely to the frame member.

At a point on the margin of the plates, and adjacent the holes 3^a and 4^a are formed integral lugs 10, 10, which are struck outwardly and at right angles to the plates. Carried by these lugs are set screws 11, 11, positioned in radial alignment with the nut

12, and hexagonal head 13 at opposite ends of the spring bolt C. The set screws are screwed down against the faces of the bolt head and nut, and serve to lock the parts from rotation.

The clamping member E heretofore referred to as forming one of the principal parts of the bracket, is an inverted U-shaped member, preferably a casting or forging, and consisting of parallel plates 14 and 15 connected together by a relatively short web 16. The space between the plates 14 and 15 is substantially equal to the combined thickness of the outer portions of the clips 3^b, 4^b, and the rear bar 2 of the bumper, as clearly shown in Figure 2. The rear plate 15 of the clamping member is provided with a vertical slot 15^a extending upwardly from the lower and free edge thereof substantially thruout its entire height. The width of the slot is somewhat wider than the combined thickness of the two contacting portions of the clips 3^b and 4^b, thus allowing for slight variations or discrepancies in the lateral spacing of the plates 3 and 4, when applied to different widths of frame members.

The clamping member E is adapted to clamp the rear bar 2 of the bumper against the forwardly facing surfaces of the clips 3^b and 4^b, these surfaces together forming an abutment face having the same vertical dimension as that of the bar. The clamping member is applied by passing the same downwardly over and straddling the bar 2, together with the outer portions of the clips, the rear plate of the clamping member at the same time, passing between the parallel portions of the clips, as well as straddling the transverse portions thereof, through the medium of the slot 15^a. Along the lower edge of the clamping member E provision is made for cap screws 17, 17, adapted to pass thru the outer plate 14, and to be anchored in tapped holes in the rear plate 15.

Having described a preferred embodiment of the invention, and without contemplating that the scope of the invention shall be limited thereto;

I claim:—

1. A bumper attaching bracket comprising companion plates adapted to be secured on opposite sides and at the end of a vehicle frame member, said plates being provided at their forward ends with U-shaped clips extending inwardly at right angles to said plates, the outer portions thereof forming a vertical abutment face, and means for clamping a bumper bar against said abutment face.

2. A bumper attaching bracket comprising companion plates adapted to be clamped on opposite sides, and at the end of, a vehicle frame member, and having laterally

opening U-shaped clips extending beyond the end of the frame member and forming a vertical abutment face, and a clamping member adapted to straddle said clips to clamp a bumper bar against said abutment face.

3. A bumper attaching bracket comprising companion plates adapted to be clamped on opposite sides of the head of a vehicle frame member, and provided at their forward ends with inwardly and outwardly extending and laterally opening U-shaped clips forming a vertical abutment face, and a U-shaped clamping member adapted to straddle said clips and to clamp a bumper bar in flatwise contact with said abutment face.

4. A bumper attaching bracket comprising two companion plates clamped on opposite sides, and at the end of, a vehicle frame member, each plate being bent at its forward end to provide inwardly extending U-shaped clips located forwardly of the ends of said frame members, the outer portions of said clips forming a vertical abutment face adapted to have flatwise contact with a bumper bar, and a U-shaped clamping member having a slotted rear portion and adapted to straddle said clips and said bumper bar.

5. A bumper attaching bracket comprising companion plates of sheet metal clamped against opposite sides of the head of a vehicle frame member through the medium of a bolt passing through said plates, said plates being bent at their forward ends to provide U-shaped clips extending at right angles to said plates, and a clamping member having a slotted portion adapted to straddle the adjacent portions of said clips and to clamp a bumper bar flatwise against the forward transverse portions of said clips.

6. A bumper attaching bracket comprising two companion plates of sheet metal clamped on opposite sides of the end of a vehicle frame member by means of a spring bolt, said plates extending beyond said frame member and provided with intumed and outwardly opening U-shaped clips, approaching in close proximity at their inner ends, and means for uniting the inner end portions of said clips and for clamping a bumper bar against the abutment face formed by the outer portions of said clips.

7. A bumper attaching bracket comprising companion plates of sheet metal clamped against the end of a vehicle frame member by means of a spring bolt, said plates being bent at their forward ends to provide U-shaped clips extending transversely toward each other and forwardly of said frame member and forming a forwardly facing abutment face, and a U-shaped clamping member adapted to clamp a bumper bar flatwise against said abutment face and having a slotted portion straddling said clips rearwardly of said bumper bar.

8. A bumper attaching bracket comprising a plate secured to the end of a vehicle frame member by means of the spring bolt thereof and having forwardly and rearwardly extending portions, means for connecting the rear end portion of said plate to said frame member comprising a threaded block secured to said plate and capable of angular adjustment, and a bolt carried by said block and adapted to be secured to said frame member at its free end.

9. A bumper attaching bracket comprising a plate secured to the end of a vehicle frame member by means of the spring bolt thereof, said plate terminating beyond said frame member in an inwardly bent U-shaped clip and provided with a rearwardly extending arm, a link connecting said arm with said frame member and comprising a bolt and nut, said nut having swivel connection with said arm and said bolt having lengthwise movement in said nut.

10. A bumper attaching bracket comprising two companion plates of sheet metal secured in flatwise contact with each other to the end of a vehicle frame member by means of the spring bolt thereof, said plates terminating beyond said frame member in inwardly bent clips forming an abutment face, one of said plates having a rearwardly extending arm provided with a plurality of holes arranged longitudinally thereof, a block adapted to be mounted in one of said holes, and a bolt carried by said block and adjustable lengthwise therein and adapted to be fixed at its free end to said frame member.

In witness whereof, I hereunto subscribe my name this 8th day of February, A. D., 1923.

WILLARD E. ERICSON.