Dec. 20, 1938. R. C. JACOBS 2,140,958

DOOR CHECK BRACKET

Filed March 29, 1937

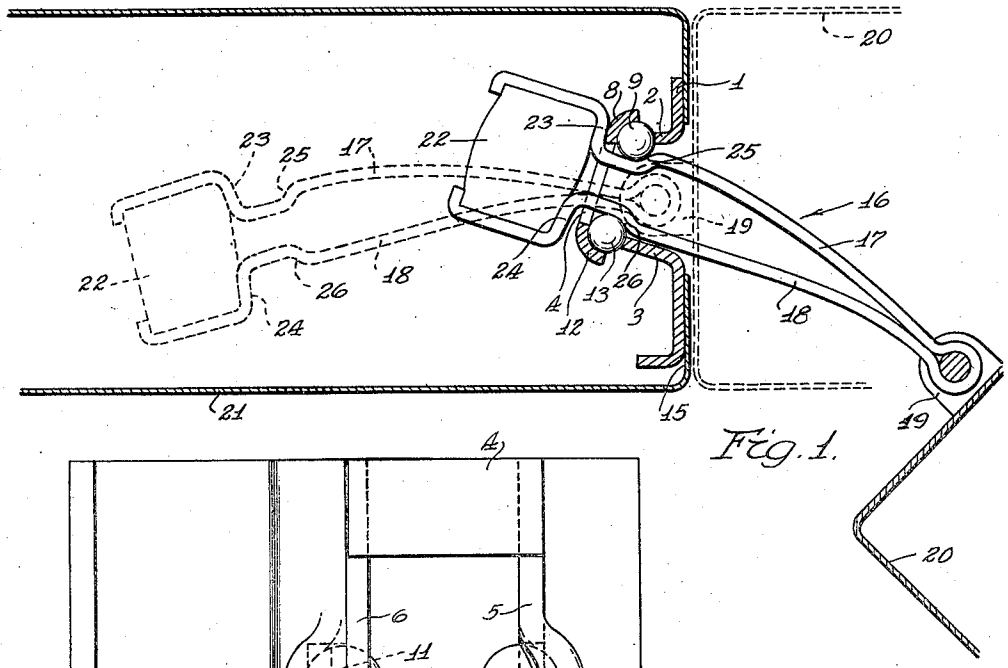


Fig. 1.

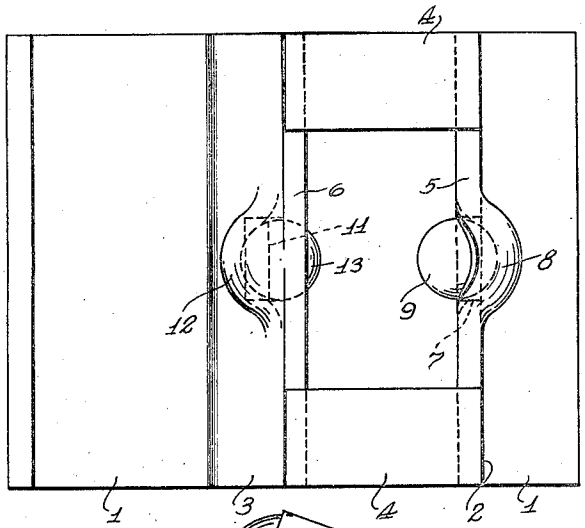


Fig. 2.

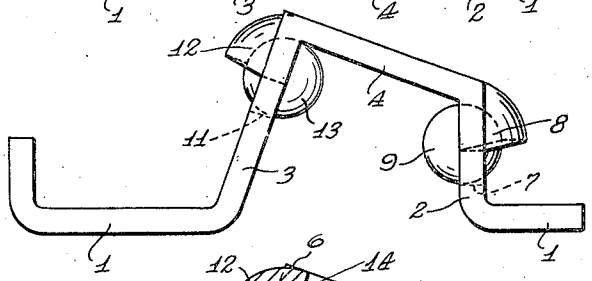


Fig. 3.

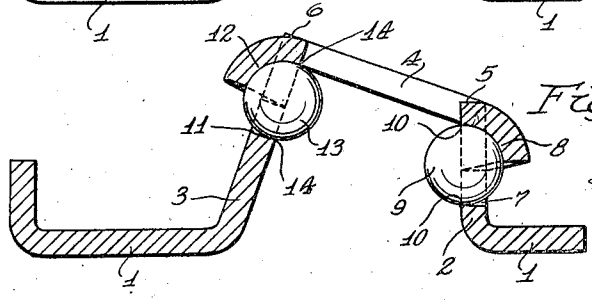


Fig. 4.

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Patented Dec. 20, 1938 2,140,958

UNITED STATES PATENT OFFICE

2,140,958

DOOR CHECK BRACKET

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Application March 29, 1937, Serial No. 133,606

11 Claims. (Cl. 16—82)

This invention relates to door check brackets and has as its object to provide a bracket for use in combination with door checks such as disclosed in my prior Patents 2,039,960 and 2,039,961 of May 5, 1936, and 2,034,905 of March 24, 1936.

Door checks of the character referred to above are formed of metal and are longitudinally and laterally resilient, the longitudinal resiliency being utilized to cushion the act of checking swinging movement of a door and the lateral resiliency being utilized to retard outward swinging movement of the door as well as to yieldably oppose closing movement of the door from its fully opened position. In order to utilize the longitudinal and lateral resiliency of the door check it is used in combination with a bracket having spaced apart walls between which the door check moves lengthwise. As the door opens the spaced walls engage the check and cause the same to become compressed, resulting in a retarding action which progressively increases as the door swings open. When the door is fully opened the walls engage shoulders on the check, and due to the lateral resiliency, yieldably oppose closing movement of the door.

