M. S. NOLAN.

HINGE.

APPLICATION FILED FEB. 26, 1909.

988,492.

Patented Apr. 4, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

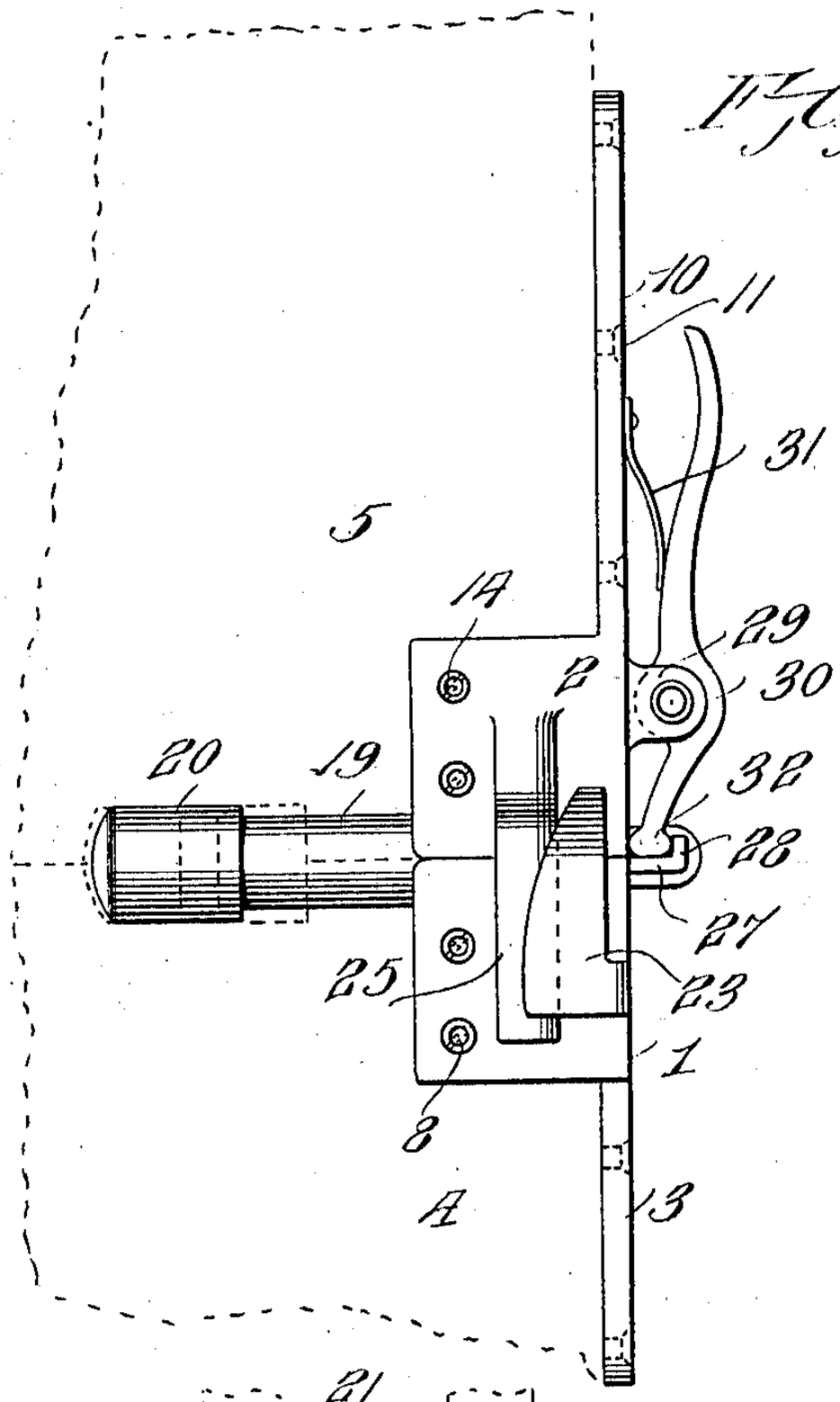


Fig. 2.

