J. F. O'BRIEN.

BUFFER FOR AUTOMOBILE DOORS.

APPLICATION FILED MAY 29, 1913.

1,098,393. Patented June 2, 1914.

Fig. 1.

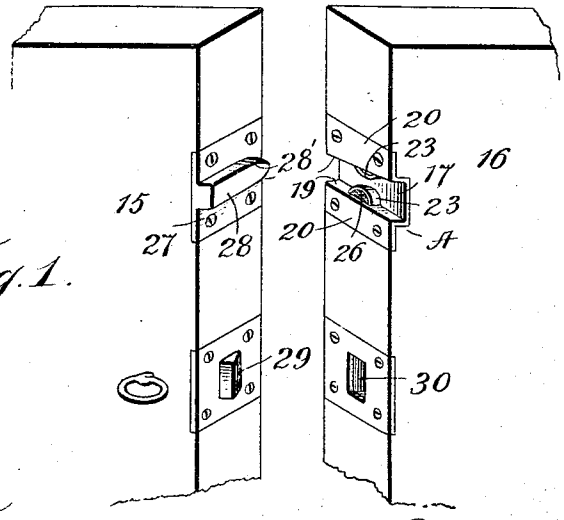


Fig. 2.

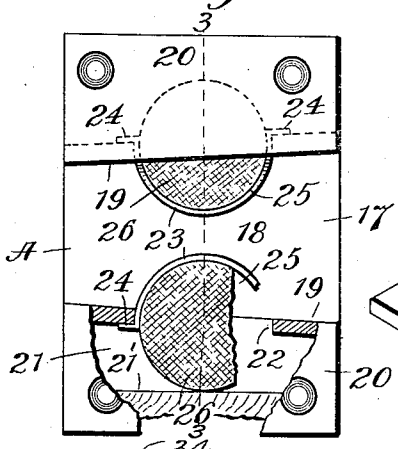


Fig. 3.

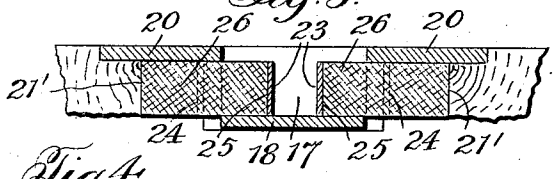


Fig. 4.

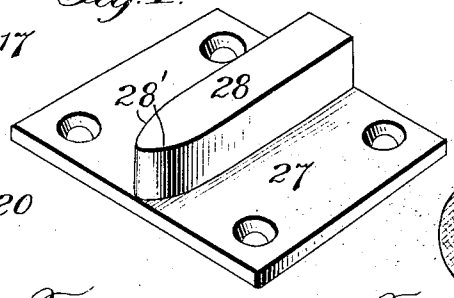


Fig. 5.

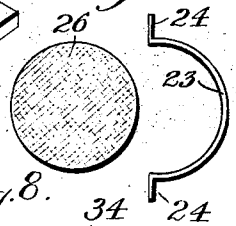


Fig. 6.

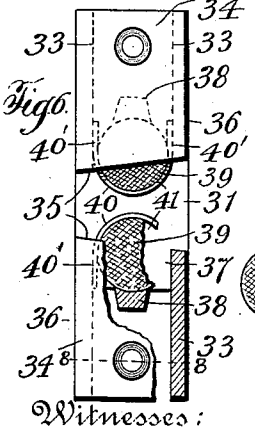


Fig. 7.

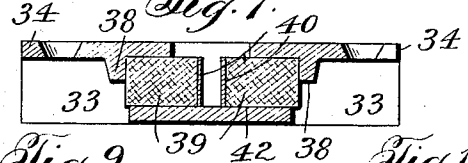


Fig. 8.

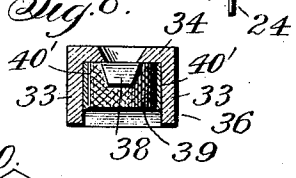


Fig. 9.

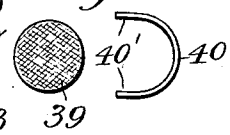
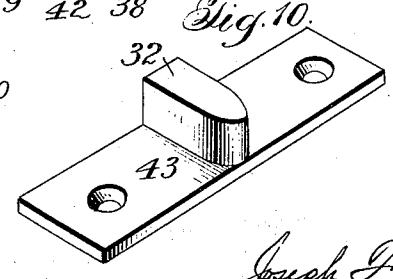


Fig. 10.



Witnesses:

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By Foster Freeman Watson & Coit Attorneys

UNITED STATES PATENT OFFICE.

JOSEPH F. O'BRIEN, OF NEW YORK, N. Y.

BUFFER FOR AUTOMOBILE-DOORS.

1,098,393. Specification of Letters Patent. Patented June 2, 1914.

Application filed May 29, 1912. Serial No. 700,490.

To all whom it may concern:

Be it known that I, JOSEPH F. O'BRIEN, a citizen of the United States, residing at New York, in the county and State of New York, have invented certain new and useful Improvements in Buffers for Automobile-Doors, of which the following is a specification.

