United States Patent [19]

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Smith

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[54] **GARAGE DOOR EXTENSION STRUCTURE**

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[52] **U.S. Cl.** **49/200;** 49/197

[51] **Int. Cl.²** **E06B 3/00;** E05F 1/08

[58] **Field of Search** 49/197, 198, 199, 200, 49/201, 202, 203, 204; 52/66, 67, 69

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[57] **ABSTRACT**

A closure member for a garage or similar structure, for the purpose of increasing the enclosed space, in the form of a door movable from a closed position to an overhead storage position consisting of side walls extending outwardly from the door opening connected by a closure panel which is spaced from the plane of the opening to effect a substantial increase in the length of the protected area when the door is closed.

3 Claims, 7 Drawing Figures

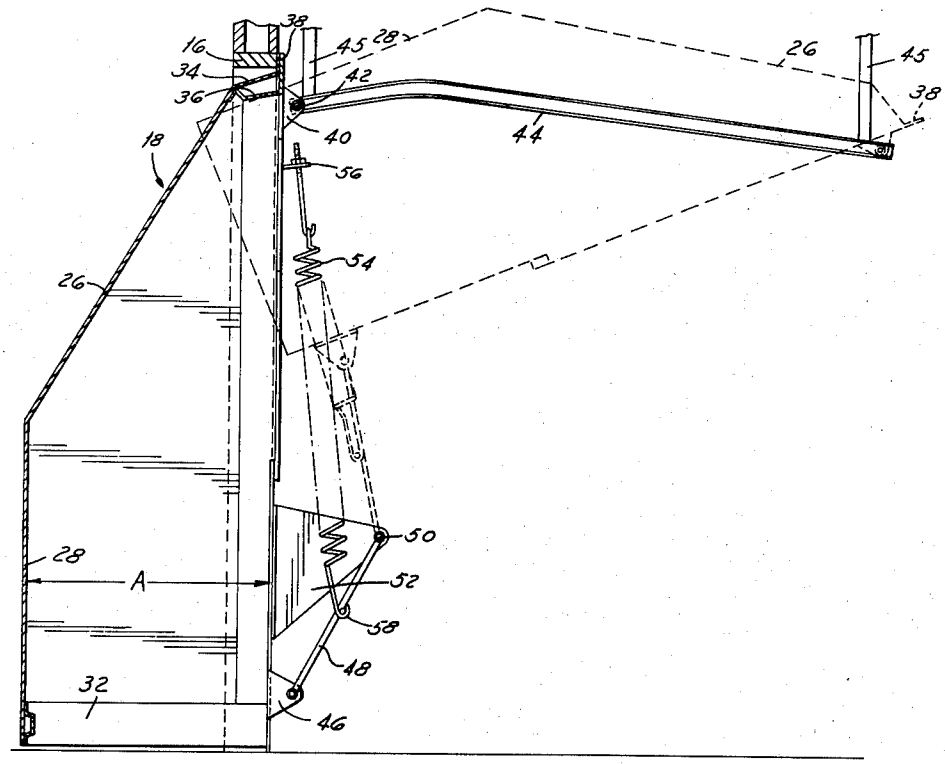


FIG. 1

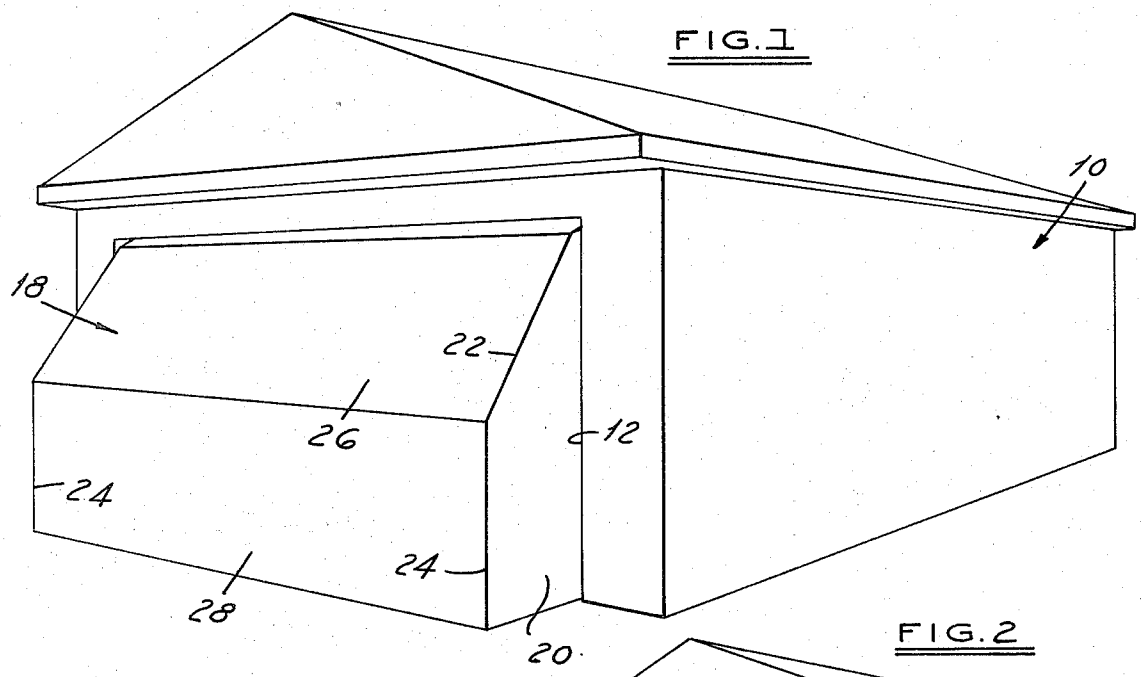


FIG. 2

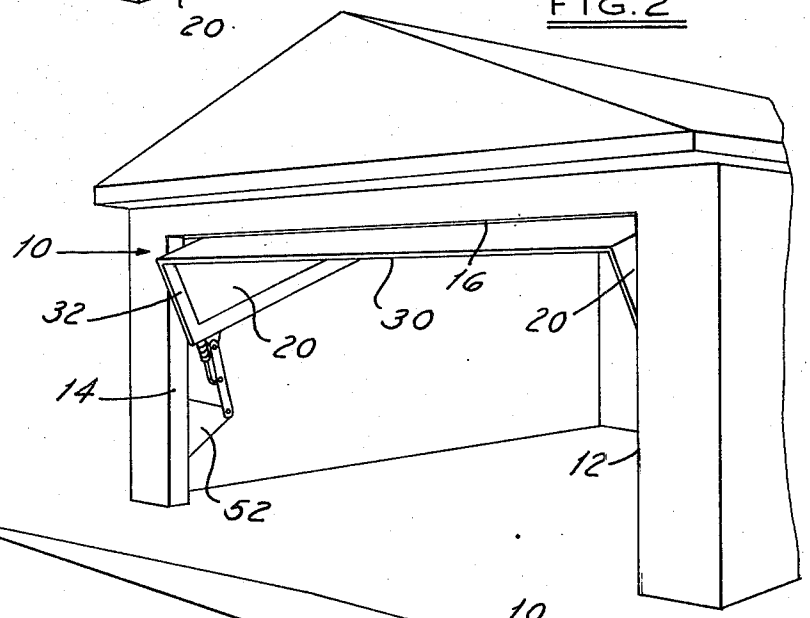
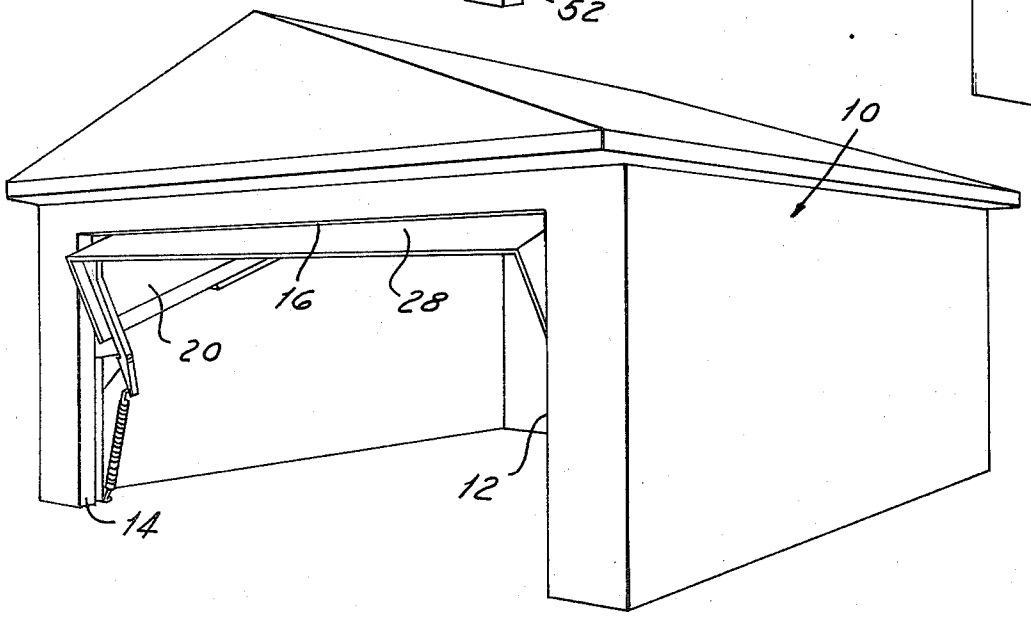