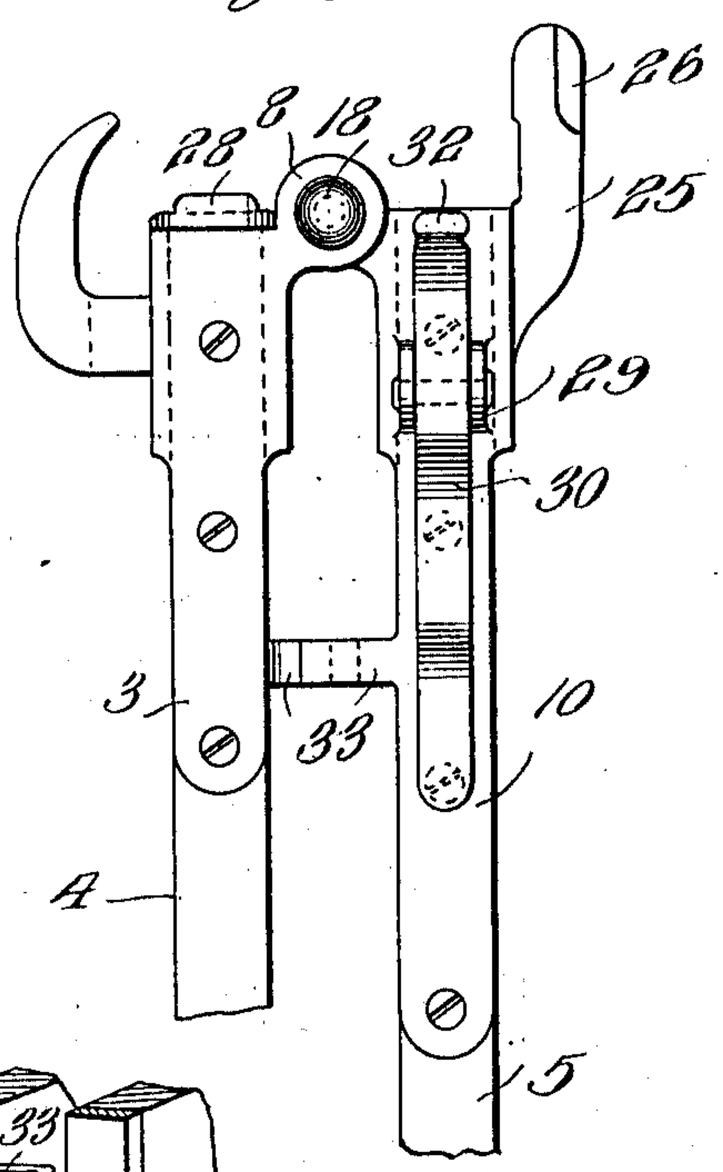


Fig. 3.