This invention relates to buffers for doors and the like and has more particular reference to an improved buffer and anti-rattler for automobile doors.

One of the objects of the invention is to construct a simple, efficient and inexpensive device of this class, which may readily be applied to the door and door casing of an automobile.

Other objects are to provide a device which will serve as a guide to always bring the tongue of the door lock into engagement with its catch, to provide means for releasably holding the door and prevent rattling of the same, and to absorb the shock when the door is slammed shut.

The novel features will be apparent from the following description taken in connection with the drawings, in which,

Figure 1 is a perspective view of a portion of an automobile door and casing therefor, showing a form of my invention applied thereto; Fig. 2 is a plan view of the female member of the buffer, part thereof being shown broken away; Fig. 3 is a vertical cross sectional view of the same along line 3—3 of Fig. 2; Fig. 4 is a perspective view of the male member of the buffer; Fig. 5 is a plan view of one of the combined buffing elements on the female member, the parts being shown separated; Fig. 6 is a plan view of a modified form of female member; Fig. 7 is a central vertical, longitudinal, sectional view of Fig. 6; Fig. 8 is a cross sectional view along line 8—8 of Fig. 6; Fig. 9 is a plan view of the buffing elements in the modified form, the parts being shown separated; Fig. 10 is a perspective view of the companion part to the one shown in Fig. 6.

Referring to the drawings, the buffer comprises two separate coöperating parts, a male member fastened to either the door 15 or the casing 16 and a female member set in a mortise, in the opposing part. It is, however, preferable to mount the female member on the pillar or casing 16, so that there will be no projections on which to catch the clothing of persons passing through the door.

A female member consists of a body A, formed or cast from any suitable material such as brass, or the same may be pressed from a blank of sheet metal into the form desired. The body A comprises a U-shaped tapering groove or channel section 17 having the bottom 18 and the vertical walls 19, 19. At the upper edges of the walls there are wide horizontal laterally extending lips or flanges 20, 20, which are provided with screw holes therein by means of which the body may be secured to its support 16. The support is mortised as at 21 to receive the groove section and slightly mortised for said flanges so that the latter will be flush with the adjoining wood surface. The vertical walls 19, 19 are provided intermediate their ends with elongated recesses or openings 22, 22 therethrough, which are substantially of a width equal to the depth of the groove 17. The recesses 22 are arranged opposite each other and open into the channel or grooves. Bowed or semicircular flexible strips 23, 23 of brass or other suitable material, bent at their ends to provide laterally extending lips 24 are slidably seated in the recesses. The said strips 23 are of a slightly less width than the recesses and the bowed portions thereof extend into the recesses, the inner faces of the opposite strips being in close proximity. The lips 24 constitute stops to prevent the said strips from passing through the recesses 22, but the same will permit the strips to yield in the opposite direction. Each of the strips forms a pocket 25 with the bottom 18 of the groove in which a cylindrical block of soft rubber 26 or equivalent material is arranged, the curvature of the outer cylindrical surface conforming to the curvature of the bowed strips 23 so that the blocks will fit snugly in the pockets 25. The blocks of elastic material 26 abut against and have bearing on the walls 21′ of the mortise 21 and their front edges in the groove 17 are protected by the metal facing 23.

The male member comprises a plate 27 cast or formed of the same material as the female member and is provided with holes to receive screws or nails so that it may be fastened to its support 15. Integral with said plate 27 there is a dovetail or tapering

projection 28 which is narrower at its widest part, than said groove 17. The projection 28 is adapted to operate longitudinally in the groove 17, the tapering part 28′ thereof first engaging the buffing elements which comprise the oppositely arranged strips 23 and rubber blocks 26 backing the same. The engagement of the buffing elements by the projection 28 will absorb the shock, and when said projection is completely in between the oppositely arranged buffers, the projection and the door 15 will be releasably held. Rattling of the door will also be eliminated on account of the yieldable holding device. The projection also acts as a means guiding the tongue 29 of the door lock into its catch 30.

