Sept. 23, 1941. H. E. BASS 2,257,032

SUPPORTING MEANS FOR OVERHEAD GARAGE DOORS

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Fig. 1.

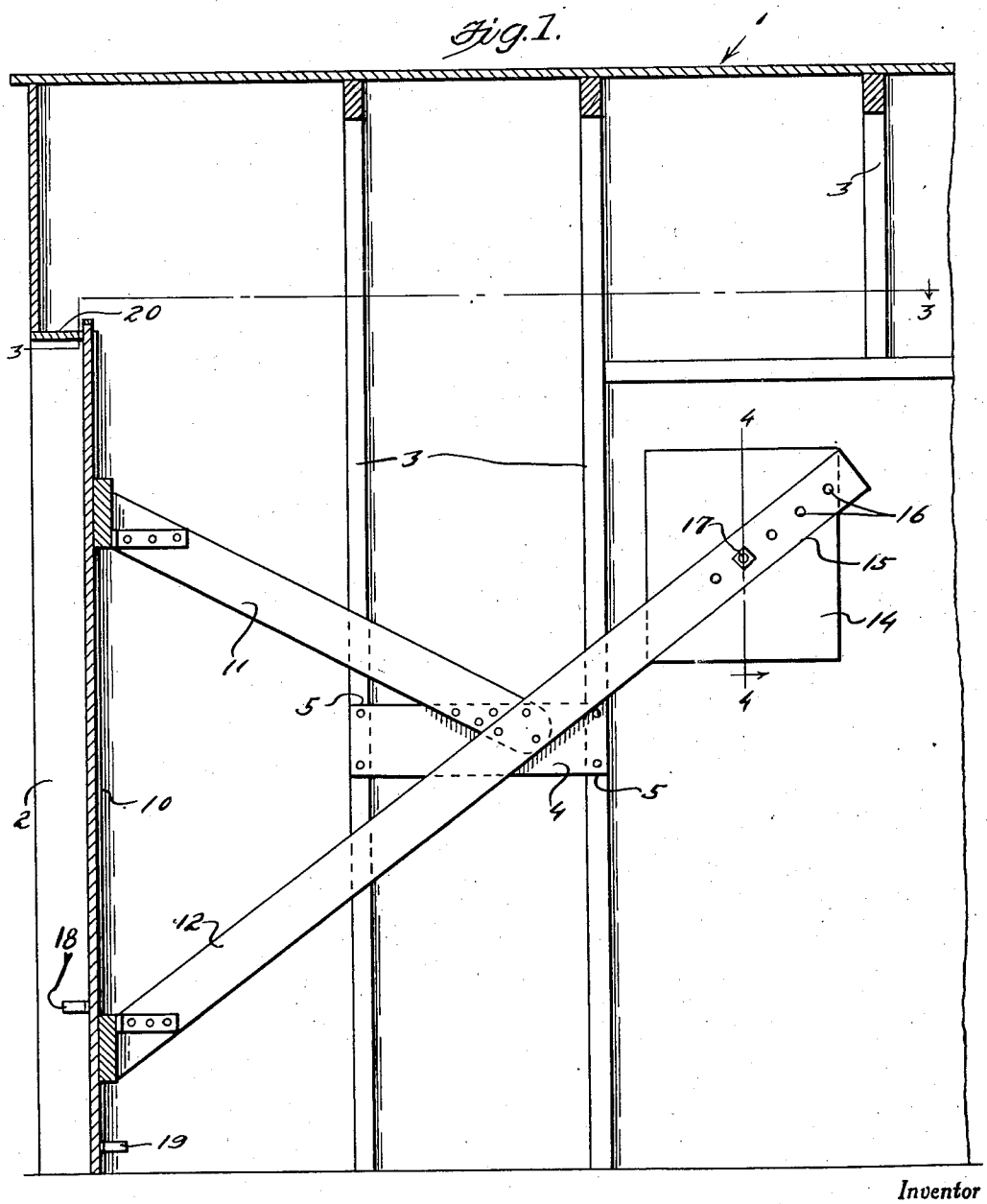
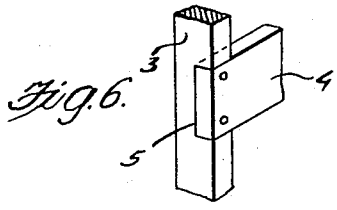


Fig. 6.