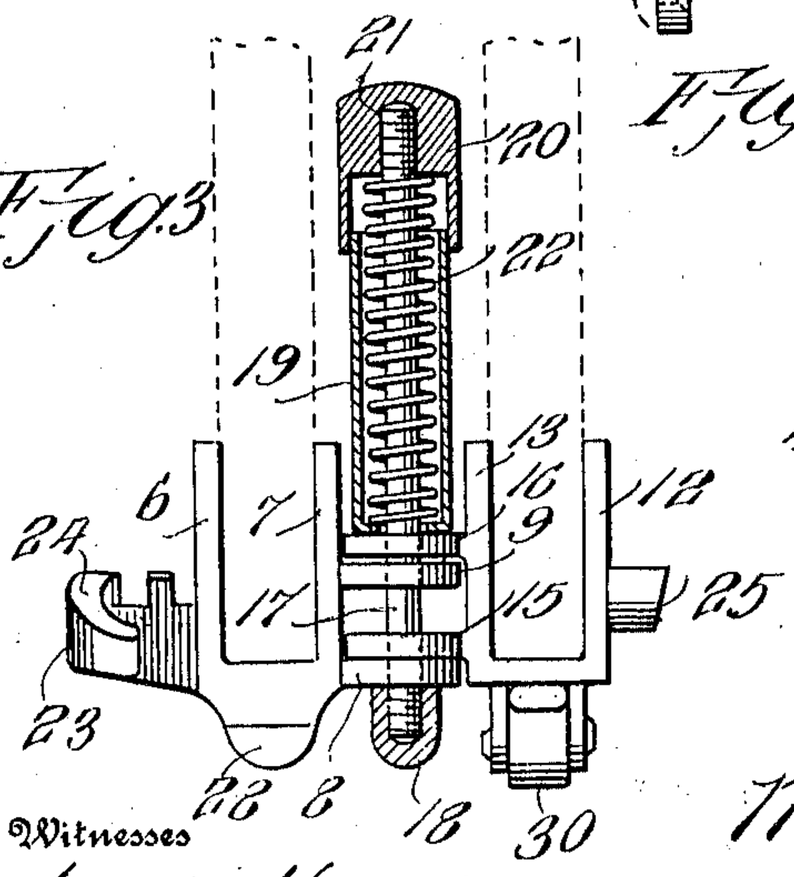
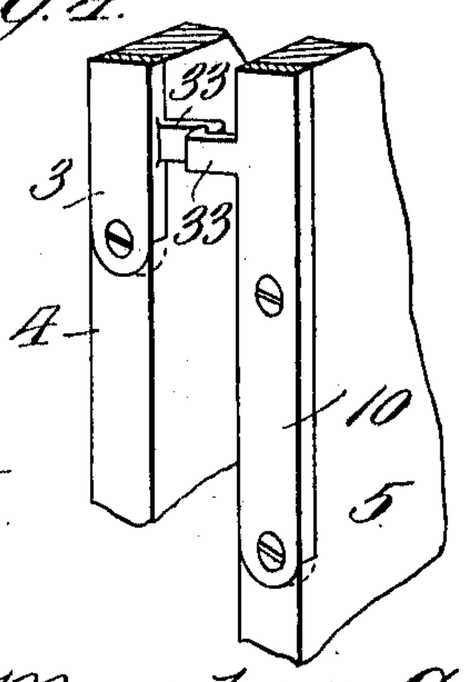


Fig. 4.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 4.

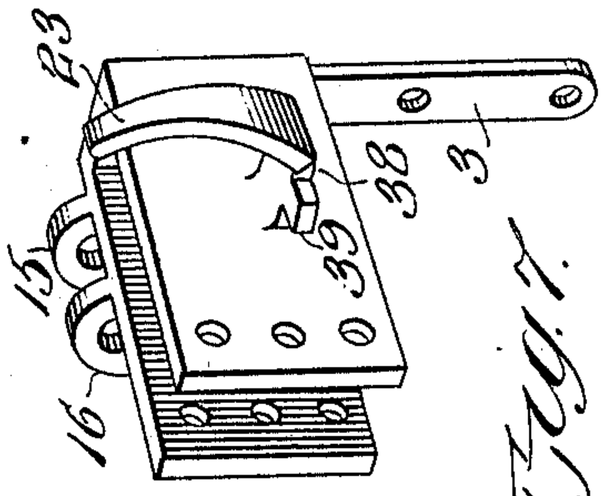


Fig. 8.

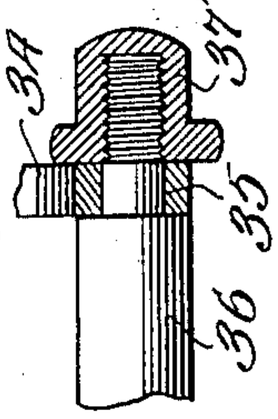


Fig. 7.

