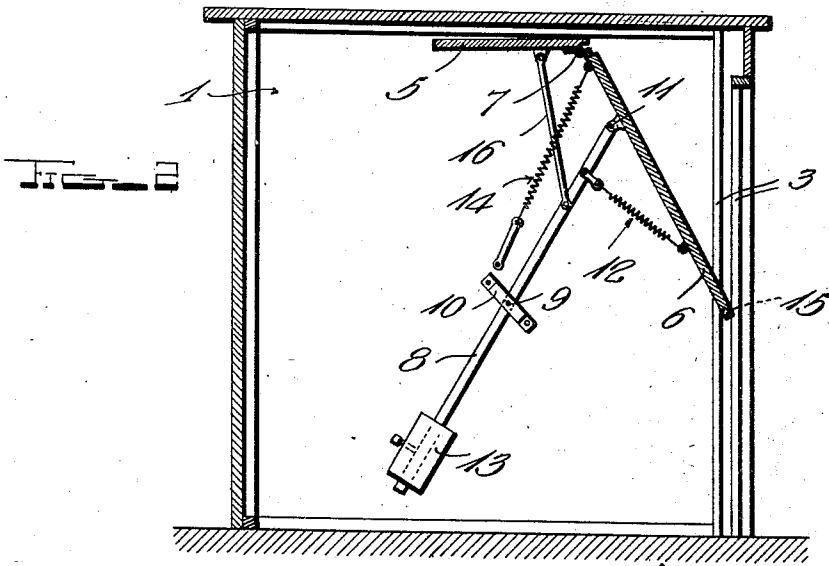
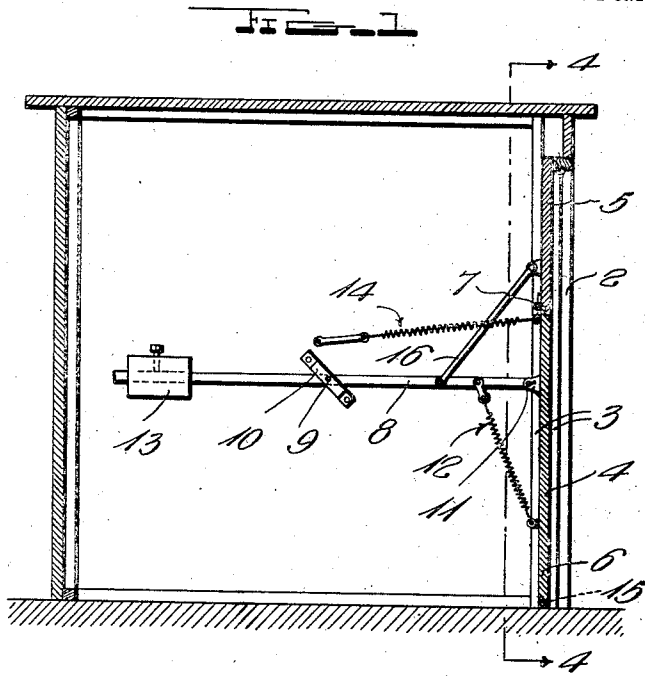


G. B. BOUGHTON.
DISAPPEARING GARAGE DOOR.
APPLICATION FILED APR. 1, 1919.

1,341,041.

Patented May 25, 1920.
2 SHEETS—SHEET 1.



Inventor

George B. Boughton

Witness

E. E. Brown

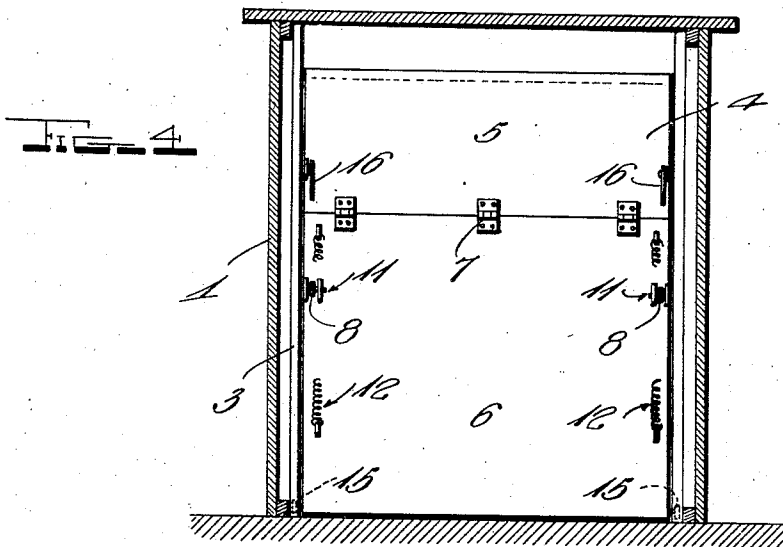
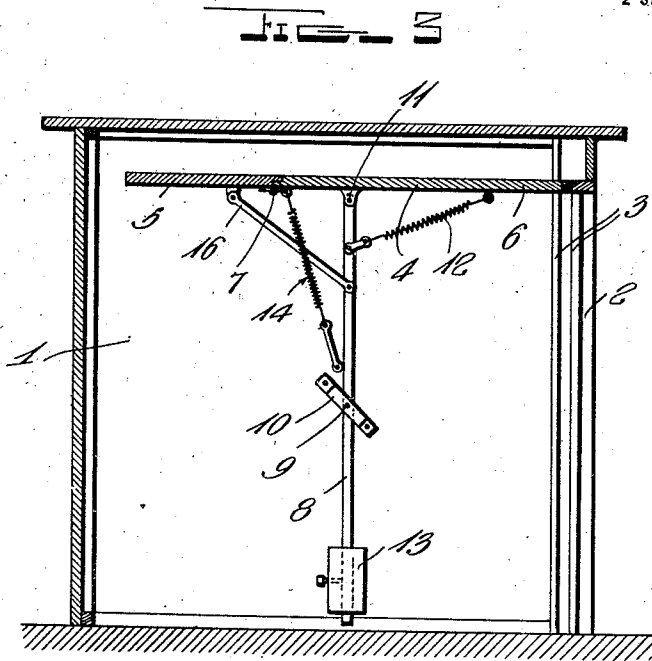
By *A. B. Wilson & Co*

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UNITED STATES PATENT OFFICE.

