March 1, 1955 J. H. McKEE 2,703,141

OVERHEAD DOOR

Filed Dec. 24, 1945 3 Sheets-Sheet 1

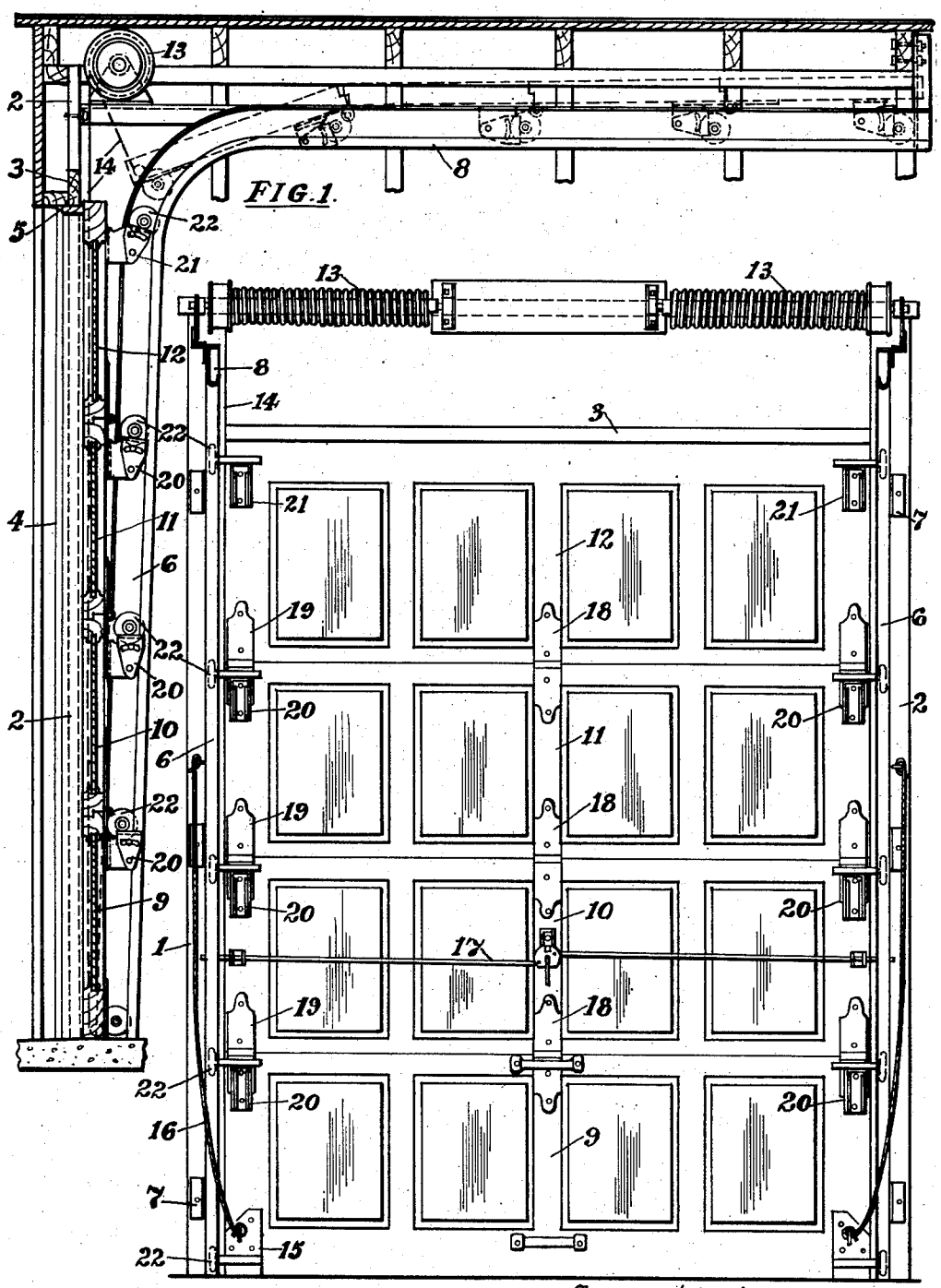


FIG. 1.

FIG. 2. James H. McKee Inventor.