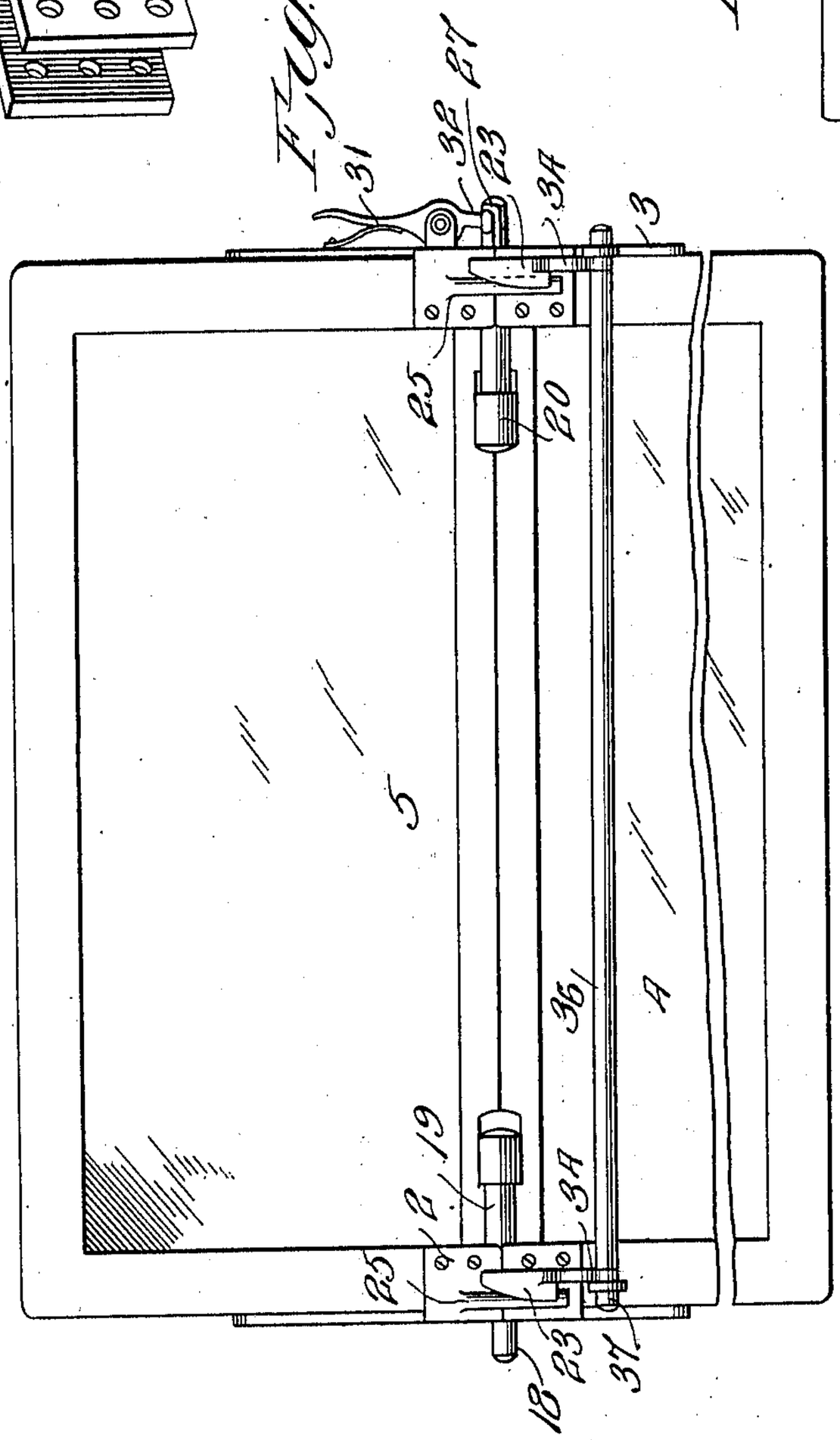
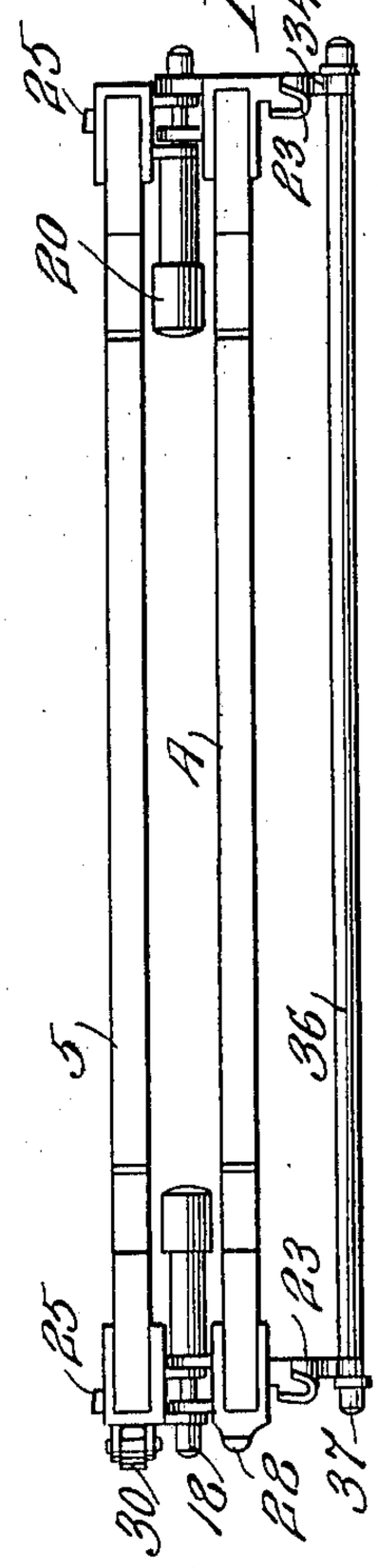