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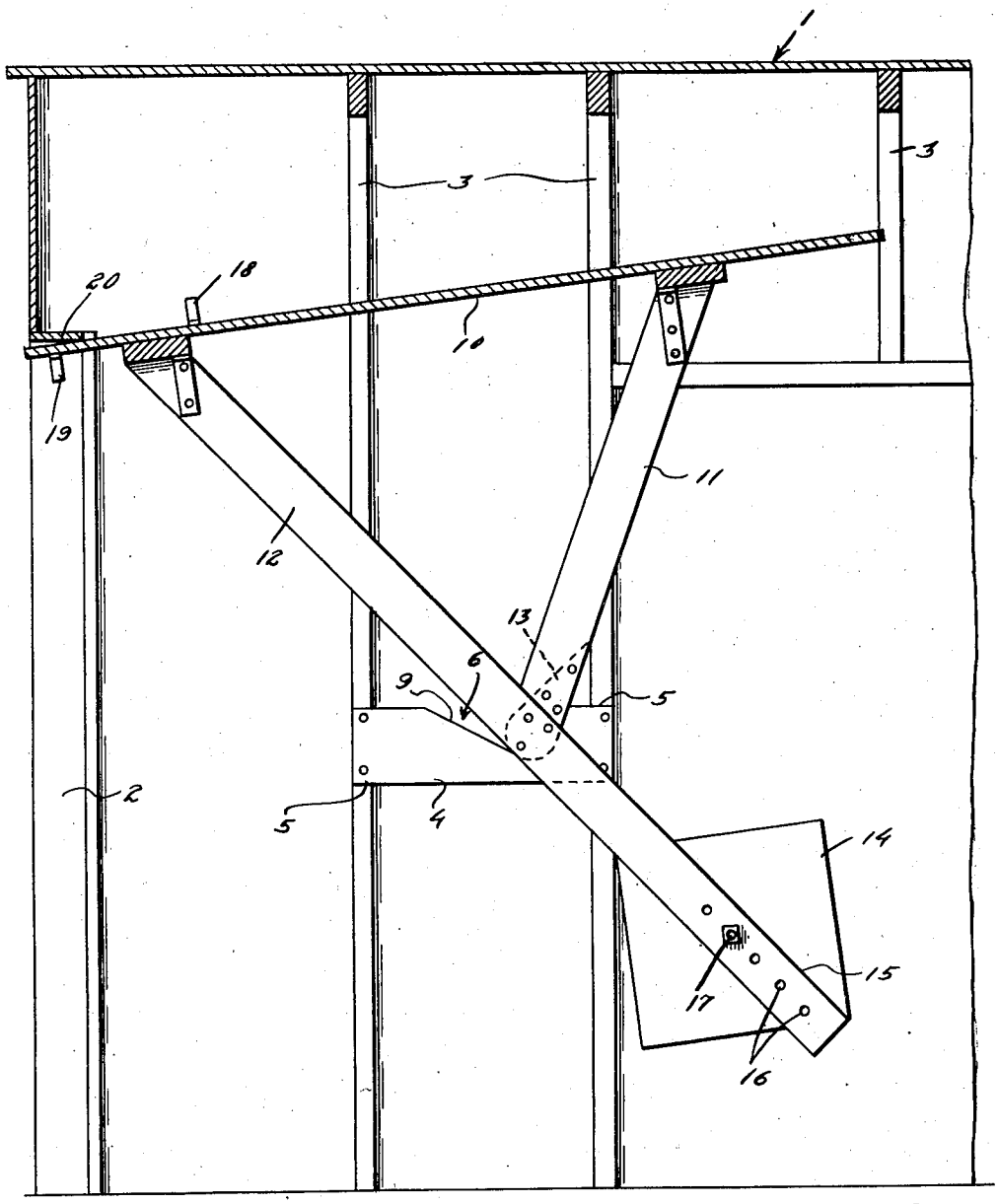


Fig. 2.

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Fig. 3.

