

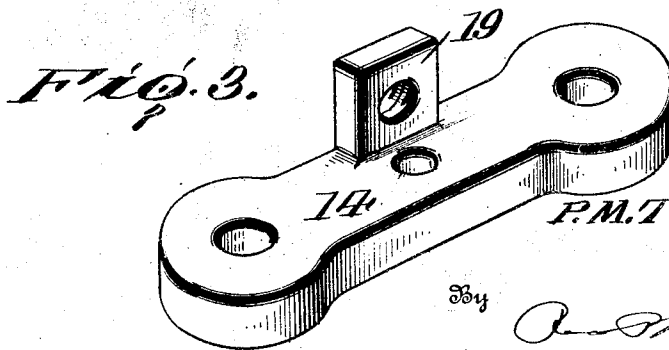
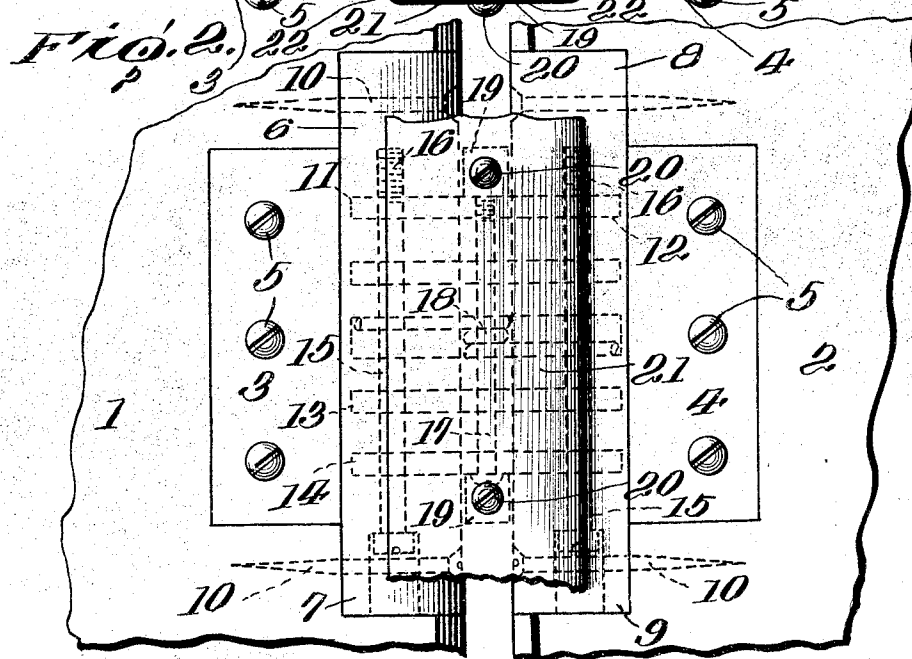
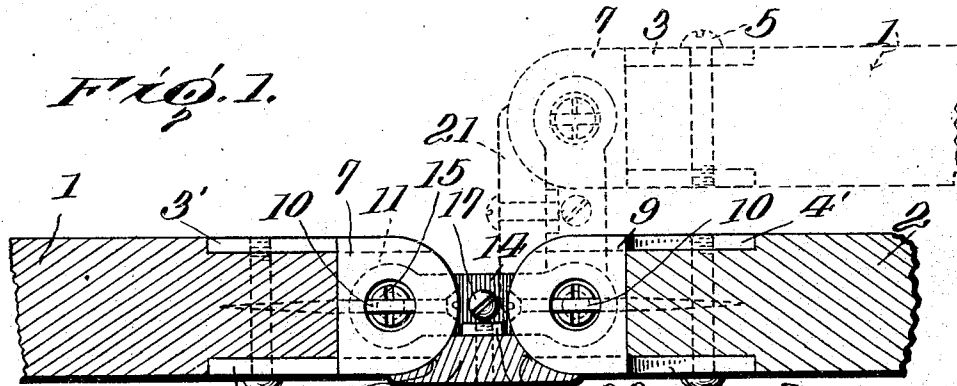
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HINGE CONNECTION FOR SECTIONAL DOORS

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HINGE CONNECTION FOR SECTIONAL DOORS.

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This invention relates to certain new and useful improvements in folding doors, such as doors used on street cars and operated pneumatically, the object being to provide novel means for pivotally connecting the door sections together in such a manner that a guard is provided for preventing the fingers from being caught between the sections when they are opened and closed.

Another object of my invention is to provide a particular construction of hinge pivotally connected together by a series of links, two of which are provided with extensions forming means for attaching the guard member so that it will be held tightly between the sections when either in a folded or unfolded position.

Another object of my invention is to provide a construction of hinge which is very simple, strong and durable.

Other and further objects and advantages of the invention will be hereinafter set forth and the novel features thereof defined by the appended claims.

In the drawings,

Figure 1 is a section through a pair of door sections showing the door sections in folded and unfolded position;

Figure 2 is an elevation of the same with the guard removed; and

Figure 3 is a perspective view of one of the links.

In the drawing 1 and 2 indicate a pair of door sections, such as folding doors used on cars which are pivotally connected together so as to fold into horizontal alignment or into parallel relation with one another as shown by dotted lines in Figure 1.

