

Jan. 31, 1967

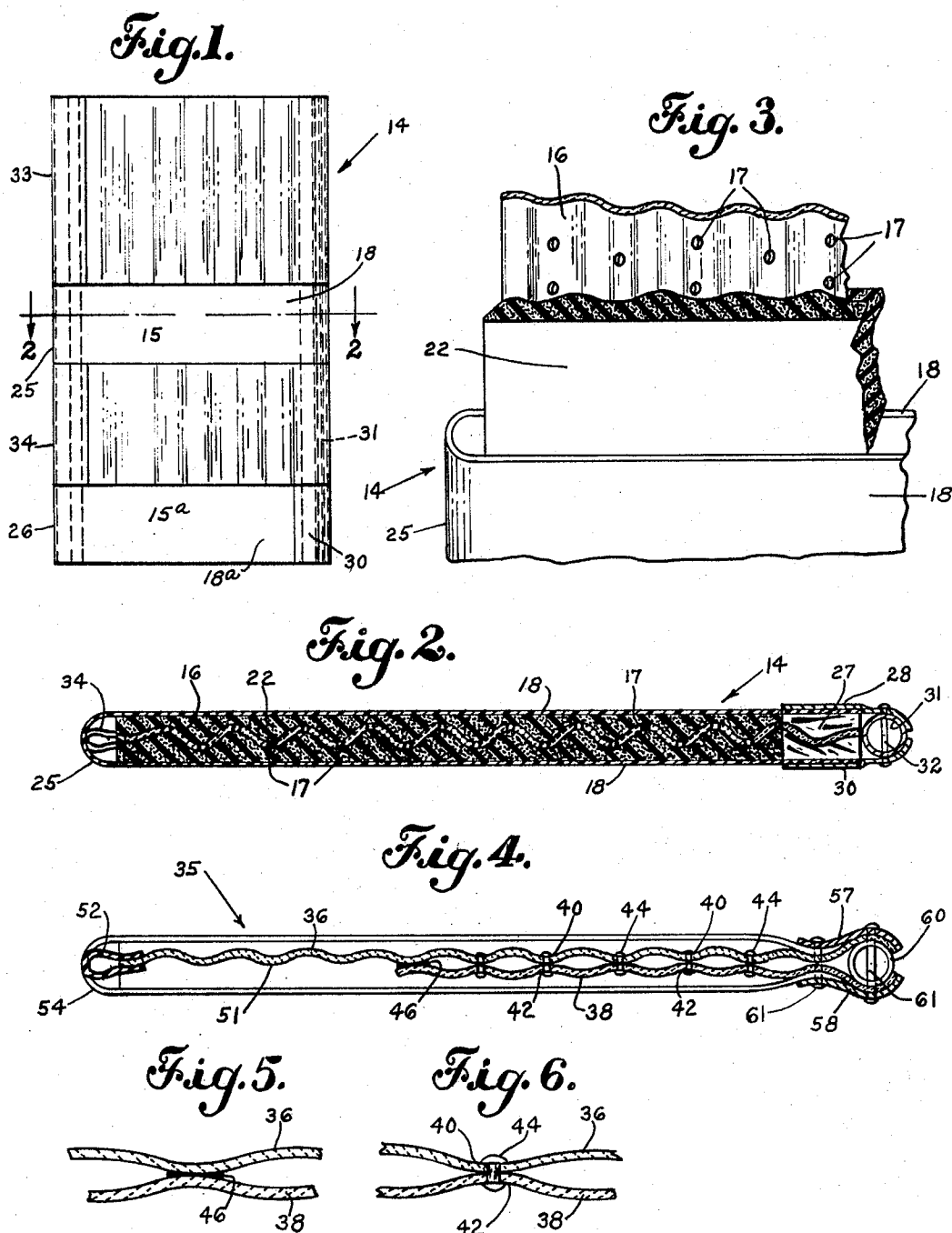
O. C. ECKEL

3,300,901

DOOR BODY

Filed Aug. 18, 1964

3 Sheets-Sheet 1



INVENTOR.
Oliver C. Eckel
BY Harold E. Cole
Attorney

Jan. 31, 1967

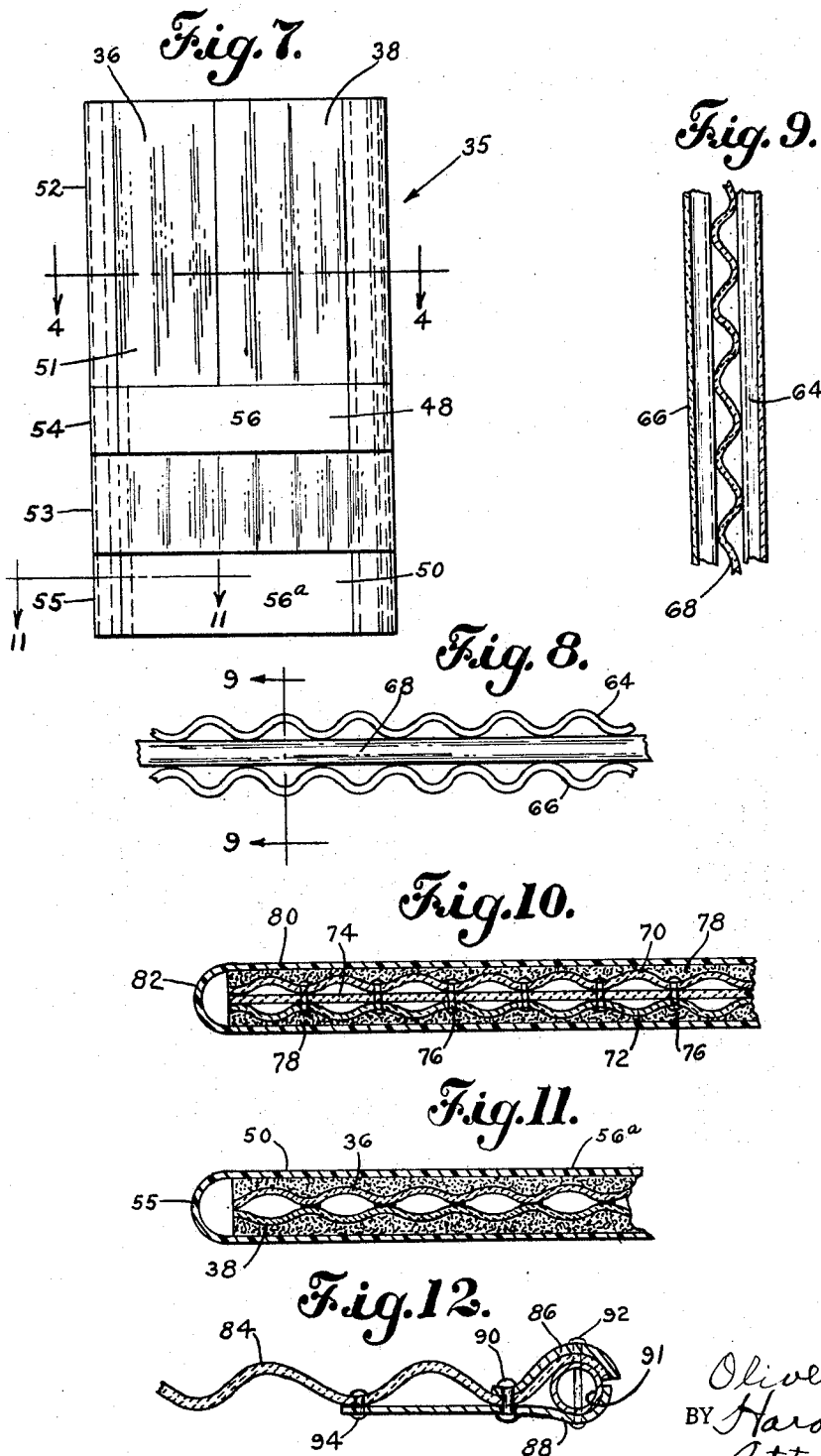
O. C. ECKEL

3,300,901

DOOR BODY

Filed Aug. 18, 1964

3 Sheets-Sheet 2



INVENTOR.
Oliver C. Eckel
BY Harold E. Cole
Attorney

Jan. 31, 1967

O. C. ECKEL

3,300,901

DOOR BODY

Filed Aug. 18, 1964

3 Sheets-Sheet 3

Fig. 13.

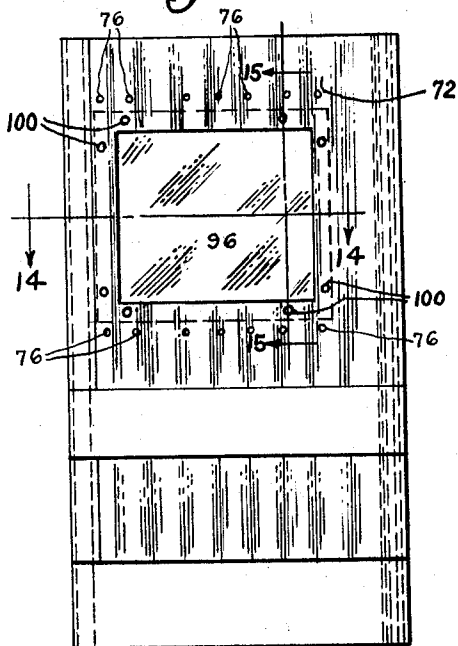


Fig. 15.

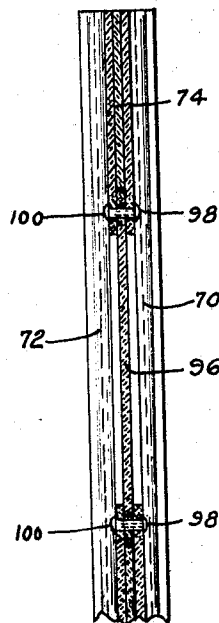
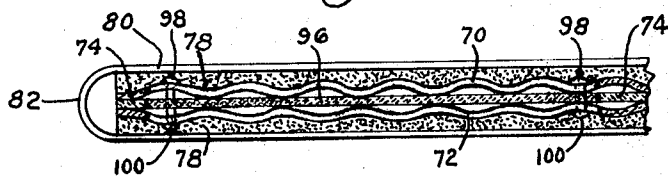


Fig. 14.



INVENTOR
Oliver C. Eckel
BY Harold E. Cole
Attorney

1

3,300,901 DOOR BODY

Oliver C. Eckel, Carlisle, Mass.
(P.O. Box 226, Cambridge, Mass. 02138)
Filed Aug. 18, 1964, Ser. No. 390,391
2 Claims. (Cl. 49—502)

This invention relates to a door body.

One object of my invention is to provide a new and useful door body construction that utilizes a corrugated sheet of somewhat resilient material that provides dimensional stability to the body.

Another object is to provide a door body that utilizes one or more cores of corrugated material that is somewhat resilient and yet rigid enough to provide dimensional stability to the body.

Still another object is to combine said corrugated core with non-rigid, resilient material commencing adjacent the face surfaces of said body whereby the door body will readily yield when struck, as by a moving vehicle, and yet maintain some stability and have durability by virtue of said core.

A further object is to provide such construction that is formed of material relatively economical to manufacture and easy to utilize in fabricating a door body.

The foregoing and other objects, which will appear as the nature of the invention is better understood, may be accomplished by a construction, combination and arrangement of parts such as is disclosed by the drawings. The nature of the invention is such as to render it susceptible to various changes and modifications, and, therefore, I am not to be limited to the construction disclosed by the drawings nor to the particular parts described in the specification; but am entitled to all such changes therefrom as fall within the scope of my claims.