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OVERHEAD DOOR

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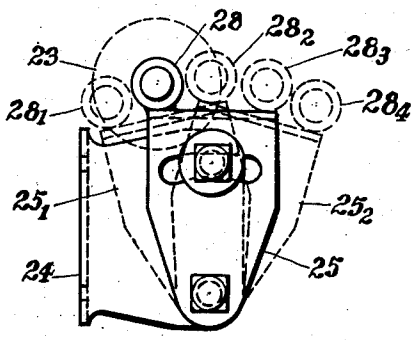


FIG. 3.

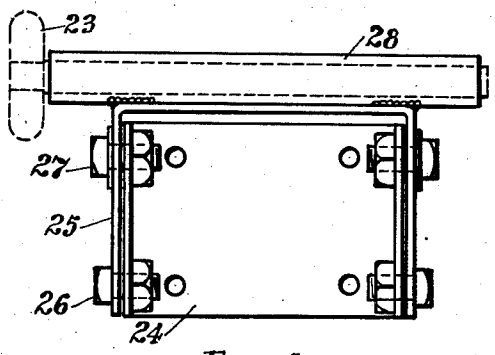


FIG. 4.

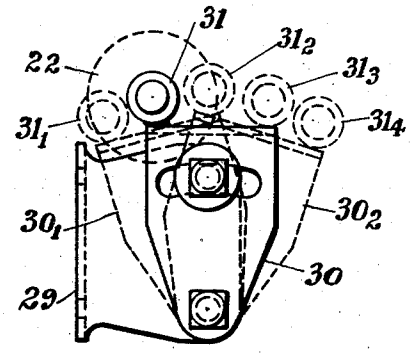


FIG. 5.

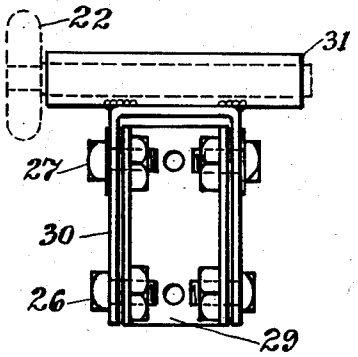


FIG. 6.

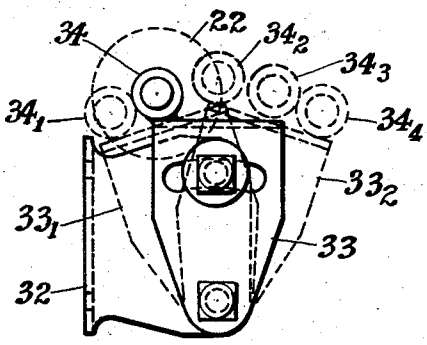


FIG. 7.

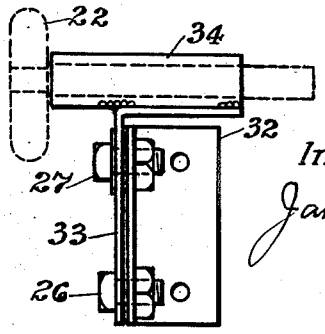


FIG. 8.

Inventor.
James H. McKee

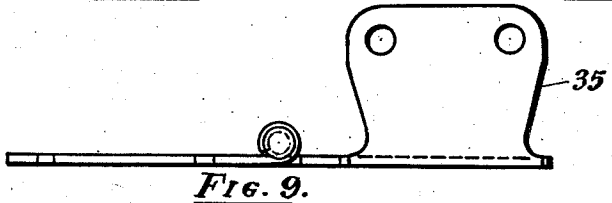


FIG. 9.

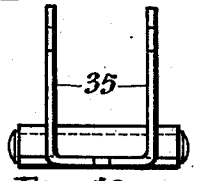


FIG. 10.

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OVERHEAD DOOR

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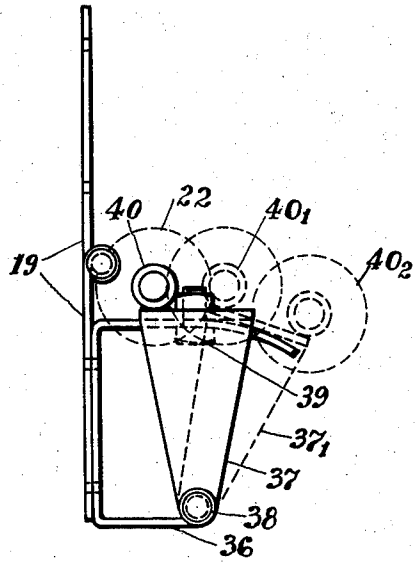


FIG. 11.