My improved construction of hinge is composed of a pair of substantially L-shaped members 3 and 4 adapted to embrace the sections 1 and 2 and be secured thereon by screws 5 which extend into threaded openings formed in plates 3' and 4' arranged on opposite faces of the door sections 1 and 2. These L-shaped sections are provided with extensions 6, 7, 8 and 9 at each end which are set into recesses formed in the door and are provided with suitable openings through which screws 10 pass for holding the members firmly in position on the door sections.

The L-shaped members 3 and 4 are provided with oppositely disposed slots 11 and 12 adapted to receive links 13 and 14, the links being provided with apertures through which pintle pins 15 extend, said pintle pins

being in the form of bolts which have their heads counter-sunk in the projections 7 and 9 and their threaded ends extended to threaded bores 16 formed in the projections 6 and 8 so as to pivotally connect the members 3 and 4 together through the medium of the links.

The links are also provided with central openings through which a bolt 17 passes, around which is arranged the coils of a spring 18, the free ends thereof extending outwardly into the members 3 and 4 so as to move the members or hold the same parallel with one another.

The end links are provided with apertured threaded lugs 19 into which are adapted to extend the threaded ends of bolts 20 which extend through a guard strip 21 having concave faces 22 conforming to the curvature of the substantially L-shaped members 3 and 4 and filling the space between said members when in folded or unfolded position as clearly shown in Figure 1, it, of course, being understood that this guard strip is secured to each hinge irrespective of the number of hinges employed for pivotally connecting the door sections together and said guard is of substantially the same length as the height of the doors so that the ordinary crack in folding doors of this kind is completely closed so as to prevent the fingers of a person from being caught between the door sections when the door is opened and closed, which is of special advantage when used on doors for street cars and the like.

While I have only shown one hinge arranged on a pair of door sections, it is, of course, understood that two or more of these hinge members are employed for pivotally connecting the sections together and that the guard strip is connected to each hinge by a pair of bolts so that it can be readily attached or detached. By connecting the guard strip in the particular manner as shown, it is held in its proper position irrespective of the movement of the door sections.

From the foregoing description it will be seen that I have provided a novel form of hinge and guard especially adapted to be used in connection with pneumatically operated pivoted doors used on cars and the like in which the sections are connected by a pair of members through the medium of links which are pivotally mounted at each

end in each section and are connected together centrally so as to hold them in proper alignment.

By connecting the guard to the links through the medium of bolts working in threaded apertured lugs, the guard can be adjusted as it wears so as to keep it in close contact with the adjacent edges of the members of the door sections. It will also be seen that the guard is formed with faces fitting the edges of the door and hinge member so as to completely close the crack between the door sections in such a manner that it is impossible for anyone's fingers to be placed between the door sections when the door is in folded or unfolded position.

What I claim is:

1. The combination with a pair of door sections, of an L-shaped member secured to each door section, said members being provided with oppositely disposed slots, links disposed within said slots, pintles passing through said links, two of said links being provided with apertured threaded lugs and a guard strip adjustably secured to said lugs by bolts.

2. The combination with a pair of door sections, of a hinge member connecting said door sections composed of a pair of L-shaped members connected respectively to said sections, links connecting said members and a guard arranged between said members and connected to said links.

3. The combination with a pair of door sections, of a hinge member pivotally connecting said sections together, said hinge member comprising a pair of L-shaped members adapted to embrace the adjacent edges of said door sections, a pintle carried by each L-shaped member, links connecting said pintles, means for connecting said links centrally together and a guard strip carried by said links.

4. The combination with a pair of door sections, of a hinge member connecting said door sections together, said hinge member comprising a pair of L-shaped members embracing the adjacent edges of said door sections, said L-shaped members being provided

with oppositely disposed notches, pintles carried by said sections, links arranged within said notches pivotally mounted upon said pintles, two of said links being provided with apertured threaded lugs and a guard disposed between said door sections having faces corresponding with the faces thereof and adjustably secured to said links by bolts passing therethrough.

5. The combination with a pair of door sections, of an L-shaped member secured to the edge of each section, each L-shaped member being provided with oppositely disposed notches, pintle pins disposed within said L-shaped members, links disposed within said notches pivotally mounted upon said pins, a bolt passing centrally through said links, a spring disposed around said bolt having its ends engaging said L-shaped members and a guard strip disposed between said L-shaped members having a connection with said links.

6. The combination with a pair of door sections, of a hinge member connecting said sections comprising a pair of L-shaped members adapted to embrace the adjacent edges of said door sections, said hinge member being connected together by links, a bolt passing centrally through said links, apertured lugs carried by two of said links, a guard disposed between said door sections having faces corresponding to the edges of said door sections and bolts passing through said guard and to said apertured lugs for securing said guard to the links of said hinge member.

7. The combination with a pair of door sections, of a hinge member connecting said sections together, said hinge member comprising a pair of L-shaped members embracing the adjacent edges of said door and pivotally connected together by a plurality of links, means for securing said links centrally together and a guard disposed between said members having a connection with said links.

In testimony whereof I hereunto affix my signature.

PATRICK M. TOWNSEND.