DEVICE FOR HOLDING AND LOCKING HINGED GARAGE DOORS IN THEIR OPEN POSITION

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DEVELOPMENT AND LOCKING HINGED GARAGE DOORS IN THEIR OPEN POSITION

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Fig. 3.

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To all whom it may concern:

Be it known that I, August Ernst, a citizen of the United States, residing in the city of St. Louis and State of Missouri, have invented a certain new and useful Device for Holding and Locking Hinged Garage Doors in Their Open Position, of which the following is a specification.

My invention relates to a device for holding and locking a hinged garage door in its open position, and, has for its object to provide simple means which will hold and lock a hinged garage door in its open position to prevent any possible chance of the door being closed by a gust of wind, or on its own accord.

A further object of the invention is to provide a device which will be simple and inexpensive in construction owing to the fact that it can be made from pipe and pipe couplings, if desired, and which will be strong, durable, out of the way and in every way prove highly efficient for the purpose intended.

With the above and other objects in view, the invention consists in the novel features of construction, arrangement and combination of parts, hereinafter more fully described and finally pointed out in the claims hereto appended.

Referring to the accompanying drawings forming a part of this specification wherein like characters of reference denote similar parts throughout the several views:

Fig. 1, is a top plan view of a pair of hinged garage doors having my invention applied thereto.

Fig. 2, is a side elevation of the device, taken on line 2--2 of Fig. 1.

Fig. 3, is a plan view of the device, with portions thereof removed.

Fig. 4, is a detail of a swivel joint between the door and the door brace-rod.

Referring to the drawings, 1 indicates the side walls of a garage made from sheet metal, or any other suitable material, and, 2 represents a pair of doors hinged, as at 3.

4 represents the front wall of the garage above the doors 2, while 5 indicates a suitable cross piece, or support connected at opposite ends to the side walls 1 of the garage.

In carrying out the aim of my present invention, I employ a T-coupling 6 which is suspended from the cross-piece 5 by means of the pipe connection 7 which is provided at its upper end with a nut 8. The coupling 6 is braced from the front wall 4 by means of a pipe connection 9 having a suitable foot 10 which is fixed to the wall 4, as clearly shown in Fig. 2. 11 indicates a pipe connection depending from the coupling 6. 12 indicates a sleeve coupling which has screw threaded connection, as at 13, with the arm 14 of the sleeve 12 so that it may turn with relation to the pipe connection 11. In other words, the sleeve 12 is rotatably suspended from the pipe connection 11, thus forming a swing-joint, as is manifest.

The sleeve 12 is horizontally disposed and slidably mounted within the sleeve 12 is a suitable brace-rod 15, preferably made from pipe. The forward end of the brace-rod 15 has screw threaded connection with one arm 16 of an L-pipe coupling 17. The other arm 18 of the coupling 17 is directed downwardly and has screw-threaded connection, as at 19, with the upwardly directed arm 20 of the bolt 21, which bolt is fixed to the door 2 by means of the nut 22. The screw-threaded connection 19 acts as a swing-joint which permits the coupling 17 to turn or rotate upon the arm 20 when turned in either direction, as is manifest.

The rear free end of the brace-rod 15 is provided with a cap 23 which acts as a stop when it engages the rear face 24 of the sleeve 12.