Where the width of the door jamb is not sufficient to accommodate the structure just described, a narrow buffer such as shown in Figs. 6 to 10 has been devised. The female member of the modified form of buffer has a transversely tapering groove or channel 31 in which the projection 32 of the male member operates. Side flanges 33, 33 and top flanges 34, 34, extend laterally from the edges of the walls 35, 35 of the groove 31 and form a casing 36 on each side of the groove integral with the groove structure. Opening into the groove 31 from the opposite walls thereof are the openings or recesses 37, 37 in which the buffing elements operate. Lugs 38, 38 integral with the top flanges 34 and depending into the casing 36 form bearing means or abutments for the soft rubber blocks 39, 39, seated in the recesses 37, 37 and protruding therethrough into the groove. Bowed U-shaped spring strips 40, 40 of brass or any similar suitable material seat in the recesses 37 and projecting into the grooves form oppositely arranged pockets 41, 41, with the bottom 42 of the grooves. The soft rubber blocks 39 are disposed in the pockets and their edges are rounded to be of a curvature corresponding to the curvature of the strips 40. The strips also form a protecting facing for the blocks of elastic material and prevent the wear thereof. The parallel members 40′ of the U-shaped spring strips 40 engage the sides of the recess 37 and the side flanges 33, the inner faces of which coincide with the sides of the recesses. Being of resilient material and bowed, the parallel members of the strips will tend to spread and bear against the side flanges and edges of the recesses and they will be held in position thereby but will permit of lateral movement of the same and the blocks when engaged by the projection 32. The male member comprises a flat plate 43 with holes therein so that with screws or nails the same may be secured to a support. The plate has an upstanding projection 32 thereon which is of tapering wedge shape, and when engaged in between the oppositely arranged buffing members will be releasably held as in the preferred form. The narrow casing of the female member is provided so that the same may be set on a narrow jamb or edge, protecting the thin edge so that it will not be easily broken away and also improving the appearance of the buffer.

The operation of the devices will be clear from the foregoing description.

Numerous variations may be made without departing from the spirit of the invention and it is therefore to be understood that I do not wish to be limited to the exact details as shown and described.

Having thus described my invention, what I claim is:

1. A buffer for doors comprising two separate coöperating elements one of said elements having a recess therein and adapted to be mounted at the free edge of the door, the other element having a projection and adapted to be mounted on the door casing, said recess having an opening in the wall thereof, a member having a portion extending into said opening and elastic means backing said member and tending to force the same into the recess, said projection having frictional engagement with said member when the door is closed.

2. A buffer for doors comprising a combination of two separate coöperating parts, one of said parts having a recess therein, a member projecting into the recess from a wall thereof, the other of said coöperating parts having a projection working in the recess, elastic means tending to force said member into the recess and adapted to yield when said member is engaged by the projection and when the door is closed, and means providing an abutment for said elastic means.

3. A buffer for doors comprising the combination of two separate coöperating parts, one of said parts having a recess therein and being adapted to be supported on the door casing, members projecting into the recess and through the opposite walls thereof, the other of said coöperating parts being adapted to be mounted on the free edge of the door and having a projection adapted to work in the recess, and elastic means tending to force the members into the recess and adapted to yield when said projection passes between said members.

4. A buffer for doors comprising in combination two separate coöperating parts, one of said parts having a transverse tapering groove therein and oppositely disposed recesses opening into the groove, yieldable members loosely seated in the recesses and forming pockets, members of yielding material disposed in the pockets, and the other of said coöperating parts having a tapering projection adapted to operate in the groove and engage said loosely seated members to be cushioned thereby.

5. A buffer for doors comprising in combination two separate coöperating parts, one of said parts having a transverse groove therein and recesses opening into the groove, members loosely seated in the recesses and forming pockets, and members disposed in the pockets backing the loosely seated members, the other of said coöperating parts comprising a projection adapted to operate in the groove and engage said loosely seated members to be cushioned thereby.

6. A buffer for doors comprising in combination two separable coöperating parts, one of said parts having a transverse groove and recesses opening into the groove, bowed members of yieldable material seated in the recessses, protruding into the groove and forming pockets with the bottom of said groove, blocks of soft rubber shaped to conform to the curvature of the bowed members and seated in the said pockets, bearing means for the blocks, the other of said cooperating parts having a projection adapted to operate in the groove and engage said bowed members to be cushioned thereby.

7. A buffer for doors comprising the combination of two independently supported parts, one of said parts having a transverse groove and yieldable members extending into the groove, elastic means sustaining said members in operative relation, the other of said parts having a projection adapted to operate in the groove and engage between the yielding members, for the purpose described.

8. A buffer for doors comprising the combination of two coöperating members, blocks of yieldable material associated with one of said members, the other of said members having a projection engaging between said blocks of yieldable material, and facings for said blocks of yieldable material, for the purpose described.

9. A buffer comprising a member having a transverse groove, the wall of said groove having a recess therein, means slidably fitted in said recess and projecting into the groove, and a device having a projection working in said groove and arranged to be yieldingly engaged and releasably held by said slidable means.

10. In a buffer for use at the free edge of a door or the like, the combination of a supporting plate, a member working in a path transversely of said plate, means forming pockets on opposite sides of said path, and elastic devices disposed in said pockets.

11. A buffer comprising the combination of a plurality of separate yieldable members, means for supporting the members on a door or on a door casing, and a device independent of said members and said supporting means and adapted to coöperate therewith, said device being constructed to be supported on the door casing or at the free edge of a door and having a projection frictionally engaging and releasably held by said yieldable members while the door is closed.

12. In a buffer for use at the free edge of a door or the like, the combination of two slidably mounted oppositely disposed members, elastic means sustaining said members, and means coöperating with said members and adapted to yieldingly engage the same and be held therebetween.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH F. O'BRIEN.

Witnesses:
O. W. Foster,
B. W. Ard.