FIG. 4



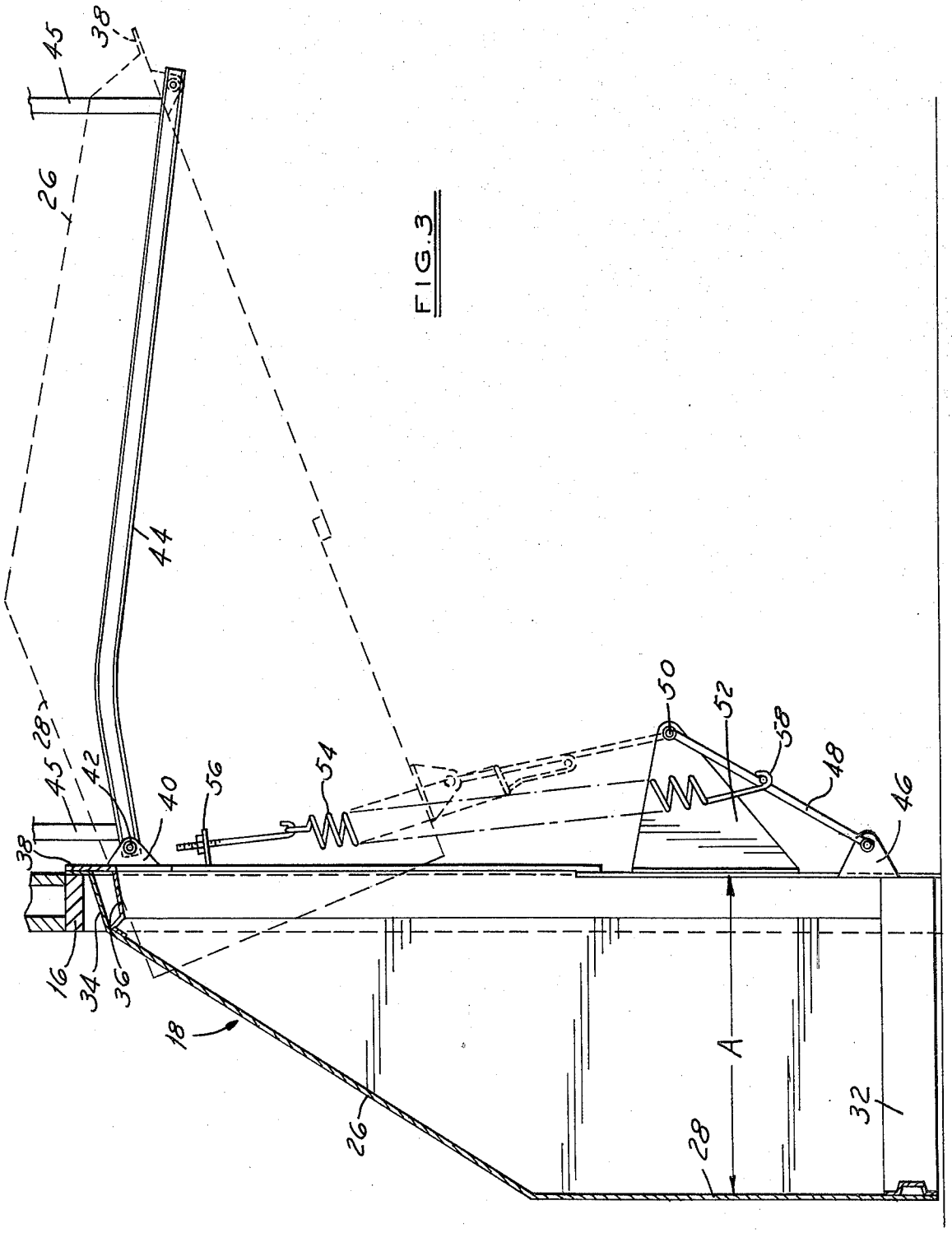


FIG. 3

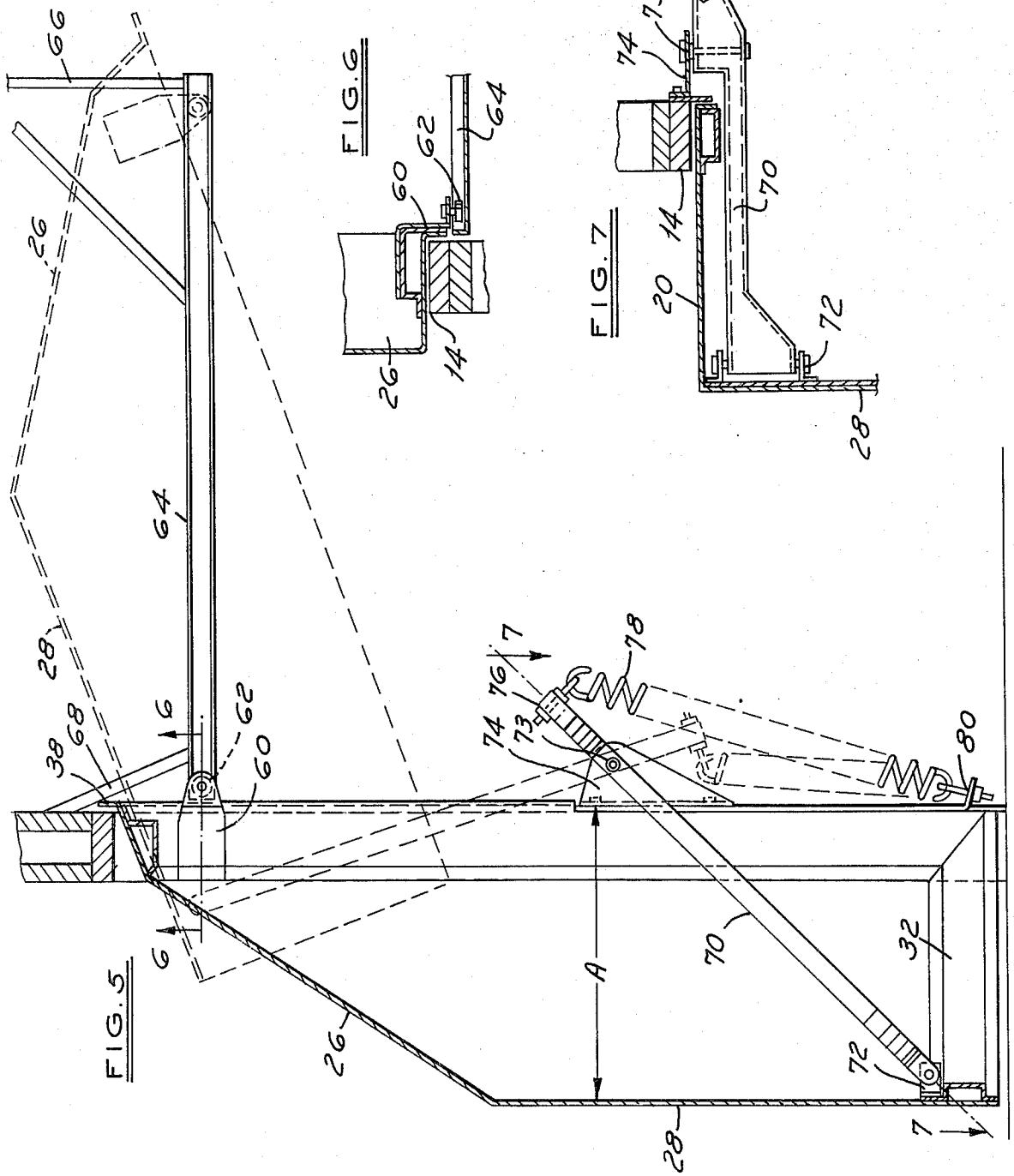


FIG. 5

FIG. 6

FIG. 7

GARAGE DOOR EXTENSION STRUCTURE

This invention relates to a Garage Door Extension Structure for a vehicle garage or other similar building structure.

Many garages in the past have been built to a length which does not accommodate modern day cars. In addition, even more recent structures may have an inadequate length because of the fact that some bumpers are being extended to provide a shock cushion and this increases the overall length of the vehicle.

It is an object of the present invention to provide a closure member for a structure which will increase the protected space without necessitating structural changes.

It is a further object to provide such a closure which can be mounted on relatively standard overhead door hardware and operated in normal fashion.

