

April 5 1932.

F. F. WANDTKE

1,852,990

SAFETY DOOR HOLDER

Filed June 24, 1931

3 Sheets-Sheet 1

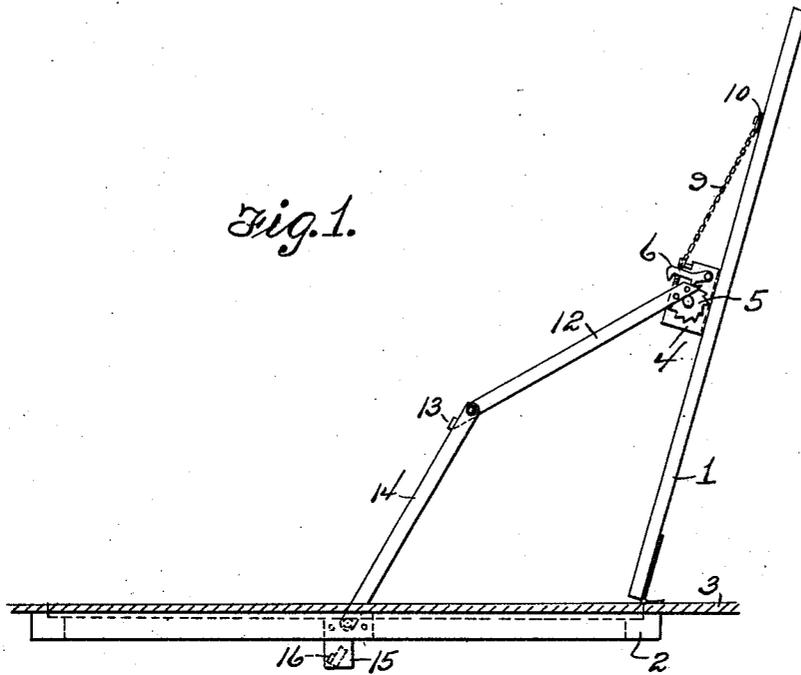


Fig. 1.

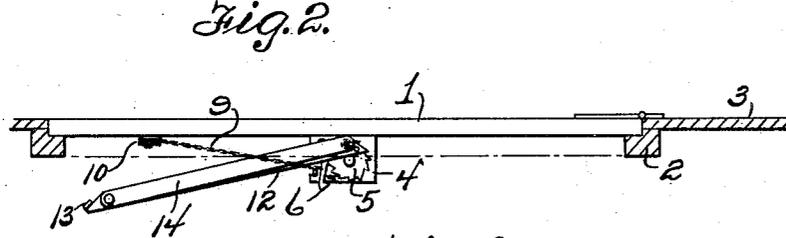


Fig. 2.

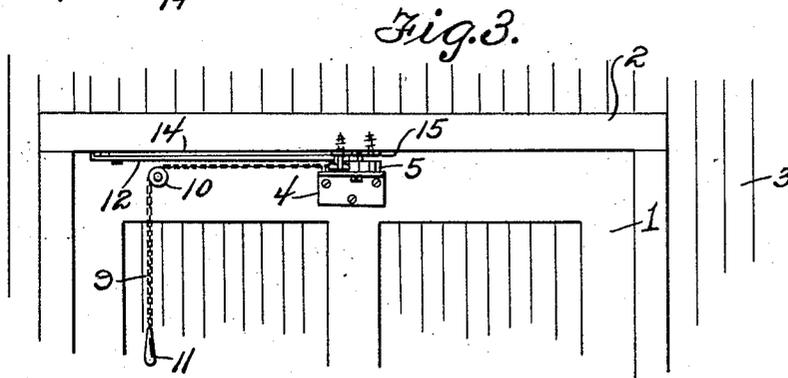


Fig. 3.

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Fig. 4.