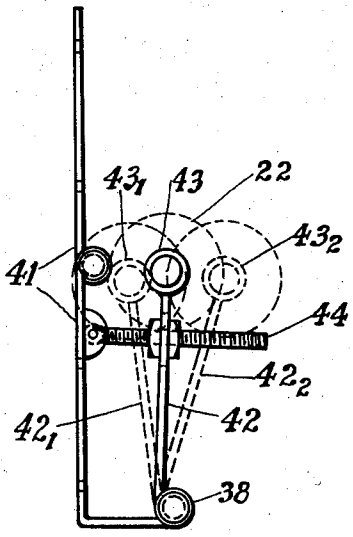


FIG. 12.

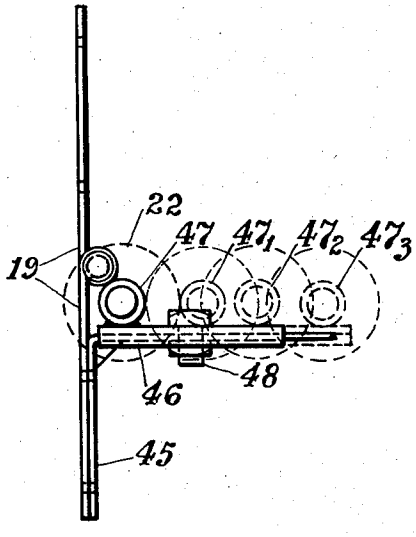


FIG. 13.

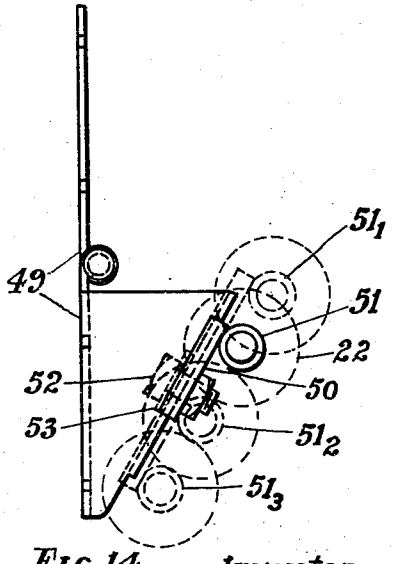


FIG. 14.

Inventor.

James H. McKee

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Patented Mar. 1, 1955

2,703,141

OVERHEAD DOOR

James H. McKee, Aurora, Ill., assignor to McKee Door Company, Aurora, Ill., a corporation of Illinois

Application December 24, 1945, Serial No. 637,131

6 Claims. (Cl. 160—209)

My invention relates to improvements in what is commonly known as overhead doors, extra clearance overhead doors and vertical lift doors, designed to close and provide openings in garages, service stations, industrial buildings, warehouses and the like, especially where a tight closure is desired.

The doors are formed of panels or other design sections, which are hinged together and provided with guide rollers and tapered guide tracks. When opened, the door moves upwardly and away from the frame of the doorway to conveniently provide the maximum opening for entrance or exit to the building.

It is the object of my invention to provide a simple and effective adjustable roller or guide bracket in combination with a taper track construction whereby the door regardless of height of sections, can be properly and accurately spaced so as to press the door firmly against the frame of the doorway at all points to give a perfectly tight fit when the door is closed and in which such contact is quickly relieved when raising the door in order to reduce frictional resistance so that the door can be opened and closed with minimum effort.

Heretofore where taper tracks have been employed in connection with the above type doors, fixed (non-adjustable) offset type roller brackets have been used with the result that no two brackets are alike as each succeeding bracket from the bottom up differs in the amount of offset.

This increases the cost of production by multiplying the number of different offset bracket parts required, whereas my invention decreases the cost of production by utilizing a single bracket part which can be adjusted to fit different conditions.

Further, these fixed different offset parts as heretofore designed, are made for certain height of door sections and if all doors of this type were made with sections of the same height, a perfect door fit could be obtained, but different door opening heights require different height door sections, and when these prior art offset brackets are used on doors having sections of a height different than that for which the bracket was made, a perfectly tight fit is not obtainable.

Therefore, in my invention of an adjustable offset bracket, the amount of offset can be easily varied to accurately accommodate the various different positions required by heights of the door sections and thus secure a perfectly tight fit of the door at all points and positions regardless of what door section heights (alike or not) are used.

