S. W. LYMAN.

HINGE.

APPLICATION FILED FEB. 26, 1921.

1,416,656.

Patented May 16, 1922.

2 SHEETS—SHEET 1.

Fig. 1.

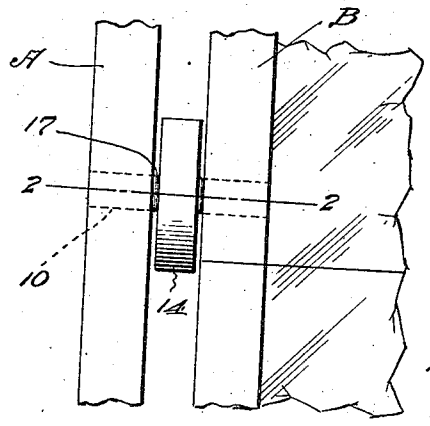


Fig. 4.

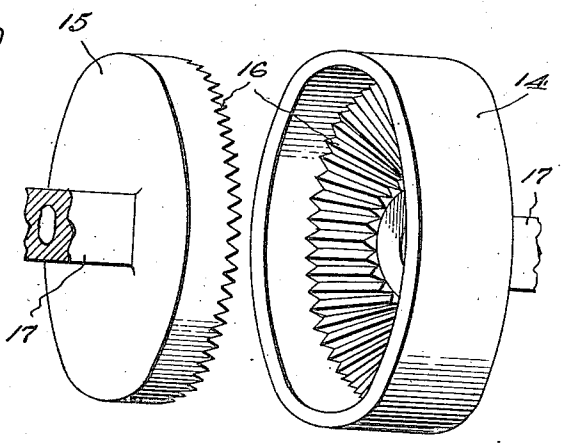


Fig. 2.

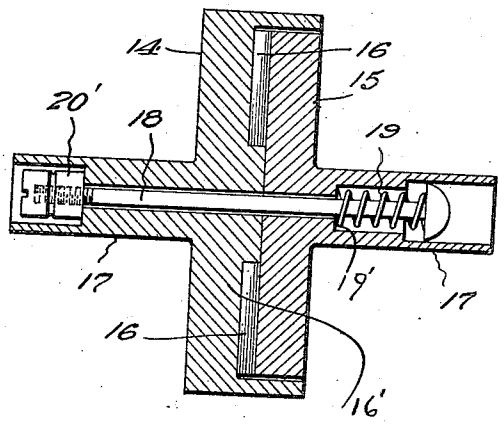
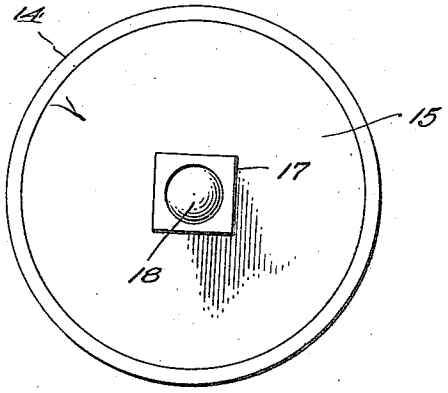


Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 6.

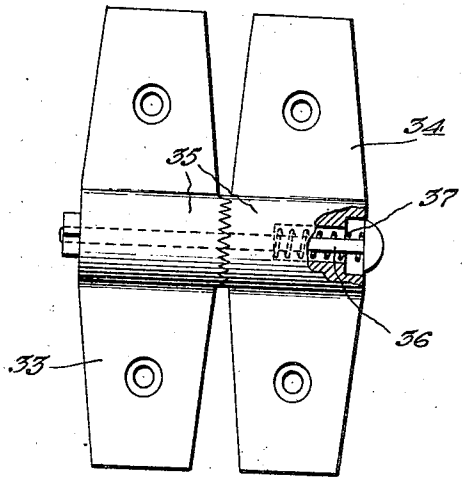


Fig. 5.

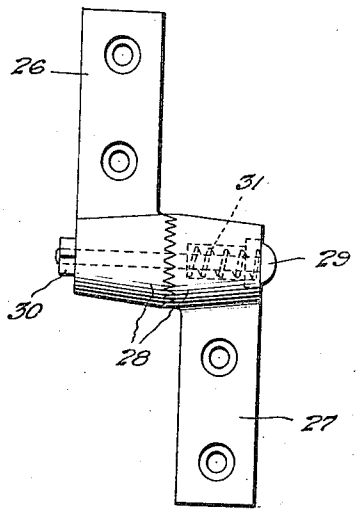
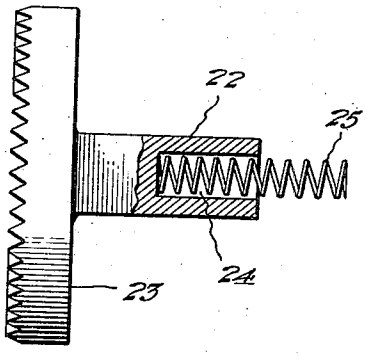


Fig. 7.



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UNITED STATES PATENT OFFICE.

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HINGE.

1,416,656. Specification of Letters Patent. Patented May 16, 1922.

Application filed February 26, 1921. Serial No. 448,234.

