T. DIXON.

AUTO BUMPER.

APPLICATION FILED MAR. 25, 1918.

1,318,314.

Patented Oct. 7, 1919.

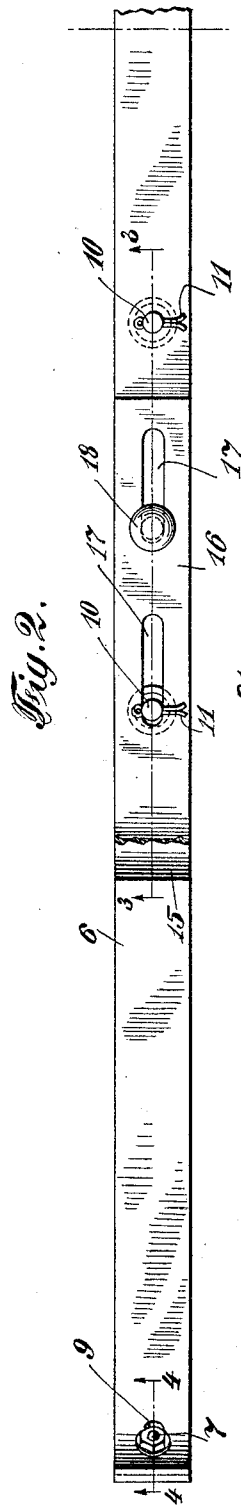


Fig. 2.

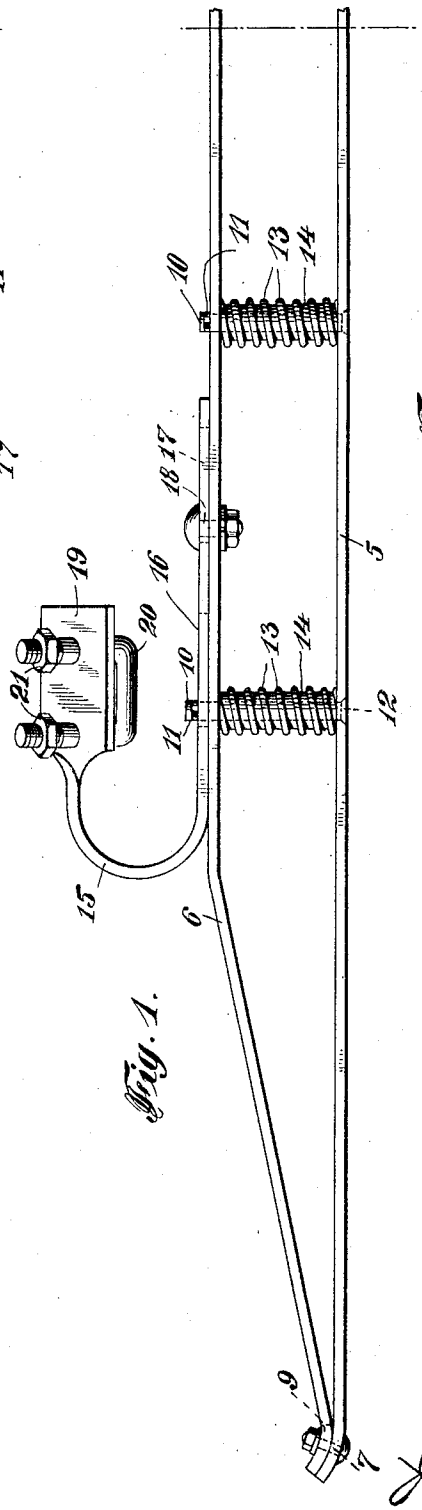


Fig. 1.

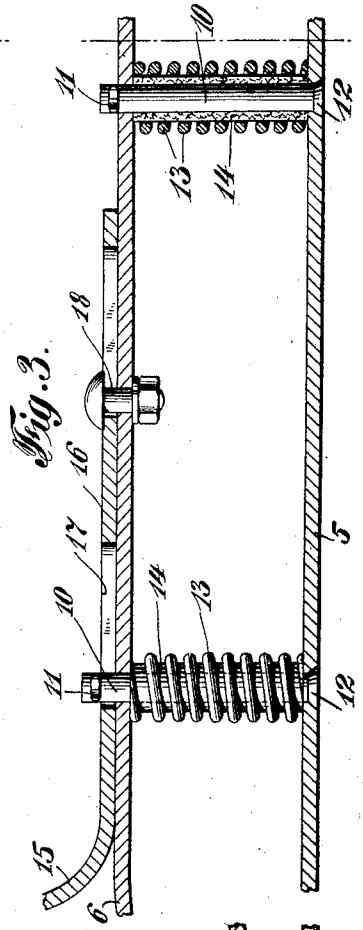


Fig. 3.

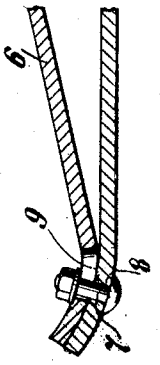


Fig. 4.

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UNITED STATES PATENT OFFICE.

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AUTO-BUMPER.

1,318,314. Specification of Letters Patent. Patented Oct. 7, 1919.

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To all whom it may concern:

Be it known that I, THOMAS DIXON, a citizen of the United States, residing at Woodcliff-on-Hudson, county of Hudson, and State of New Jersey, have invented a certain new and useful Auto-Bumper, of which the following is a specification.

This invention is an automobile bumper, and, speaking generally, the object of the invention is a bumper of the class specified which is simple in construction, easy to install, comparatively economical to manufacture, efficient in operation, and possessing a sightly and attractive appearance.

With the foregoing objects in view, the invention, from a structural standpoint, embodies a yieldably mounted buffer member, a support therefor and hangers detachably fixed to said support for securing the support to the chassis.