GEORGE B. BOUGHTON, OF ST. LOUIS, MISSOURI.

DISAPPEARING GARAGE-DOOR.

1,341,041.

Specification of Letters Patent.

Patented May 25, 1920.

Application filed April 1, 1919. Serial No. 286,674.

To all whom it may concern:

Be it known that I, GEORGE B. BOUGHTON, a citizen of the United States, residing at St. Louis, in the county of St. Louis City and State of Missouri, have invented certain new and useful Improvements in Disappearing Garage-Doors; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to improve upon the garage door disclosed in my United States Patent, No. 1,261,686 of April 2, 1918, to such an extent as to require less space in the top of the building for allowing the door to open; to provide for opening and closing of the door without the necessity of moving it through so great a portion of the building's interior; and to provide for balancing the door without the use of cables and weights attached thereto.

With the foregoing in view, the invention resides in the novel features of construction and the unique association of parts to be hereinafter fully described and claimed, the descriptive matter being supplemented by the accompanying drawings.

Figure 1 is a vertical section of a garage equipped with a door constructed in accordance with my invention, the door being closed.

Fig. 2 is a sectional view showing the door partly opened.

Fig. 3 is a vertical section illustrating the door completely open and located in the top of the building.

Fig. 4 is a transverse section on the plane indicated by the line 4—4 of Fig. 1.

In the drawings above briefly described, the numeral 1 designates a garage or other building having a door frame 2 provided with vertical tracks 3 at its sides. The door 4 is formed of upper and lower sections 5 and 6, respectively, hinged at 7, the upper section being by preference half the width of the lower section.

Normally horizontal levers 8 are fulcrumed between their ends at 9 to brackets or the like 10 at the sides of the building 1, and the front ends of these levers are pivoted at 11 to the lower door section 6, near the upper edge of the latter. Coiled springs or other elastic members 12 extend across the angles between the front ends of the levers 8 and

the door section 6 and exert their tension to relatively rock said door section and the levers, so that they have a tendency to balance the weight of the door, and in addition to the action of these springs, weights 13 may be mounted on the levers 8 in the rear of their fulcrums; and in most instances I will employ additional springs 14 extending from the hinge line of the door to the sides of the building. By providing the parts 12, 13 and 14, the weight of the door is balanced approximately, without the use of cables having weights, as disclosed in my prior patent referred to above; and its has been found that the door operates much more easily when the cables and weights are eliminated.

The lower end of the lower door section 6 is provided with shoes 15 engaging the tracks 3 to allow said end to move only in a vertical direction, and a link 16 extends diagonally from the front-end portion of the lever 8 to the upper door section 5 and is pivoted to both, to angle the two door sections with respect to each other when the door is being opened or closed, as will be clear from Fig. 2. When the door is completely opened, it is disposed in a truly horizontal position, as shown in Fig. 3, with the levers 8 standing vertically, and it will be seen that said door is disposed in close relation with the roof of the building, this being allowed by the features above described for angling the two door sections when opening or closing the door, since by such features, only little space is required above the door frame to permit the door to operate freely without striking the roof; and due to the arrangement of parts shown, the door moves across only a restricted portion of the interior of the garage, so that more space within the latter may be utilized for the machine.

The device is of simple and inexpensive nature, yet it marks important advances over my previous patent, in that it requires less ceiling space and less front space to allow opening and closing; it dispenses with the pulleys, cables and weights for raising the lower end of the door section 6; and operates much more easily when using coil springs than when employing cables and weights.

Since probably the best results are obtained from the details shown and described, they may well be followed, but within the

scope of the invention as claimed, numerous minor changes may well be made. For instance, the weights 13 if found undesirable should be eliminated and other suitable counter-balancing means for the door used in lieu thereof.

I claim:

1. The combination with a building and a door frame thereof, of vertical tracks along the sides of said frame, a door in said frame consisting of an upper and a lower section hinged together, shoes on the lower door section remote from the hinge line and engaging said tracks, levers fulcrumed in the building and pivoted at one end to said lower door section to cause the door to move upwardly and inwardly to a horizontal position when opening, and links extending from said levers to the upper door section to support the same and pivoted to both for angling the two sections with respect to each other while

the door is moving from closed to open or from open to closed position.

2. A structure as specified in claim 1; together with yielding members connected to the door adjacent the hinge line and exerting an inward pull thereon.

3. A structure as specified in claim 1; together with elastic members extending across the angle between said levers and the lower door section and connected to both.

4. A structure as specified in claim 1; together with yielding members connected to the door adjacent the hinge line and exerting an inward pull thereon, and elastic members extending across the angle between said levers and the lower door section and connected to both.

In testimony whereof I have hereunto set my hand.

GEORGE B. BOUGHTON.