In order to lock the door 2 in its open position, as shown in dotted lines in Fig. 1, I employ a locking device consisting of a tube 25 having screw-threaded connection at one end with the horizontally disposed arm 26 of the sleeve 12 and provided at its opposite end with a cap 27 having an opening 28 for the passage of the locking pin 29 which is provided at its outer end with an eye-head 30. The inner end of the locking pin 29 is guided by means of the perforated plug 31, as shown in Fig. 3. Encircling the pin 29 within the tube 25, is a coiled expansion spring 32 for automatically forcing the inner end of the locking pin 29 into the opening or passage 33 of the brace-rod 15 of which there may be one or more whenever the door 2 has been opened to a point to cause the opening or passage 33 to register with the locking pin 29. The pin 29 prevents the door 2 from being closed until it is extracted from the opening or passage 33 of the brace-rod 15.
The means I employ for extracting the pin 29 from the opening or passage 33 of the brace-rod 15, consists of a suitable chain, or cord 34 which passes over a suitable pulley 35. One end of the chain or cord is connected to the eye-head 30 of the locking pin 29, while the opposite end of the chain, or cord 34 is provided with a suitable weight 36 for keeping the slack out of the chain, or cord. The pulley 35 is swivelly supported from a suitable bracket 37 which is suitably fixed to the side wall 1 of the garage.

When the garage doors are closed, as shown in full lines in Fig. 1, and it is desired to open them to their open position, as shown in dotted lines in Fig. 1, the operator merely pushes, or pulls the doors 2 open in the usual manner until they assume the position shown in dotted lines in Fig. 1. When the doors 2 have reached their open position, the opening or passage 33 of the brace-rod 15 have registered with the locking pins 29 and the springs 32 will force the inner ends of the pins 29 into the openings or passages 33, thereby locking the brace-rod from movement in either direction, hence holding the doors from being closed by a gust of wind, as is manifest.

When it is desired to close the doors, the operator merely pulls down on chain 34 thereby withdrawing the locking pin from the opening or passage 33 of the brace-rod 15 which permits the doors to be readily closed, as is manifest.

It is evident from the foregoing description that I provide a device for holding hinged garage doors open, that is simple in construction, easily installed, durable and highly efficient as it is certain in its operation under any and all conditions.

The many advantages of the herein described invention will readily suggest themselves to those skilled in the art to which it appertains.

I do not desire to be understood as limiting myself to the exact details of construction and arrangement of parts as herein described and illustrated, as it is manifest that variations and modifications may be made without departing from the spirit and scope of my invention and the terms of the following claims, hence I wish it to be understood that I reserve the right to make any such changes, or modifications as may fairly fall within the scope of the appended claims when fairly construed.

What I claim is:
1. In combination with a garage door hinged at one of its side edges, of an L-shaped bracket screw threaded at opposite ends and provided with a nut at its lower end for securely connecting said bracket to the door, a horizontally disposed brace rod having its outer end screw threaded and its inner end provided with lock pin openings, a right angular coupling having screw threaded engagement with the upper end of the door bracket and with the forward end of the brace rod to permit swinging movement of the coupling and brace rod with relation to the bracket, a sleeve for slidably supporting said brace rod, a sleeve supporting member arranged above the brace rod, a screw threaded connection between said sleeve and said sleeve supporting member to permit the sleeve to turn with relation to its supporting member when the door is being opened and closed, a cap carried at the inner end of said brace rod adapted to engage the sleeve when the door is fully open and to act as a stop for limiting the opening movement of the door, a laterally directed housing carried by the sleeve, a locking pin passing through said housing, a coiled spring for controlling the locking movement of said pin, a chain connected to the outer end of said pin, a pulley over which said chain can ride and a weight fixed to the lower end of said chain.

2. The combination with hinged garage doors, of a brace rod for each door having a latch opening, an angular swing joint connection between each door and its respective brace rod, a horizontally disposed sleeve for slidably supporting each brace rod, supporting means arranged above each brace rod, a swing joint connection between said supporting means and the sleeve for slidably supporting the brace rods, a stop cap fixed to the inner end of each brace rod to limit the outward sliding movement of the brace rods, a spring controlled latch pin carried by each sleeve automatically receivable in the latch opening of each brace rod when they register for locking the brace rods against displacement in either direction thereby holding the doors in a locked open position and means comprising a chain, a pulley and a weight for withdrawing the latch pins from the latch openings of their respective brace rods when it is desired to close the doors.

In testimony whereof, I have hereunto signed my name to the specification.

AUGUST ERNST.