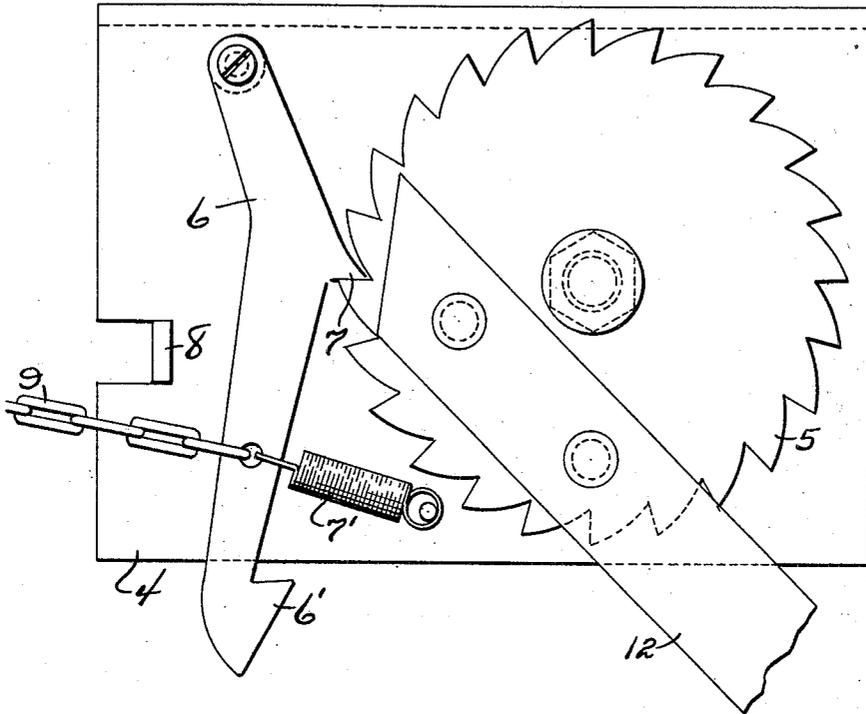


Fig. 5.

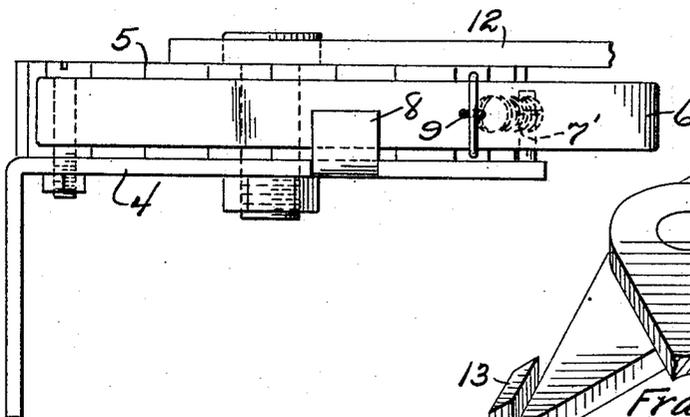
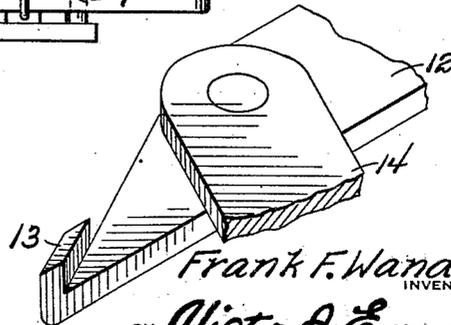


Fig. 6.