Briefly, the invention consists of providing an overhead door which has a shape such that it extends outwardly beyond the regular door opening to provide a protecting shield which closes the door opening and increases the overall length of the storage space.

Other objects and features of the invention will be found in the following description and claims in which the best mode presently contemplated is set forth in connection with the drawings.

DRAWINGS accompany the disclosure and the various views thereof may be briefly described as:

FIG. **1**, a view of a garage structure with the new door structure closed.

FIG. **2**, a view of the structure with the door opened.

FIG. **3**, a sectional view showing a mounting system for an overhead door.

FIG. **4**, a view of a modified door mount.

FIG. **5**, a sectional view of the modified door mount.

FIG. **6**, a sectional view on line **6—6** of FIG. **5**.

FIG. **7**, a sectional view on line **7—7** of FIG. **5**.

REFERRING TO THE DRAWINGS

In FIG. **1**, a garage structure **10** is shown having a conventional vehicle opening **12** with vertical edges **14** and a horizontal edge **16**. A closure member **18** is shown in FIG. **1** having vertical side portions **20** which increase in dimension from top to bottom, in this case there being an angled portion **22** which ends in a vertical portion **24**. Connecting the portions **22** is an angled panel **26** which extends across the door connected to a drop panel **28** between the edges **24** of the side **20**. This forms a complete enclosure shell open at the bottom and having a bottom edge **30**.