Fig. 6.



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UNITED STATES PATENT OFFICE.

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HINGE.

988,492. Specification of Letters Patent. Patented Apr. 4, 1911.

Application filed February 26, 1909. Serial No. 480,168.

To all whom it may concern:

Be it known that I, MARTIN S. NOLAN, a citizen of the United States, residing at Woburn, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Hinges, of which the following is a specification.

The invention relates to an improvement in hinges, being more particularly directed to a construction designed primarily for use with sectional automobile shields, whereby to permit the convenient locking of the sections into extended or shield-forming position or folding into inoperative position.

The main object of the present invention is the provision of a hinge including two members connected to the respective sections of the shield, the members being adapted for a limited relative longitudinal movement and provided with interlocking sections whereby in the arrangement of the sections in shield-forming position the members of the hinge will interlock to maintain such position, the construction including a means whereby the members may be independently moved manually to disengage their locking projections to free the shield sections for folding.

The invention will be described in the following specification, reference being had particularly to the accompanying drawings, in which:—

Figure 1 is a view in elevation, showing the hinge members in operative position, the shield sections being shown in dotted outline. Fig. 2 is an edge view of the same with the sections of the shield in folded position. Fig. 3 is a plan of the parts as shown in Fig. 2, a portion of the hinge members being shown in horizontal section. Fig. 4 is a broken perspective, showing the means for holding the shield sections in folded positions. Fig. 5 is a view in elevation, showing the screen with its sections open. Fig. 6 is a top edge view of the same. Fig. 7 is a perspective of one of the hinge members, showing a slightly modified construction. Fig. 8 is a view in elevation, partly in section, showing the means of connecting the coat rod.

Referring particularly to the accompanying drawings, wherein is shown the preferred form of the present invention, my improved hinge is made up of two members 1 and 2 arranged for connection and cooperation in a manner to be described. The member 1 comprises a plate section 3 designed to rest against one edge of one of the automobile shield sections, as 4, the plate being secured to said edge in any appropriate manner. The plate is of a length and so arranged that when in place it will terminate coincident with the upper edge of the section 4, or that edge with which the upper section, as 5, is designed to be connected. The side edges of the plate 3 are, at the upper end of said plate, provided with spaced laterally projecting leaves 6 and 7 which are so spaced as to embrace the section 4 between them, being secured by rivets or other fastenings 8 to the sections, as will be plain from Figs. 1 and 3. From the relatively inner leaf 7 there is projected in spaced parallel relation ears 8 and 9, said ears extending at right angles to the surface of the plate 7 and in alinement horizontally of the section 4.