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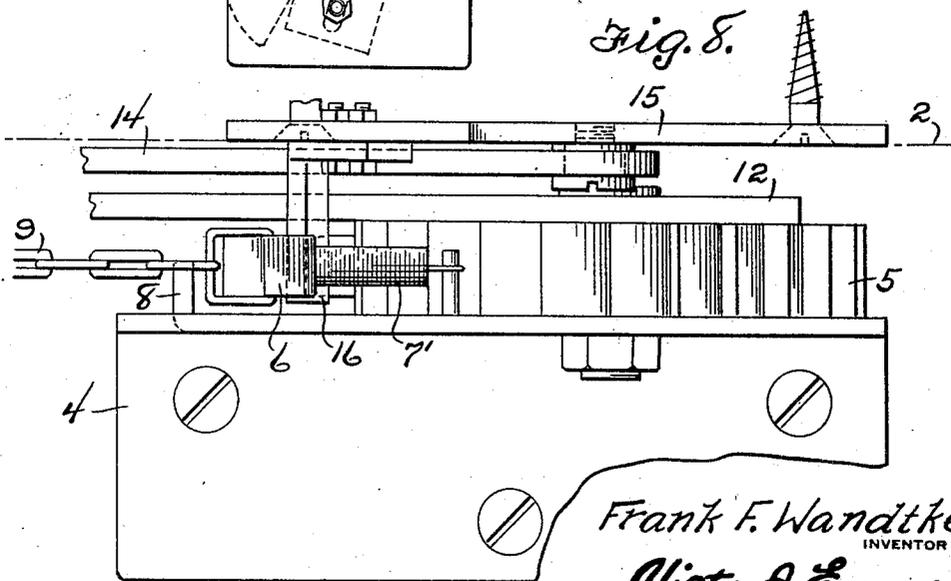
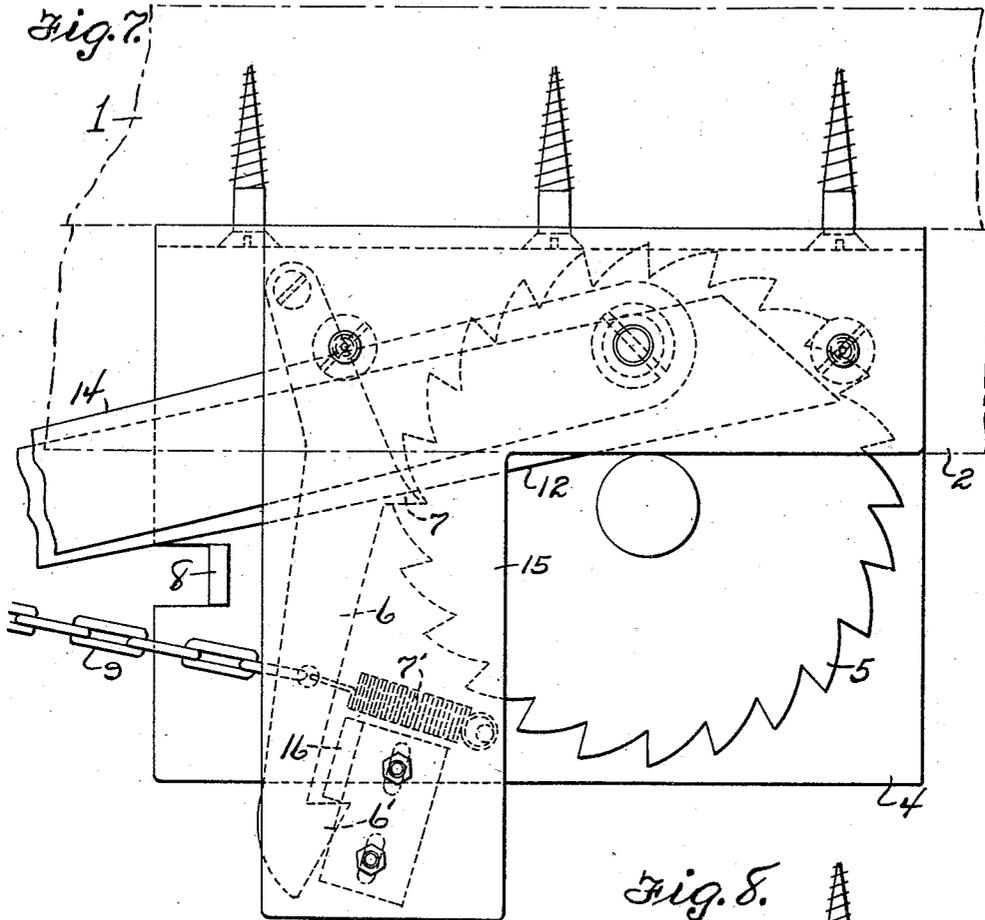
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# UNITED STATES PATENT OFFICE

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## SAFETY DOOR HOLDER.