As shown in the sectional view in FIG. **3**, the door may have reinforcing strips **32** at the bottom edges of the side panels and extending along the bottom edge of the panel **28**. At the top of the door is a structural reinforcement **34–36** which is angled from the panel **26** back to a sealing panel **38**. A gusset **40** at each side of the door carries a roller **42** which moves in a track **44** suspended by suitable brackets **45**.

At the bottom of at least one side is a second gusset **46** pivotally connected to a link **48**, the link being pivoted at the other end **50** on a side gusset **52** mounted on the inside of the garage door. A counterbalance spring **54** anchored at **56** at one end on the garage structure and at pin **58** on link **48** at the other end serves to assist in opening the door. The operating parts are shown in full lines in FIG. **3** in the closed position and in dotted lines in the open position. The parts are arranged so that the panels **26** and **28** will clear the top of the door as the door opens. Normal door mounting hardware permits this motion. It will thus be seen that the dimension of the enclosed structure is increased by the distance A when the door is closed and still the inside of the structure is sealed from the weather. Suitable locking means and handles can be applied as desired.

In FIGS. **4** to **7**, a modified structure is shown in which the door is essentially the same as described in connection with FIGS. **1** to **3**, but the mounting system is slightly different. As shown in the sectional view of FIG. **5**, the sides of the door each have a gusset **60** carrying a roller **62** which moves in a track **64** suitably suspended on the garage structure by brackets **66** and **68**. The counterbalance mechanism in this instance consists of a relatively long link **70** pivoted at its lower end on a bracket **72** on the inside of the door extension and pivoted at another point **73** spaced from the other end on a gusset **74** mounted at the side of the garage door openings. The other end **76** of the link **70** is connected to one end of a tension spring **78** which is suitably anchored at the other end adjacent the bottom of the door opening at bracket **80**. The full line showing in FIG. **5** illustrates the door in closed position and the dotted line showing illustrates the door in the open position.

In FIG. **6**, the relationship of the side edge of the door to the track is shown. In FIG. **7**, a view of the controlling link **70** illustrates the relationship with the front door panel **28** and the side panel **20** and shows the pivot point **73** on the gusset **74**.

In each case, the tension spring not only assists as a counterbalance in the lifting of the door but also helps to hold the door in the open position. While the door shell has been shown as constructed from flat panels, it could equally well be formed as a monolithic structure in which the various panels were blended together by curved portions.

I claim:

1. An overhead door for an opening in a storage building such as a garage for enlarging the protected space within the structure when the door is closed which comprises:

a. a pair of spaced side panels having a straight inner edge, said panels increasing in dimension from top to bottom to provide an outer edge,

b. a closure panel extending between said outer edges of said side panels to provide a three-sided closure open at the bottom, and

c. means to mount said panels for pivotal movement from a closed position overlying a door opening of a structure to an open and overhead position inside and above the floor of said structure wherein said opening is unobstructed.

2. An overhead door for a storage building such as a garage for enlarging the protected space within the structure when the door is closed which comprises:

a. a panel structure having side portions extending outwardly from the plane of a door opening and diminishing in outward dimension from bottom to top,

b. portions connecting said side portions to form a closure shell open at the bottom, and

c. means to mount said panels for pivotal movement from a closed position overlying a door opening of

a structure to an overhead position inside and above the floor of said structure wherein the door opening is unobstructed.

3. In combination, a structure such as a garage, having an opening in a vertical wall, a guide rail extending inwardly from a point at the top of said opening, a door to close said opening comprising:

a. a shell having vertical sides extending outwardly from the edges of said opening when the door is in closed position and diminishing in outward dimension from bottom to top and means extending between said sides to complete a closure,

b. means at the top of said door to engage and travel on said guide rail from front to rear as said door moves toward a position in which said opening is unobstructed, and

c. combination counterbalance and restraining means associating at least one side of said door with a portion of said structure adjacent said opening.

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