While the above description of my invention outlines the use of an adjustable roller or guide bracket in combination with a door having tapered tracks, the combination of door having an adjustable roller or guide bracket can be used with vertical tracks parallel to the doorway, with the plane of the door inclined to the tracks the door being closer to the track at the bottom than at the top. With this latter combination however, the door stops or jamb construction of the inner face of the doorway must be tapered or inclined to give a tight wedging action against the door when it is brought to a closed position.

All the above and other objects in view will more readily appear as the nature of the invention is better understood from reading the following detailed description in connection with the accompanying drawings.

Referring to the drawings:

Figure 1 is a vertical sectional view through a garage doorway, having a sectional door operating or moving in tapered tracks to an overhead open position.

Figure 2 is an inside elevation of the door, showing hinges, adjustable brackets, tracks, lock rod, counterbalance mechanism and door frame.

Figures 3 and 4 show a rocking form of roller adjustment for extra wide doors.

Figures 5 and 6 show a rocking form of roller adjustment for medium width doors.

Figures 7 and 8 show a rocking form of roller adjustment for narrow and small doors.

Figures 9 and 10 show how the hinge can be designed to be made part of the rocking form of roller adjustment.

Figure 11 shows another design of a rocking form of roller adjustment.

Figure 12 shows another design of a rocking form of roller adjustment.

Figure 13 shows a design of a horizontal sliding form of roller adjustment.

Figure 14 shows a design of an angular sliding form of roller adjustment.

Referring now to the drawings which illustrate in detail preferred embodiments of my invention, like numerals have been used throughout the several figures to indicate the same parts.

In Figures 1 and 2 numerals **1**, **2**, and **3** show the jambs of the door frame. **4** the side door stops and **5** the top door stop of the door frame. **6** the tapered tracks and **7** the track brackets. **8** is the curved or horizontal tracks. **9**, **10**, **11** and **12** are the various heights door sections. **13** is the counterbalancing springs. **14** the lifting cable of the door. **15** is the lower corner bracket or what is known to the trade as bottom fixtures. **16** are pull down ropes, **17** locking device, **18** are center hinges. **19** are side hinges. **20** is the adjustable roller brackets by means of which the various height door sections are properly and accurately spaced from the tracks to give a tight fit of the door against the stops of the door frame. The adjustable guide bracket comprises a guide portion adapted to engage the track and an anchor portion by which the bracket is secured to the door. The guide portion is preferably a roller which moves vertically within the track. The anchor portion is secured to the door either by being attached to the door itself or to a fixture which in turn is attached to the door. **21** is an adjustable top roller bracket as also here too, proper and accurate adjustment is required to insure a perfectly tight fit for the top of the door. **22** is a short shaft ball bearing roller, the shaft of which is slideable in the sleeve of the adjustable roller brackets. **23** is a long shaft ball bearing roller commonly used for the wider, heavier type doors, the shaft of which is slideable in the sleeve of the adjustable bracket. **24** is the inner or fixed part of a rocking type adjustable roller bracket. **25** is the outer or rocking part of the adjustable roller bracket. 25_1 indicates the forward movement of **25** and 25_2 shows the backward and reversible position of **25**. **26** is the pivotal bolt and **27** is the clamping bolt of the adjustable bracket. (It is obvious that these bolts must be loosened in order to make an adjustment and the bolts tightened to securely hold after the proper adjustment has been made.) **28** is the roller shaft sleeve and is attached to or made part of **25**. 28_1, 28_2, 28_3, 28_4 show various positions of adjustment that can be made however, in between minute adjustments can also be made.

29 is an inner or fixed bracket. **30** is an outer or rocking part and **31** is the roller shaft sleeve attached to or part of **30**. These are parts for medium sized doors, workings of which are similar to Figures 3 and 4.

32, **33** and **34** are other similar working parts for smaller sized doors. **35** of Figures 9 and 10 show how the inner or fixed bracket can be made as part of the hinge itself.

36, **37**, **38**, **39** and **40** show another type of rocking adjustable bracket. **41**, **42**, **43**, **44** show another type of rocking adjustable bracket of which the hinge is made a part.

45 is a fixed bracket for horizontal sliding form of adjustable roller brackets. **46** is the sliding part. **47** is the roller sleeve attached to or made part of the sliding part **46**. 47_1, **47**, 47_2, 47_3 show various ad-

justments that can be made including minute in between adjustments. **48** is the adjustment clamping bolt or bolts. **49** shows a hinge made into a fixed diagonal angular part for a diagonal sliding form of roller adjustment **50** is the sliding part. **51** is the roller sleeve attached to or made part of the sliding part **50**.