The member 2 is in its main essential similar to the member 1, including a plate 10 designed to be secured by screws or other fastenings 11 to the edge of the upper section 5 of the shield, which plate at its lower edge is provided with outer and inner leaves 12 and 13 similar to the leaves 6 and 7 of the member 1, said leaves 12 and 13 being designed to embrace the edge of the shield section 5 and be secured by rivets or other fastenings 14. The inner leaf 13 is provided with laterally projecting ears 15 and 16 corresponding in size, shape and relative positions to the ears 8 and 9, the relation of the ears 15 and 16 to the ears 8 and 9 being such that when the side edges of the sections are in vertical alinement the ears 15 and 16 will be arranged immediately in rear of and adjacent the ears 8 and 9 respectively, all as shown in Fig. 3. The ears 8, 9, 15, and 16 are connected by a pivot pin 17, which extends forwardly beyond the ear 8 and is threaded for the reception of a cap 18, whereby the pin is fixed with relation to the ears 8 and 9 and movable with relation to the ears 15 and 16. The pin extends rearwardly beyond the innermost ear 16 and is encircled by a sleeve 19 which bears against the ear 16 at one end and is closed at the opposite end by a cap 20 telescopically mounted on the sleeve and having a threaded opening 21 to receive the threaded end of the pivot pin. A spring 22 encircles the pivot pin within the sleeve and cap, being designed to exert such normal pressure upon the parts as to

maintain the ears 8 and 15 and 9 and 16 in proper relation, yielding, however, under pressure to permit a separation of said ears longitudinally of the pivot pin which will presently appear. The leaf 6 of the member 1 is formed with a keeper 23 arranged beyond the surface of the leaf and having its relatively inner edge inclined, as at 24. The outer leaf 12 of the member 2 is formed with a latch nose 25 having its extreme end formed with an incline 26, as clearly shown in Fig. 2. The arrangement of parts is such that as the section 5 is elevated the latch rides down the inclined portion of the keeper causing a relative longitudinal movement of the members 1 and 2 against the tension of the spring 22, until, when the sections are fully elevated the latch rides off the inclined edge of the keeper and beneath the same, thereby permitting the spring 22 to return the members to normal position with the effect to lock the section elevated.

The plate 3 of the member 1 is, adjacent its upper end, formed with an outwardly projecting lip 27 having an upturned outer wall 28, while the plate 10 of the member 2 is provided with outwardly projecting ears 29 between which is mounted a finger lever 30 normally held in operative position by a leaf spring 31. The operative end of said lever is formed to provide a nose 32 designed when the sections are elevated to ride onto the lip 27 in rear of the wall 28. From this construction it will be obvious that by manipulation of the finger lever 30, the member 2 and, therefore, the latch 25, may be moved longitudinally with respect to the member 1, thereby freeing the latch 25 and permitting the upper section to be turned down into inoperative or folded position. The plates 3 and 10 are formed with latches 33 designed to coöperate when the sections 4 and 5 are in folded position, these latches projecting from the side edges of the respective plates and being so constructed as to be readily disengaged by a slight pull upon the movable section while at the same time so normally securing the sections as to prevent rattling or accidental movement.

In Figs. 5 and 6 I have shown an additional feature in which the keeper 23 of each hinge member is formed with an extension 34, which extends outwardly and downwardly relative to the plate 6 of said member. At the outer or free end the arm is formed with an opening 35 designed to receive one end of a rod 36, which rod has a threaded terminal projecting beyond the arm 34 to receive a cap nut 37. As both alined hinge members 1 are provided with the arms 34, the rod 36 will, therefore, extend longitudinally of the lower section of the screen and provide the usual coat rail or supporting rack.