The buffer member is preferably in the form of a relatively thin strip of metal, positioned, except at its ends, in spaced relation to the support, which is also in the form of a strip of metal, the ends of the buffer member and support being connected at their ends and preferably in such manner as to provide sliding engagements for the purpose hereinafter described.

Affixed to the buffer member and projecting rearwardly therefrom are a plurality of pins or plungers the ends of which extend loosely through openings in the support, and are secured against disengagement therefrom by means of cotter pins. The pins or plungers are provided on their exteriors with coiled springs adapted to be compressed between the buffer member and the support and these springs constitute the yielding or resilient elements of the structure. The plungers are preferably provided with a cover or casing composed of rubber or similar material for the purpose of preventing the noise which would otherwise result if the springs directly engaged the surface of the plungers.

Features of the invention other than those described, will appear from the following detailed description of the invention, read in conjunction with the accompanying drawings.

The drawings illustrate the preferred, practical embodiment of the invention, but the form shown and described is to be regarded as illustrative only, and not as exclusive of the different forms in which the invention may be given expression.

Referring to the drawings, Figure 1 is a top plan view of one half of the structure;

Fig. 2 is a rear elevation of one half of the structure, with a part of the hanger omitted;

Fig. 3 is a fragmentary view showing, more particularly, the adjustable connection between the support and the hanger; and

Fig. 4 is a fragmentary view of one end of the structure, showing the sliding engagement between the buffer member and its support.

In the drawings, 5 is the buffer member, preferably in the form of a relatively thin strip of steel, 6 the support therefor, also preferably in the form of a strip of steel. The buffer member and support are curved at their ends as shown and are secured together by means of bolts 7 which extend through a perforation 8 in the buffer member and a slot 9 in the support, thereby providing a non-rigid or sliding connection, whereby, when the buffer member is pushed rearwardly as the result of impact, its ends may slide on the support. The support is bent intermediate its ends, as shown, so that it partakes of a spaced position with reference to the buffer member.

Affixed to and projecting rearwardly from the buffer member are a plurality of pins or plungers 10, the ends of which extend loosely through perforations in the support and are maintained against disengagement therefrom by means of cotter pins 11. The heads 12 of the plungers are preferably countersunk in the front face of the buffer member and rigidly secured in place by riveting or welding, whereby the front face of the buffer member presents a plane uniform surface which can be nicely finished, by nickeling or otherwise, thus imparting to the bumper a sightly, attractive appearance.

Exterior of the plungers and confined between the buffer member and the support are comparatively stiff, coiled springs 13, which constitute the resilient elements of the structure and in order to overcome the noise incident to the frictional engagement of the springs with the plungers, I preferably insert rubber or similar casings 14 intermediate the plungers and the springs.

The support 6 is provided at either end with a hanger 15, one end of which 16 is in

face abutting engagement with the support and adjustably secured thereto. This adjustment is effected by means of slots 17, which permit of the hanger being slid longitudinally, thereby adapting the buffer for use on machines of different sizes so far as concerns the distance between the side bars of the chassis. The hanger, when in proper position, is secured in place by a bolt 18 and one of the plungers 10, which with its cotter pins serve the function of a bolt, thereby dispensing with the employment of two bolts.

The other end of the hanger is so bent as to produce a flat, inclined face 19, adapted to engage the under side of the forward or goose neck end of the chassis side bar and to be firmly secured thereto by means of a yoke 20 which straddles the goose neck and is locked in place by nuts 21.

From the foregoing description the function and operation of the device will be clear, but they may be briefly described as follows. In the event of collision with the buffer member, said member through the medium of its plungers and their associated springs, partakes of yielding, resilient movement thereby protecting the vehicle against excessive or undue shocks. As the buffer member is yieldingly pressed backward, the slidable engagement between the ends of said member and its support precludes the undue strain, and possible breakage, which would otherwise occur between these parts.

It will be understood that the construction described may be varied in details, such as by the substitution of equivalents, without departing from the spirit and substance of the invention, the scope of which is commensurate with the appended claims.

If desired, inserts of non-corrosive metal may be made on the lapped ends of the buffer member and support, respectively, thereby precluding binding between the parts as the result of corrosion.

Having thus fully described the invention, what I claim as new, and desire to secure by Letters Patent, is:

1. In an automobile bumper, a buffer member, a support therefor having its ends in engagement with the buffer member, a slot in either end of the support, a bolt extending through an opening in the buffer member and loosely projecting through the slot whereby sliding engagement is secured between the ends of the buffer member and its support, resilient devices cooperating with the buffer member and its support and means for securing the support to an automobile.

2. In an automobile bumper, a substantially straight buffer member, a supporting member having a central portion substantially parallel to the buffer member and diverging end portions secured near their ends by bolts to the opposite ends of the buffer member, one of said members being slotted and securing bolts passing through said slots to allow of sliding engagement between the ends of said members, helical springs positioned between the parallel portions of said members for normally spacing them apart, and means for mounting the bumper on a vehicle.

3. In an automobile bumper, a buffer member, a supporting member therefor having the end portions thereof in engagement with the buffer member, one of said members being slotted at its point of engagement with the other member, bolts passing through the other member for slidably securing the two parts together, resilient means coöperating with the buffer member and its supporting member, and means for mounting the bumper on an automobile.

4. In an automobile bumper, a buffer member, a supporting member therefor having the end portions thereof in engagement with the buffer member, one of said members being slotted at its point of engagement with the other member, bolts passing through the slots on one member and through the other member for slidably securing the two parts together, helical springs positioned between said members intermediate their ends for normally spacing the intermediate portions of said members apart, and means for securing the bumper to an automobile.

In testimony whereof, I have signed my name to this specification.

THOMAS DIXON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."