51, **51**$_1$, **51**$_2$, **51**$_3$ show various adjustments that can be made including minute in between adjustments if required. **52** is the adjusting clamp bolt or bolts. **53** is a clamp plate.

As indicated any or all of these various designs of adjustments can be made independent of the hinge part or any or all of these various designs can be made with the hinge as part of the adjustment mechanism.

While I have shown various forms or types of adjustable roller brackets, it is not the intention to limit this invention to these designs only.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a sectional overhead door structure having a doorjamb, substantially vertically disposed tracks inclined relative to the doorjamb, said tracks being closer to the plane of the doorjamb at the bottom than at the top, and a sectional door movable along and guided by said tracks and adapted to engage said jamb; a plurality of spaced brackets each comprising an anchor portion secured to the door, a guide portion having laterally offset means movably to engage a track, said guide portion being adjustably mounted on said anchor portion for movement to different fixed positions whereby the distance between said door and said offset means may be varied, and means for holding said guide portion in adjusted position on said anchor portion.

2. In a sectional overhead door structure having a doorjamb, substantially vertically disposed tracks inclined relative to the doorjamb, said tracks being closer to the plane of the doorjamb at the bottom than at the top, and a sectional door movable along and guided by said tracks and adapted to engage said jamb, said door including hinges connecting said sections; a plurality of spaced brackets separate from and independent of said hinges, a pair of said brackets being located adjacent the top of the door, each bracket comprising an anchor portion secured to the door, a guide portion having roller means movably to engage a track, each guide portion being adjustably mounted on its anchor portion for movement to different fixed positions whereby the distance between the door and roller means may be varied by the use of a single size of bracket to meet all conditions, and means for holding each guide portion in adjusted position on its anchor portion.

3. In an overhead door structure having a doorjamb, substantially vertically disposed tracks inclined relative to the doorjamb, said tracks being closer to the plane of the doorjamb at the bottom than at the top, and a sectional door movable along and guided by said tracks and adapted to engage said jamb; a plurality of spaced brackets, each bracket comprising an anchor portion secured to the door, a reversible guide portion adjustably mounted on its anchor portion, and a laterally offset guide element carried by each guide portion and movably engaging a track, said reversible guide portion being movable to different fixed positions for varying the distance between its guide element and said door.

4. In an overhead door structure having a doorjamb, substantially vertically disposed tracks inclined relative to the doorjamb, and a sectional door movable along and guided by said tracks and adapted to engage said jamb; a plurality of spaced brackets secured to the door and having guide rollers engaging said tracks, said brackets comprising an anchor portion secured to the door and a guide portion pivotally mounted on said anchor portion and adjustable relative thereto, said guide portion carrying said roller means and being shiftable between different fixed positions to vary the distance between its roller means and said door, and threaded means for securing said guide portion and roller in set positions.

5. In an overhead door structure having a doorjamb, substantially vertically disposed tracks inclined relative to the doorjamb, and a sectional door movable along and guided by said tracks and adapted to engage said jamb; a plurality of spaced brackets secured to the door and having guide rollers engaging said tracks, said brackets comprising an anchor portion secured to the door, a guide portion pivotally mounted on said anchor portion and carrying a laterally offset guide roller, and an adjusting screw for varying the relationship between said guide portion and anchor portion whereby the guide roller is located at different fixed distances from said door.

6. In an overhead door structure having a doorjamb, substantially vertically disposed tracks inclined relative to the doorjamb, and a sectional door movable along and guided by said tracks and adapted to engage said jamb; a plurality of spaced brackets secured to the door and having guide rollers engaging said tracks, said brackets comprising an anchor portion secured to the door, a guide portion slidably mounted on said anchor portion and carrying a laterally offset guide roller, sliding movement of said guide portion relative to said anchor portion constituting a means for varying the distance between said guide roller and said door, and means for securing said guide portion in fixed adjusted position on said anchor portion.

References Cited in the file of this patent

UNITED STATES PATENTS

313,085	Lawrence	Mar. 3, 1885
1,724,995	Dautrick	Aug. 20, 1929
1,857,756	Headley	May 10, 1932
1,974,147	Bittorf	Sept. 18, 1934
1,983,856	Johnson	Dec. 11, 1934
2,171,194	Smith	Aug. 29, 1939