In Fig. 7 I have shown a slightly modified form of the hinge member 1, from which it will be noticed that the operative edge of the keeper 23 is formed with a series of recesses 38—39. In the use of the modified form shown, the hinge member is arranged in opposition to its arrangement in the preferred form, that is the keeper 23 and latch 25 are on the forward side of the screen section, and the upper section folds toward the rear. The notches 38—39, of which there may be any desired number, serve the function of permitting the upper section to be arranged at an incline relative to the lower section, if desired, in order to reduce the resistance to the atmospheric pressure in the travel of the vehicle.

Having thus described the invention what is claimed as new, is:—

1. The combination with a sectional automobile shield, of a hinge therefor including independent members each comprising spaced leaves to embrace the shield sections, ears projecting from the similar leaves of each member, a pivot pin fixed to one ear and slidably mounted with relation to the other, a spring encircling the pin and bearing against one of the ears, an operating lever mounted on one member, a plate carried by the other member to be engaged by the lever, and coöperating latch members carried by similar leaves of the hinge members.

2. The combination with a sectional shield for automobiles, of a hinge therefor comprising independent members, each comprising spaced leaves to embrace the sectional shield, and a plate to bear against the edge of the shield section, ears projecting from the similar leaves of each member, a pivot pin uniting said ears to permit independent longitudinal movement of the members, a spring resisting such movement, a lever pivotally supported on one member, an offset plate carried by the other member and adapted to receive the operative end of the lever when the hinge members are arranged in superimposed relation, and coöperating latch members carried by the similar leaves of the respective members, the independent longitudinal movement of the members permitting engagement or disengagement of the latch members.

3. The combination with a sectional automobile shield, of a hinge including independent members each comprising spaced plates to engage opposing surfaces of the shield section, the similar plates of said members being formed with outwardly projecting ears, a pivot pin uniting the ears to hingedly connect the members, said members being mounted on said pivot pin for independent movement longitudinally of the pin, means for resisting such movement, coöperating means carried by the respective members adapted when said members are

in super-imposed relation to be operated to cause independent longitudinal movement of the members, and coöperating latch members, each of said latch members being connected to the plates of the hinged members opposing the ear carrying plates, said latch members being adapted for latching coöperation when the hinge members are in normal position under the influence of the resisting means.

4. The combination with a sectional automobile shield, of a hinge therefor including independent members, means for pivotally connecting said members to permit their independent longitudinal movement, a latch keeper carried by one of said members, and a latch carried by the other of said members, said keeper being formed to receive and retain the latch so as to secure the shield sections in either of two relative positions, the engagement of the latch and keeper causing the longitudinal movement of the hinge members, and means carried by said hinge members for manually causing a similar movement of the said members to release the latch from the keeper.

5. The combination with a sectional automobile shield, of a hinge therefor including independent members, means for pivotally connecting said members to permit their independent longitudinal movement, a latch keeper carried by one of said members, a latch carried by the other of said members, said keeper being formed to receive and retain the latch so as to secure the shield sections in either of two relative positions, the engagement of the latch and keeper causing the longitudinal movement of the hinge members, and means carried by said hinge members for manually causing a similar movement of the said members to release the latch from the keeper, said latter means being operative only when the latch is within the keeper.

6. The combination with a sectional automobile shield, of a hinge therefor including independent members connected for longitudinal movement with relation to each other, a keeper carried by one member, a cooperating latch carried by the other member, said members being subjected to an independent longitudinal movement in the engagement of the latch and keeper, a lever carried by one member, and a housing carried by the other member designed to engage the operative end of the lever when the hinge members are arranged in latching engagement, whereby in the operation of the lever an independent longitudinal movement may be imparted to the hinge members to release the latch from the keeper.

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

MARTIN S. NOLAN.

Witnesses:
C. F. BROWN,
F. R. RONLSTONE.