June 22, 1954 R. O. LISSAMAN 2,681,699

GARAGE DOOR

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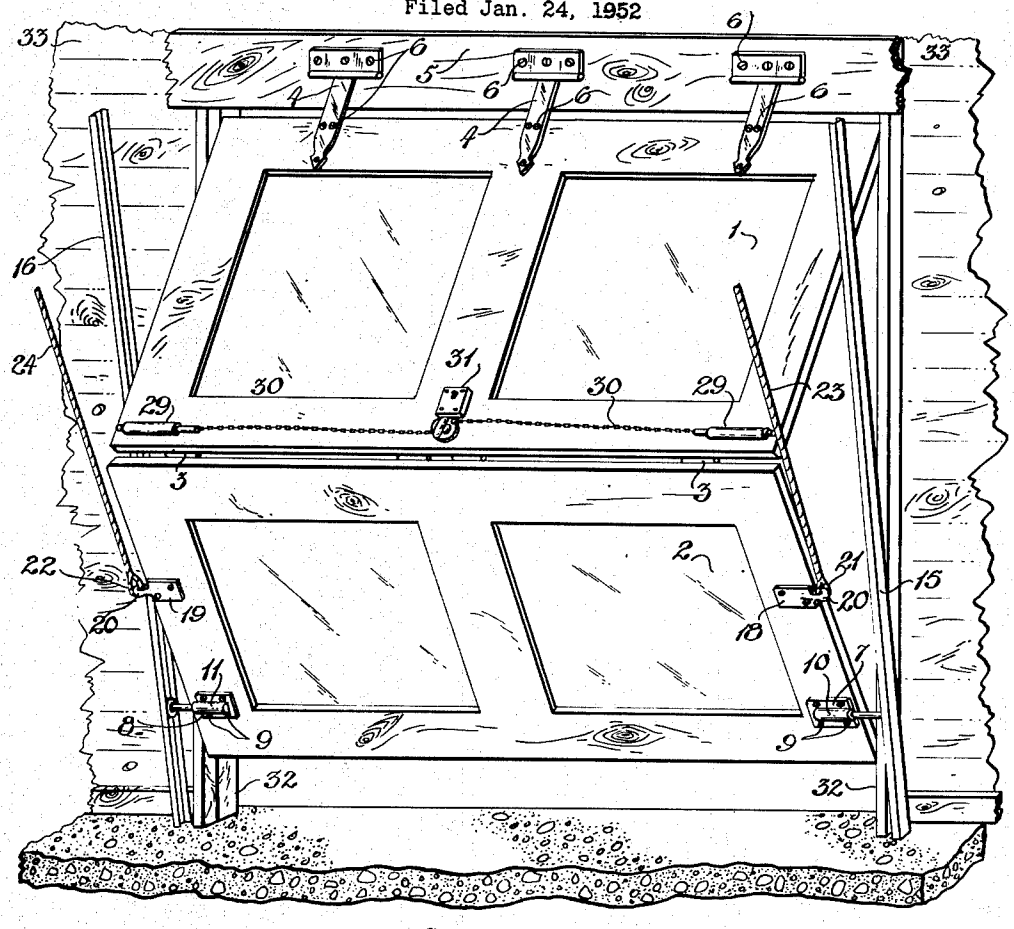


FIG. 1

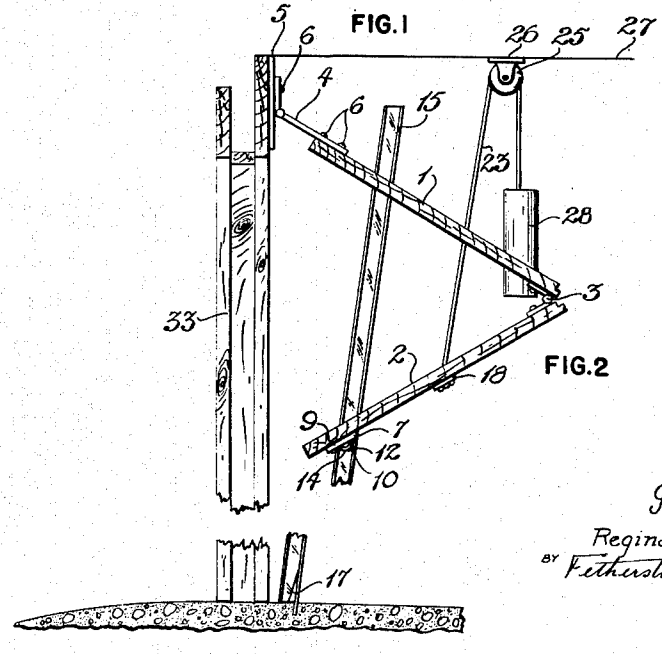


FIG. 2

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GARAGE DOOR

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1 Claim. (Cl. 160—190)

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My invention relates to garage doors, particularly to horizontally, articulated garage doors, an object of which is to provide a horizontally articulated garage door of the character herewithin described which facilitates the rapid opening and closing of said doors for ingress or egress of the motor vehicle housed within the involved garage.