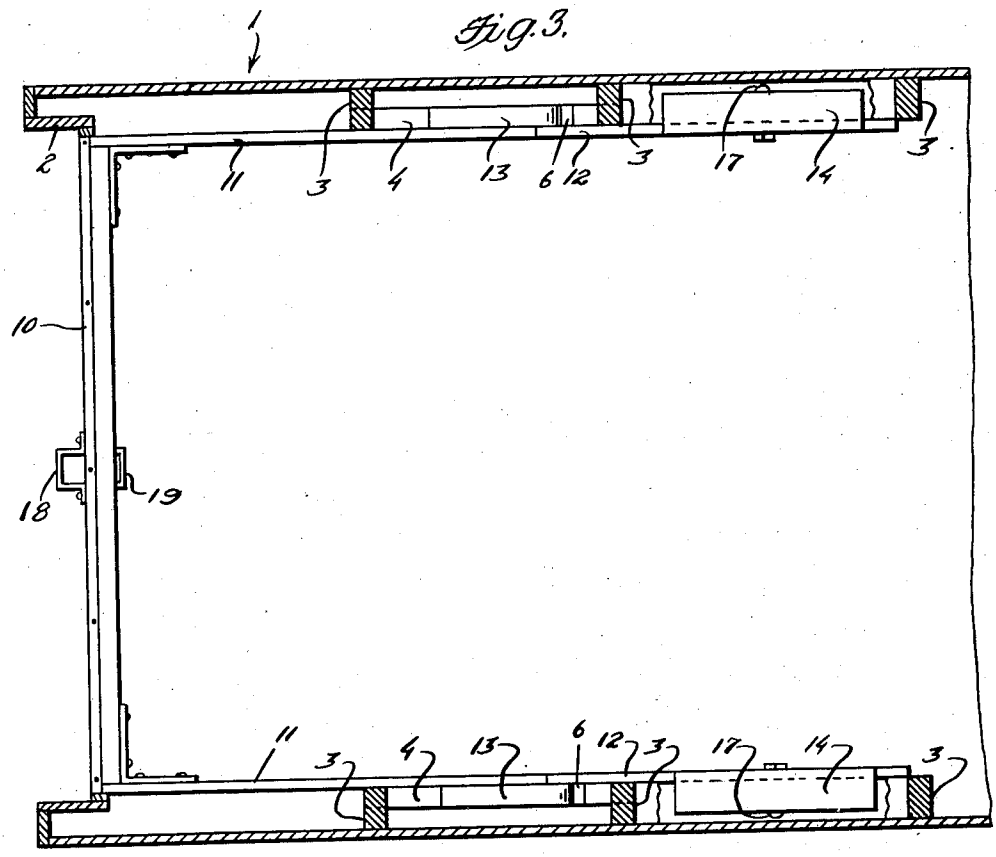


Fig. 5.

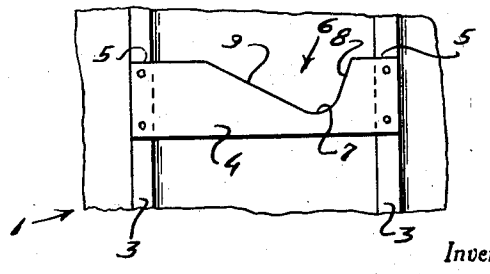


Fig. 4.

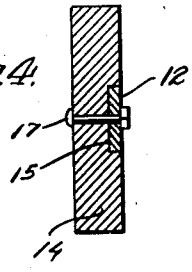
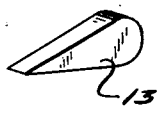


Fig. 7.



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SUPPORTING MEANS FOR OVERHEAD GARAGE DOORS

Herman E. Bass, Enid, Okla.

Application October 9, 1940, Serial No. 360,487

1 Claim. (Cl. 16—128)

The present invention relates to new and useful improvements in overhead doors particularly for garages and has for its primary object to provide, in a manner as hereinafter set forth, a device of this character embodying a construction and arrangement which is such that the door may be opened and closed with a minimum of effort.

Another very important object of the invention is to provide an overhead door of the aforementioned character comprising novel means for mounting said door on the garage or other building for swinging movement to open and closed position.

Other objects of the invention are to provide an overhead door of the character described which will be comparatively simple in construction, strong, durable, highly efficient and reliable in use, light in weight, safe, quiet and which may be manufactured and installed at low cost.

All of the foregoing and still further objects and advantages of the invention will become apparent from a study of the following specification, taken in connection with the accompanying drawings wherein like characters of reference designate corresponding parts throughout the several views, and wherein—

Figure 1 is a vertical sectional view through the front portion of a garage equipped with a door constructed in accordance with the present invention, showing said door in closed position.

Figure 2 is a view substantially similar to Figure 1 but showing the door in open position.

Figure 3 is a view in horizontal section, taken substantially on the line 3—3 of Figure 1.

Figure 4 is a detail view in vertical section through one of the counterweights, taken substantially on the line 4—4 of Figure 1.