To all whom it may concern:

Be it known that I, STANLEY W. LYMAN, a citizen of the United States, residing at Billings, in the county of Yellowstone and State of Montana, have invented new and useful Improvements in Hinges, of which the following is a specification.

This invention relates to hinges, and comprehends the provision of an automatic self-locking hinge primarily designed for use in conjunction with windshields, mirrors or similar articles where a central locking hinge is desired.

The nature and advantages of the invention will be better understood when the following detail description is read in connection with the accompanying drawings, the invention residing in the construction, combination and arrangement of parts as claimed.

In the drawings forming part of this application like numerals of reference indicate similar parts in the several views and wherein:

Figure 1 is a fragmentary view of a windshield showing the preferred form of the invention.

Figure 2 is an enlarged sectional view taken on line 2—2 of Figure 1.

Figure 3 is a detail view of preferred form of the hinge separated from the windshield.

Figure 4 is a perspective view of the hinge members separated.

Figure 5 is an enlarged detail view partly in section of a modified form of the invention.

Figure 6 is a similar view of a further modified form of the invention.

Figure 7 is a view showing a modified construction of the hinge members somewhat similar to that shown in Figure 4.

Referring to the drawings in detail, and particularly Figures 1 to 4 inclusive, A indicates a frame of the windshield, and B the windshield proper. The frame is provided with a square opening 10 to receive an extension formed on one of the hinge members, while the windshield is provided with a similar opening to receive an extension of the other member of the hinge. As shown in Figure 4 the preferred form of the invention embodies two substantially disc like members 14 and 15 respectively, arranged in face to face contact and their confronting faces being serrated or otherwise formed to provide interlocking teeth 16. The disc 14 is provided with a central enlargement 16′ and includes an annular flange projecting wholly to one side of the disc and receiving the disc 15, this flange providing a housing for these discs as shown. Projecting outwardly and centrally from each disc is a squared extension 17. These extensions being disposed in axial alignment and adapted to be received in the above referred to openings of the windshield and the frame therefor. The extensions as well as the discs are provided with aligned bores or openings to receive a bolt 18 which is surrounded by a spring 19, engaging a shoulder 19′ formed in the extension projecting from the disc 15. This spring is tensioned by means of a nut 20 engaging a shoulder 20′ formed in the second extension. Manifestly, when the spring 19 is tensioned, the disc 14 and 15 are yieldably held associated, and at the same time allows the windshield to be swung upon its hinge to any position and held in that position. While the invention is shown and described used in connection with a windshield, it is to be understood that it is susceptible for use in conjunction with any other article where a central hinge is desired, and a general application of the invention is contemplated by the claim. In Figure 7 I have shown a modified form of the hinge member which is somewhat similar in construction to the members just described except that the extension 22 of the disc 23 is provided with a bore 24 which terminates in the length of the extension and receives a coiled spring 25, which spring projects an appreciable distance beyond the outer end of the extension, and which is adapted to be seated or arranged in the opening of the article of furniture or windshield frame indicated at 10. In this form of the invention that bolt above referred to is eliminated.

In Figure 5 I have illustrated another form of the invention, wherein one leaf of the hinge is indicated at 26 and is adapted to be secured to the stationary member, while the leaf 27 is adapted to be secured to a movable member, each leaf being provided with a hub like portion 28 which is disposed in axial alignment and held associated by means of a bolt 29 passed through the hub like portions. The bolt is provided with a nut 30 and surrounded by a spring 31, this functions in the same manner as the spring 25 above described.

In Figure 6 I have shown another form of the invention, somewhat similar to the form shown in Figure 5, except that the hinge members 33 and 34 respectively are formed with hub like portions 35 which are arranged centrally of the hinge like members in contra-distinction to the construction shown in Figure 5. A bolt 36 is passed through the hub like portions of these members and is surrounded by a coiled spring 37 for the same purpose as described in the spring above mentioned. The hub like portions are notched or otherwise serrated for interlocking engagement.

Manifestly, I have devised an improved construction of hinge, wherein the movable part of the hinge may be adjusted when desired, and when released will automatically engage the stationary part of the hinge so as to remain fixed relatively thereto in a given position.

While it is believed that from the foregoing description the nature and advantages of the invention will be readily apparent, I desire to have it understood that I do not limit myself to what is herein shown and described and that such changes may be resorted to when desired as fall within the scope of what is claimed.

What I claim is:

A device of the class described comprising a disc like member having a central opening and provided with a central enlargement, a plurality of teeth projecting from said member around said enlargement a second disc like member engaging said central enlargement and provided with a central opening in alignment with the opening in the first mentioned member, a plurality of teeth projecting from the second member and engaging the teeth of the first mentioned member, an annular flange projecting from the first mentioned member and surrounding the second member, squared extensions projecting from opposite sides of said members, provided with longitudinal openings in axial alignment with the openings in said members and having shoulders formed therein, a bolt extending through the openings aforesaid, a nut mounted on one end of said bolt and engaging one of said shoulders and a coil spring surrounding the opposite end of the bolt and exerting a pressure between the head thereof and one of said shoulders.

In testimony whereof I affix my signature.

STANLEY W. LYMAN.