Application filed June 24, 1931. Serial No. 546,553.

This invention relates to door holders especially adapted to be used upon garages and it consists in the novel features hereinafter described and claimed.

An object of the invention is to provide a device of the character stated which is of simple and durable structure and which when applied to the door will hold the same securely at an opened or closed position and prevent the door from accidentally closing and also prevent the same from being opened except by one who is at the inside of the garage building.

The door holder consists of a plate adapted to be applied to the inner surface of the door and having a ratchet wheel journaled thereon. A pawl is pivotally mounted upon the plate and is provided with a spur adapted to engage between the teeth of the ratchet wheel. A spring is connected at one end with the free end of the pawl and at its other end with the plate and a pull member is connected with the free end of the pawl and trained around a pulley journaled at the inner side of the door. The pawl is provided at its free end with a hook and a plate having a lug adapted to be applied to the frame of the door so that the lug will project into the path of movement of the hooked end of the pawl and consequently when the door is closed the hooked end will engage the said lug and hold the door in a closed position. The first mentioned plate is provided with a stop lug located in the path of movement of the pawl and adapted to limit the swinging movement thereof in a direction away from the center of the ratchet wheel. An arm is fixed to the ratchet wheel and is pivotally connected at its inner end with the end of a link which in turn is pivotally connected at one end with the frame of the door preferably at a point approximately midway between the sides of a door opening in the wall of the building. The arm is provided with a lug adapted to limit the swinging movement of the link.

In the accompanying drawings:—

Figure 1 is a top plan view of a door showing the same at opened position and with the safety holder applied.

Figure 2 is a similar view showing the door at closed position.

Figure 3 is a side elevational view of the upper portion of the door with the holder applied.

Figure 4 is an enlarged plan view of the plate which is applied to the door and the parts mounted thereon.

Figure 5 is an edge elevational view of the said plate.

Figure 6 is a detailed perspective view of the adjacent ends of the arm and link.

Figure 7 is an enlarged plan view of both plates used in the device.

Figure 8 is an edge elevational view of the plates as shown in Figure 7.

As illustrated in the accompanying drawings the door of the garage is indicated at 1 and the frame of the door at 2. A portion of the wall of the garage building is indicated at 3. A plate 4 is applied to the inner surface of the door 1 and a ratchet wheel 5 is journaled upon said plate. A pawl 6 is pivoted upon the plate and is provided with a spur 7 adapted to enter the spaces between the teeth of the ratchet wheel 5 in a manner as best shown in Figure 4 of the drawings. The pawl 6 is provided at its free end with a hook 6'. A coiled spring 7' is attached at one end to the plate 4 and connected at its other end with the free end of the pawl 6. The plate 4 is provided with an upstanding lug 8 which is located in the path of movement of the free end portion of the pawl 6 and adapted to limit the swinging movement of the pawl in a direction away from the center of the ratchet wheel 5. A chain or other flexible elements 9 is connected with the free end of the pawl 6 and the intermediate portion of the chain 9 is trained over a pulley 10 which is journaled at the upper surface of the door 1. The handle end 11 of the chain hangs pendant from the pulley 10 as best shown in Figure 3 of the drawings. An arm 12 is fixed to the ratchet wheel 5 as shown in Figure 4. One end of the link 14 is pivotally connected with the arm 12 at a point adjacent the lug 13 and the other end of said link 14 is pivotally connected with the door frame 2, pref-

erably at a point approximately midway between the vertical sides thereof.