Figure 5 is a detail view in side elevation of one of the bearings.

Figure 6 is a detail view in perspective, illustrating the method of mounting the bearings on the studs of the garage.

Figure 7 is a detail view in perspective of one of the trunnions.

Referring now to the drawings in detail, it will be seen that the reference numeral 1 designates generally the front portion of a garage which is provided with a door frame 2 in its front end. Extending between pairs of studs 3 on opposite sides of the garage 1, and adjacent the door frame 2, are horizontal bearings 4. The studs 3 which support the bearings 4 are notched or recessed at 5 to accommodate the end portions of said bearings. This is shown to advantage in Figure 6 of the drawings.

The bearings 4 are of wood or other suitable material. Formed in the upper portions of the bearings 4 are wide, substantially V-shaped recesses 6. As best seen in Figure 5 of the drawings, the recesses 6 are formed to provide curved crotch portions 7 which merge with short, acutely inclined back walls 8 and comparatively long, gradually inclined front walls 9.

The reference numeral 10 designates a door of suitable construction which is adapted to close the opening defined by the frame 2. The door 10 is rigidly secured in any suitable manner on one end of pairs of rearwardly converging arms 11 and 12. The inner or rear ends of the arms 11 are rigidly secured to intermediate portions of the comparatively long lower arms 12 through the medium of substantially ovate-lanceolate trunnions 13 which are journaled in the recesses 6 for mounting the door 10 for swinging movement on the bearings 4. The trunnions 13 are rigidly secured in any suitable manner to the outer sides of the arms 11 and 12.

Mounted for longitudinal adjustment on the rear or inner end portions of the comparatively long lower arms 12 are counterweights 14 which may be of any suitable material, preferably concrete. The counterweights 14 have formed in their inner faces diagonal channels 15 which accommodate the arms 12. The rear or inner end portions of the arms 12 are provided with spaced holes 16 in which bolts 17 are selectively insertable for adjustably securing the counterweights 14 on said arms. It will be observed that the construction of the frame work of the garage is such as not to interfere with the travel of the counterweights 14 which are mounted on the outer sides of the arms 12.

It is thought that the manner of operating the door will be readily apparent from a consideration of the foregoing. Handles 18 and 19 are provided, respectively, on the outside and the inside of the door 10 to facilitate opening and closing said door. When the door 10 is closed said door is positioned between the side members of the frame 2 with its upper portion in abutting engagement with the lintel 20. Of course, the door is opened by pulling upwardly on the handle 18, the effort necessary to accomplish this being reduced to a minimum by the counterweights 14. As seen in Figure 2 of the drawings, the door 10, when in open position, is slightly inclined with its lower portion engaged beneath the lintel 20. Suitable shock absorbers may, if desired, be provided in the garage for engagement by the door 10 when said door

reaches open position. The trunnions 13 are adapted to rest against the rearwardly inclined walls 8 of the recesses 6 for supporting the door when it swings slightly past dead center to open position and said trunnions are adapted to rest on the comparatively long, gradually inclined front walls 9 of said recesses 6 when said door is in closed position. When the bearing members 4 are of wood, the material cut therefrom in forming the recesses 6 may be used for making the trunnions 13.

It is believed that the many advantages of an overhead garage door constructed in accordance with the present invention will be readily understood and although a preferred embodiment is as illustrated and described, it is to be understood that changes in the details of construction and in the combination and arrangement of parts may be resorted to which will fall within the scope of the invention as claimed.

What is claimed is:

Supporting means for an overhead garage door comprising a bearing member mounted horizontally on one side wall of a garage in spaced relation to the door opening of said garage, said bearing member having a wide substantially V-shaped recess in its upper portion, said recess having a curved crotch portion merging with a short obliquely inclined rear wall and a comparatively long gradually inclined front wall, a pair of comparatively long and short inwardly converging arms having front ends rigidly secured to said door, means securing the rear end of the short arm to an intermediate portion of the long arm including a trunnion, said trunnion being secured to the outer sides of the arms and journaled in said recess for mounting the door for swinging movement in a vertical plane on the bearing member, said trunnion being of substantially ovate-lanceolate form, and engageable with the rear wall of the recess when the door is in open position and with the front wall of said recess when the door is in closed position to thereby establish the opened and closed positions of said door, and a counterweight mounted on the rear end of the comparatively long arm to balance said door.

HERMAN E. BASS.