In the drawings:

FIG. 1 is a front elevational view showing my door body.

FIG. 2 is an enlarged, sectional view taken on the line 2—2 of FIG. 1.

FIG. 3 is an enlarged, fragmentary, perspective view of door body, the core and filler being shown in cross-section.

FIG. 4 is an enlarged, sectional view taken on the line 4—4 of FIG. 7.

FIG. 5 is an enlarged, fragmentary, sectional view showing two cores fastened together by an adhesive.

FIG. 6 is a view similar to FIG. 5; but showing the two cores fastened together by a rivet.

FIG. 7 is a front elevational view showing a modified form of door body.

FIG. 8 is an enlarged, fragmentary plan view of a modified form of door body construction.

FIG. 9 is a fragmentary, sectional view taken on the line 9—9 of FIG. 8.

FIG. 10 is a fragmentary, cross-sectional view of another modified form of door body.

FIG. 11 is an enlarged, sectional view taken on the line 11—11 of FIG. 7.

FIG. 12 is a fragmentary, cross-sectional view showing another modified form of construction.

FIG. 13 is a front elevational view of another modified form of door body.

FIG. 14 is an enlarged, sectional view taken on the line 14—14 of FIG. 13.

FIG. 15 is an enlarged, sectional view taken on the line 15—15 of FIG. 13.

As illustrated in FIGS. 1, 2 and 3, my door body 14 has two shock-resistant portions 15 and 15a spaced apart as shown in said FIG. 1. Said body is formed with a core 16 of corrugated material such as fiber glass reinforced polyester, or acrylic plastic, or metal. This mem-

2

ber 16 provides rigidity or dimensional stability, yet is somewhat resilient. It is shown perforated as at 17 and intermediate of, and preferably spaced from the front and rear faces of the door body.

In the intermediate and lowest portions of the door body shown in said FIG. 1, an outer cover 18 and 18a is provided for each that is shown extending continuously from the front face of the door body to the rear face, forming both of said faces. It may be made of rubber sheeting or similar resilient material.

Between said outer cover front and rear faces and filling the spaces between the latter and said core 16, is resilient filler material 22 that is non-rigid such as urethane or foam rubber that are foamed so as to pass through said perforations 17. Said filler 22 may be pre-formed cellular rubber in corrugated strips as later explained.

At said shock-resistant portions 15 and 15a of the door body, said covers 18 and 18a extend beyond the outer edge of the door body to provide hollow nose portions 25 and 26 respectively. At the inner end of the door body a mounting block 27, which may be made of wood, is shown, outside of which and said cover 18 are metal retainers 28 and 30 that extend part way around a supporting post 31 on which the door body is commonly mounted. A screw 32 holds the retainers 28 and 30 to said post 31. Said corrugated core 16 extends into said block 27 which may be made in two pieces and joined together to firmly hold said core.

Said door body 14 is provided with outer end nose portions 33 and 34 at all parts of said body other than portions 15 and 15a. These nose portions 33 and 34 are formed by looped rubber sheet members that extend outwardly from said corrugated core 16, to opposite sides of which they are cemented.

In FIGS. 4, 7 and 11 of the drawings, I show another form of door body 35 that has two corrugated cores 36 and 38 which preferably are fastened together at their groove portions 40 and 42 respectively by rivets 44, or by cementing as at 46 and illustrated in said FIG. 5. This door body 35 is shown provided with shock-resistant portions 48 and 50 spaced apart similar to said portions 15 and 15a shown in said FIG. 1. Above said portion 48, and at the outer half portion of the door body, is a transparent portion 51 which is provided by cutting said core member 38 off when it reaches said transparent portion 51, as shown in said FIG. 4 so that the door body at this point consists of a single corrugated core 36.