It has been found, as a result of experience, that engagement of the metal door checks with the spaced walls on the bracket sets up undesirable noises. If used without lubrication squeaks result, and it is difficult to maintain it lubricated. Even when lubricated, undesirable sounds are present due to the scraping metal to metal contact. It is the primary object of this invention to improve the bracket construction and to eliminate all undesirable noises.

With the above and other ends in view the invention consists in matters hereinafter more particularly described with reference to the accompanying drawing, in which

Figure 1 is a section of a door structure illustrating the door check and bracket assembly;

Fig. 2 is an elevation of the bracket;

Fig. 3 is a plan of the bracket, and

Fig. 4 is a transverse section of the bracket.

Like characters of reference are employed throughout to designate corresponding parts.

The numeral 1 designates the bracket base having a perpendicular wall 2 and an oblique wall 3 extending therefrom. At top and bottom the two walls 2 and 3 are united by integral webs 4. As may be clearly seen in Figs. 3 and 4, the wall 3 is longer than the wall 2, and, therefore, the bearing surfaces 5 and 6 on the walls 2 and 3 respectively, are unequally spaced from the plane of the base 1. This feature is important for reasons which will hereinafter appear.

The wall 2 is provided with a slot 7, and the metal which is struck outwardly to form this slot is shaped to provide a socket 8 for a ball 9, the ball being retained in the socket 8 by the edges 10 of the slot. The wall 3 has a similar slot 11 and socket 12 receiving a ball 13, the ball being held in the socket 12 by the edges 14 of the slot 11.

The bracket has its base 1 secured to a door pillar 15, as shown in Fig. 1, and the door check 16 has two resilient arms 17 and 18 which extend between the walls 2 and 3 and the upper and lower webs 4. The two arms 17 and 18 are attached to a bracket 19 on a door 20 and diverge away from the bracket 19. The ends of the arms which extend into the body structure 21 are spaced apart by a rubber cushion 22 and have shoulders 23 and 24 adapted to engage the seats 5 and 6 respectively. Spaced from the shoulders 23 and 24 respectively are opposed shoulders 25 and 26.

In operation, as the door 20 is moved from the dotted line position shown in Fig. 1 to the full line position the diverging arms 17 and 18 engage the balls 9 and 13 respectively and in order to pass therebetween become compressed. Compression of the arms yieldably opposes movement of the door. As the door is fully opened the shoulders 23 and 24 engage the seats 5 and 6 respectively, the shoulders 23 and 24 being relatively disposed as shown whereby the shoulder 23 strikes its seat in advance of engagement of the shoulder 24 with its seat. With the check in the position shown in Fig. 1 the shoulders 25 and 26 engage the balls 9 and 13 respectively to yieldably oppose closing of the door.

Although a specific embodiment of the invention has been illustrated and described it will be understood that various changes may be made within the scope of the appended claims without departing from the spirit of the invention, and such changes are contemplated.

What I claim is:—

1. A bracket for a laterally resilient door check having diverging surfaces, said bracket having means thereon for engaging the diverging surfaces to cause compression of the check incident to lengthwise movement thereof, said means having a point contact with respective diverging surfaces.

2. A bracket for a laterally resilient door check having diverging surfaces, said bracket having means thereon for engaging the diverging sur-

faces to cause compression of the check incident to lengthwise movement thereof, said means having spherical surfaces engaging respective diverging surfaces.

3. A bracket for a laterally resilient door check having diverging surfaces, said bracket having means thereon for engaging the diverging surfaces to cause compression of the check incident to lengthwise movement thereof, said means comprising a pair of spaced apart balls engaging respective diverging surfaces.

4. A bracket for a laterally resilient door check having diverging surfaces and shoulders at one end thereof, said bracket having means thereon for engaging the diverging surfaces to cause compression of the check incident to lengthwise movement, and rigid means adapted to engage respective shoulders, said first named means having a point contact with respective diverging surfaces.

5. A bracket for a laterally resilient door check having diverging surfaces and shoulders at one end thereof, said bracket having means thereon for engaging the diverging surfaces to cause compression of the check incident to lengthwise movement, rigid means adapted to engage respective shoulders, said first named means having a point contact with respective diverging surfaces, and said second named means being disposed whereby it engages one shoulder in advance of the other.

6. A bracket for a laterally resilient door check having diverging surfaces and shoulders at one end thereof, said bracket having means thereon for engaging the diverging surfaces to cause compression of the check incident to lengthwise movement, and rigid means adapted to engage respective shoulders, said first named means having spherical surfaces for engagement with respective diverging surfaces.

7. A bracket for a laterally resilient door check having diverging surfaces and shoulders at one end thereof, said bracket having means thereon for engaging the diverging surfaces to cause compression of the check incident to lengthwise movement, rigid means adapted to engage respective shoulders, said first named means having spherical surfaces for engagement with respective diverging surfaces, and said second named means being disposed whereby it engages one shoulder in advance of the other.

8. A bracket for the purpose described comprising a base, a pair of spaced walls projecting from said base, and balls mounted in respective walls in spaced relation to said base.

9. A bracket for the purpose described comprising a base, a pair of spaced walls projecting from said base, balls mounted in respective walls in spaced relation to said base, and seats formed on the ends of said walls, said seats being unequally spaced from said base.

10. A bracket for the purpose described comprising a base, a pair of spaced walls projecting from said base, each wall having a slot therein and a socket adjacent each slot, and a ball received in each socket and projecting through its respective slot.

11. A bracket for the purpose described comprising a base, a pair of spaced walls projecting from said base, each wall having a slot therein and a socket adjacent each slot, and a ball received in each socket and projecting through its respective slot, said walls being of unequal length and having seats thereon for engagement by shoulders of a door check.

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