A plate 15 is mounted upon the frame of the door above the door opening and a downwardly extending lug 16 is adjustably mounted upon the plate 15 and is disposed in the path of movement of the hook 6' of the pawl. When the door is in a closed position in the door opening the spring moves the pawl so that the spur thereof engages in the teeth of the ratchet wheel and the hook thereof engages the lug 16.

Assuming that the parts are in the position as shown in Figure 3 of the drawings and it is desired to open the door. A downward pull is exerted upon the handle end 11 at the same time the pawl 6 is swung so that the spur thereof disengages the teeth of the ratchet wheel and the hook 6' disengages the lug 16. Thus the door is unlocked and the door panel 1 may then be swung from a closed position as shown in Figure 3 to an open position as shown in Figure 1 and will remain at such open position for the reason that when the pull is released from the chain 9 the spring 7 returns the pawl to the ratchet wheel.

Assuming that the door is at an open position as shown in Figure 1 of the drawings and it is desired to close the same a downward pull is exerted upon the handle end 11 of the chain 9 whereby the said chain is moved longitudinally and the spur of the pawl 7 is swung out of engagement with the teeth of the ratchet wheel 5. Thus the door may be swung from an open position to a closed position as shown in Figure 2 and when the chain 9 is released the tension of the spring 7 comes into play whereby the spur of the pawl 6 enters between the teeth of the ratchet wheel 5 and the door is secured at a closed position. At the same time the hook 6' will engage the lug 16 and thus the door is locked at a closed position. When the door is moved to the opened position as shown in Figure 1 of the drawings the lug 13 upon the arm 12 engages against the edge of the link 14 and consequently the outward swinging movement of the door with relation to the door frame is limited and the door is rigidly held at an open position when the parts are moved to the position as shown in Figure 1 of the drawings.

This device will have a tendency to eliminate danger of the door swinging and breaking or bending a car fender. It will hold the door open without any special operation regardless of snow, ice or conditions of the driveway. It will hold the door closed so that it may not be opened except from the inside of the garage. It may be used on any hinged door, it is strong and durable and inexpensive. By reversing the ratchet and pawl this device may be used to advantage upon other swinging objects as for instance gates.

Having described the invention what is claimed is:—

1. A door holder comprising a plate for attachment to the door, a ratchet wheel journaled upon the plate, a pawl pivoted upon the plate and having a spur adapted to enter between the teeth of the ratchet wheel, a spring for holding the pawl toward the ratchet wheel, means for moving the pawl away from the ratchet wheel, an arm fixed to the ratchet wheel, and a link pivoted to the arm and adapted to be pivotally connected with the frame of the door.

2. A door holder comprising a plate adapted to be attached to the door, a ratchet wheel journaled upon the plate, a pawl pivoted upon the plate and having a spur adapted to enter the spaces between the teeth of the ratchet wheel, a spring for holding the pawl toward the ratchet wheel, a stop member mounted upon the plate and located at the side of the free end of the pawl, a pull member connected with the pawl and extending in the direction of said stop member, an arm fixed to the ratchet wheel and a link pivotally connected with the arm and adapted to be pivotally connected with the frame of the door.

3. A door holder comprising a plate adapted to be attached to the door, a ratchet wheel journaled upon the plate, a pawl pivoted upon the plate and having a spur adapted to enter the spaces between the teeth of the ratchet wheel, a spring connected with the pawl and the plate and adapted to hold the pawl toward the center of the ratchet wheel, the plate having a stop member located in the path of movement of the free end of the pawl, a flexible element connected with the pawl and extending in the direction of said stop member, an arm fixed at one end to the ratchet wheel and provided at its other end with a stop member and a link pivotally connected, at one end with the arm in the vicinity of the last mentioned stop member and adapted to be pivotally connected at its other end with the frame of the door.

In testimony whereof I affix my signature.  
FRANK F. WANDTKE.