Said door body 35 is provided with outer end nose portions 52 and 53 except at said shock-resistant portions 48 and 50, which latter have outer cover nose portions 54 and 55 formed in outer covers 56 and 56a respectively. Said nose portions 52 and 53 are cemented to said core member 36 as shown in said FIG. 4. Metal retainers 57 and 58 and a post 60 are provided that are similar to those previously described. A screw 61 holds the latter three and said cores 36 and 38 together.

In the door body 35 shown in said FIG. 7, the core 36 is formed of transparent material, and since the door body consists of one member only at this point, this part of the door body serves as a window.

In said FIG. 8 a modified door body construction is illustrated in which there are two corrugated cores 64 and 66 spaced apart and in which the furrows or groove portions extend parallel to each other, as well as the ridges. An intermediate corrugated core 68 has furrows and ridges that extend angularly relative to those in said cores 64 and 66.

In said FIG. 10 a modified door construction is illustrated in which there are two corrugated cores 70 and 72 similar to said cores 64 and 66, and a flat intermediate core 74 extending between said cores 70 and 72.

3

In this construction said three cores 70, 72 and 74, which are similar to cores 36 and 38, are connected together by rivets 76. Resilient, non-rigid filler material 78 is shown between said core 70 and an outer cover 80, and between said core 72 and said outer cover 80. The nose of the latter is given the numeral 82. Said filler 78 is shown as a corrugated strip of cellular rubber with furrows and ridges interfitting with those of said cores 70 and 72.

In said FIG. 12 another modification of said door body is shown in which the body is formed of a single corrugated member 84 at the inner end of which are two metal retainers 86 and 88 that are fastened together by a rivet 90 that extends through said corrugated member 84. Said latter two retainers extend around the usual mounting post 91 and are attached together, as well as said member 84 by rivets 92. Also a rivet 94 connects said corrugated member 84 and said retainer 88.

In said FIG. 13 another modification of the door body is shown in which said cores 70 and 72 shown in said FIG. 10 are terminated at a point intermediate opposite side extremities of the door, leaving an exposed transparent center core 96 in both alinement and end abutment with said core 74. This separate center core 96 serves as a removable window.

Tubular screw members 98 that are internally threaded, receive screws 100 to hold said corrugated cores 70 and 72 to border portions of said center sheet 96. This makes it possible to unfasten said members 98 and 100 should one desire to remove said center core or window 96.

What I claim is:

1. A door body comprising two corrugated cores of relatively firm and resilient material each having furrows which are respectively opposite and adjacent each other, means connecting said cores at said furrows, an outer cover at the front and rear faces of said body, one of said cores being shorter than said first core in a cross-

4

wire direction thereby leaving a space between its terminating point and the outer end of said door, a loop member attached to the first of said cores at the outer end thereof and extending beyond, and mounting means at the inner end portion of said door attached to said corrugated cores.

2. A door body having an intermediate window portion and comprising two corrugated cores of relatively firm and resilient material each having furrows which are respectively opposite and adjacent each other, a flat sheet extending between said cores, means connecting said flat sheet and said cores at said oppositely disposed furrows, an outer cover at the front and rear faces of said body, non-rigid material between said cores and cover, and said cores terminating laterally adjacent opposite side extremities of said window portion and extending beyond said flat sheet, a separate transparent flat sheet forming and extending beyond said window portion and between said cores, and removable means attaching said transparent flat sheet to said cores at border portions of said latter sheet.

References Cited by the Examiner

UNITED STATES PATENTS

25	378,359	2/1888	Enos	52—625
	977,366	11/1910	Breakey	20—35 X
	1,625,061	4/1927	Trout	52—618
	1,895,553	1/1933	Nordell	52—618
	2,688,164	9/1954	Nelson	20—16
30	2,923,963	2/1960	Harry	20—53
	2,924,861	2/1960	Viets	20—35

FOREIGN PATENTS

1,139,986 2/1957 France.

HARRISON R. MOSELEY, *Primary Examiner*.

KENNETH DOWNEY, *Examiner*.