Another object of my invention is to provide a garage door of the character herewithin described which opens upwardly, thus providing for the placement of the open door in a position which assures the maximum utilization of door space.

Another object of my invention is to provide a garage door of the character herewithin described, which embodies means to ensure positive closure of the door against its jamb, thus overcoming a weakness inherent in conventional overhead garage doors.

A still further object of my invention is to provide a garage door of the character herewithin described which is relatively simple and inexpensive to manufacture and operate and which is, moreover, very well suited to the purposes for which it is intended.

With the foregoing objects in view, and such other objects and advantages as will become apparent to those skilled in the art to which this invention relates as this Specification proceeds, my invention consists essentially in the arrangement and construction of parts all as hereinafter more particularly described, reference being had to the accompanying drawings in which:

Figure 1 is a perspective view of a garage wall incorporating my garage door in situ, therein, and in a partially closed position.

Figure 2 is a part vertical sectional elevation of said garage wall incorporating my garage door in situ, therein, and also in a partially closed position.

In the drawings like characters of reference indicate corresponding parts in the different figures.

Proceeding now to describe my invention in detail, reference is made to the drawings, in which the upper half or panel 1 and lower half, or panel 2 of my door are hinged at the midsection of the door by conventional hinges 3, arranged so that the articulation of the door is inward into the structure.

A second set of hinges 4 suspend the entire door assembly from the door lintel 5, secured thereto and to the said upper half of the door, by means of conventional screws, or bolts 6.

At either side, and close to the lower edge of the said lower half, are two substantially identical roller brackets 7 and 8, affixed to the inner surface of the said door section by means of conventional woodscrews 9. Said brackets incorporate cylindrical housings 10 and 11, as a protuberance on the surfaces of said bracket.

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Housed within said brackets, and free to rotate therewithin, cylindrical shafts 12 and 13 extend transversely, terminating in relatively small rollers 14 and 15. These rollers are arranged to roll freely in inclined tracks 15 and 16. These tracks are of elongated channel sections, extending from floor to ceiling in the garage interior, and angulated rearwards from the vertical so that the aforesaid lower section of door 2 recedes from the door opening as it ascends. Moreover, said angulation provides for the additional advantage in that the door, when completely open and folded, inclines upwardly from the horizontal from lintel hinges 6 to articulation hinges 3, thus reducing effort and increasing the rapidity with which door manoeuvering is accomplished.

A wedge 17 is fitted into each said track, at floor level, and against the posterior, inner surface of the channel web thereof. The base of said wedge is downwards, against the floor surface, so that an additional inclination results near the base of said track. This has the effect of drawing in the base of the aforesaid door lower section to seal the door against the jamb more effectively.

An additional pair of brackets 18 and 19 are conventionally secured to the aforesaid lower half door. Eye ends 20 on said brackets receive cable or rope loops 21 and 22, which secure counterweight support rope or cable 23 and 24 to lower door section 2, by means of aforesaid brackets. This rope passes over direction-changing pulley 25, the mounting bracket 26, which is secured to the garage ceiling 27. The other end of said rope supports the counterweight 28.

Two spring-loaded conventional bolt latches 29, with chain 30, and centrally located handle lock and lever combination 31, complete the door assembly.

The entire assembly is mounted in conventional doorway 32 in the garage wall 33.

To operate the door from closed position, the latch bolts 29 are drawn by manipulating the door lock and handle 30. Then an inward movement by said lock and handle, while assisting with an upward effort, will raise and open the garage doors. Reversing the procedure ensures that the door will roll down the inclined channels and will, at the low point of travel, encounter wedge 17, and will be "drawn in" thereby thus effectively sealing the door with the jambs.

Since various modifications can be made in my invention as hereinabove described, and many apparently widely different embodiments of same made within the spirit and scope of the claim without departing from such spirit and scope, it is intended that all matter contained in the accompanying specification shall be interpreted as illustrative only and not in a limiting sense.

What I claim as my invention is:

A horizontally articulated door for garages and the like comprising in combination with a door frame, an articulated door, said door including a lower panel and an upper panel, said upper panel of said door being hingedly supported by the lintel of said frame, said upper and lower panels of said door being also hinged horizontally for inward folding, a pair of tracks extending between the floor and ceiling of the building within which said door is situated, said tracks inclining inwardly and upwardly and consisting of inwardly facing channels, counterweight means associated with said door, means extending from the sides of said lower panel engageable with said tracks and further means adapted to force the lower portion of said door into engagement with said frame when said door is in the closed position, said last-mentioned means including a wedge inclining outwardly and downwardly and situated at the lower ends of each of said tracks adjacent the inner flanges thereof.

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