

(No Model.)

A. E. VEON.
COMBINED DOOR FASTENER AND ALARM.

No. 571,546.

Patented Nov. 17, 1896.

Fig. 1.

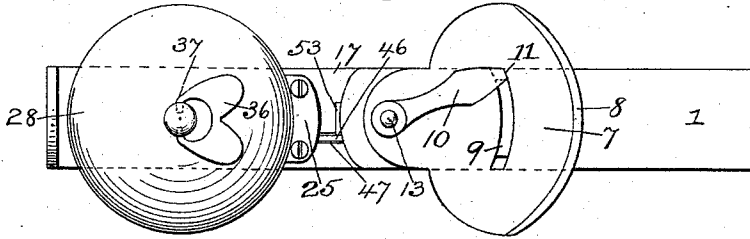


Fig. 2.

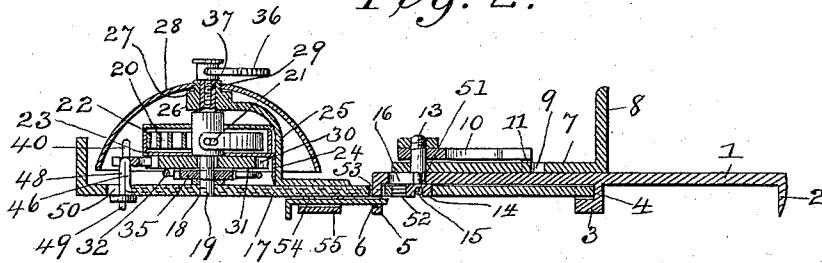


Fig. 3.

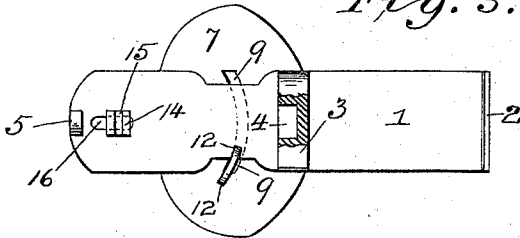


Fig. 4.

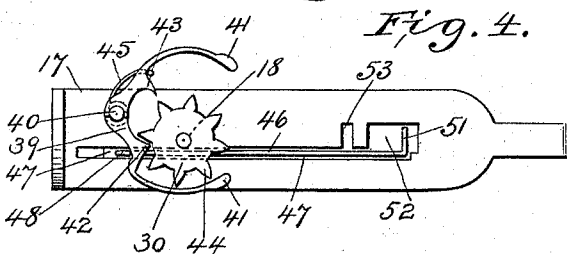


Fig. 5.

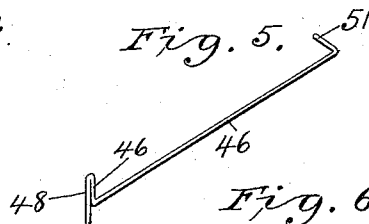


Fig. 6.

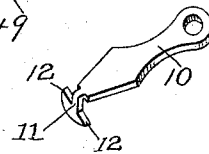
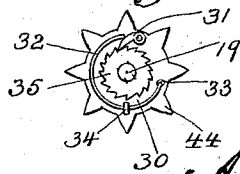


Fig. 7.



Witnesses.

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UNITED STATES PATENT OFFICE.

ANDREW E. VEON, OF BRAINERD, MINNESOTA, ASSIGNOR OF ONE-HALF TO
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COMBINED DOOR-FASTENER AND ALARM.

SPECIFICATION forming part of Letters Patent No. 571,546, dated November 17, 1896.

Application filed July 17, 1896. Serial No. 599,571. (No model.)

To all whom it may concern:

Be it known that I, ANDREW E. VEON, a citizen of the United States, residing at Brainerd, in the county of Crow Wing and State of Minnesota, have invented certain new and useful Improvements in a Combined Door-Fastener and Alarm, of which the following is a specification.

My invention relates to door-fasteners with ringing-alarm attachments, and has for its objects to provide a strong compact fastener which can be readily placed between the edge of the door and the jamb against which the door closes and prevent the opening of the door without the application of force and the ringing of an alarm. These objects I accomplish in the manner and by the means hereinafter fully described in detail and pointed out, reference being made to the accompanying drawings, in which the same numerals indicate like parts in all the figures of the drawings.

Figure 1 is a top plan view of my combined door-fastener and alarm. Fig. 2 is a longitudinal sectional view of the same on the line *xx* of Fig. 1. Fig. 3 is a bottom plan view of my improved door-fastener having the alarm detached. Fig. 4 is a top plan view of the alarm-attachment with the gong removed. Figs. 5, 6, and 7 are detail views.

In carrying out my invention I use a plate or bar of any suitable metal. One end of the bar 1 is provided with a V-shaped wedge 2, formed integral therewith and at a right angle to the bar. Intermediate of the ends of the bar 1, on the side thereof on which is formed the wedge 2, a flange or shoulder 3 also projects at a right angle from the bar. This flange 3 is provided with a recess 4 on the side thereof opposite the wedge 2, for a purpose hereinafter described. The outer end of the bar 1 is provided with a lug 5, projecting at a right angle to the bar and on the same side thereof with the flange 3, and having a slot 6 formed therein to receive a sliding bolt used for attaching the ringing alarm thereto. A cam 7 is pivotally attached to the bar 1 on the side thereof opposite the lug 5 and near the end of said bar. The cam 7 consists of a flat plate having its outer end curved and a flange 8, formed on its curved margin and projecting

from the side of the plate opposite the side in contact with the bar 1. The cam at its outer circumference is wider than the bar 1 and decreases uniformly to the width of the bar at the pivotal point. Its circumference is farthest from its pivoted end midway thereon and approaches the pivotal point slightly on each side of the middle of its outer edge. One of the uses of the cam 7 is to lock the door when the bar 1 is placed in position, and its circumference is eccentric relative to its pivotal end for increasing the pressure against the door when it is turned in contact therewith. A slot 9 is formed through the flat part of the cam circumferentially of its pivotal point. A latch 10 rests in contact with the side of the cam opposite the bar 1 and is held therewith by the bolt with which the cam is pivoted to the bar 1.

The latch 10 is provided with an arm 11, which is turned at a right angle toward the cam and passes through the slot 9 therein and has projecting at right angles from opposite sides of said arm hooks 12 12, one of which engages with the bar 1 when the cam 7 is thrown forward in the direction of the end carrying the wedge 2 and prevents the cam from dropping down perpendicularly from its pivotal point. A bolt 13 is formed with a rectangular head 14, having therein a recess 15, extending in a direction transversely of the bar 1. This bolt 13 is movably held in a longitudinal slot 16 near the end of the bar 1 and permits the cam 7 to move slightly on the bar in the direction of the slot therein. This construction of my improved door-fastener adapts it for use in fastening doors that open either to the right or to the left, and it may be used with equal facility in fastening doors opening in either direction.

When my improved fastener is used to fasten a door, the flat side of the bar 1 is placed against the jamb on the side against which the door shuts, with the flanged shoulder 3 resting in contact with the outer edge of the jamb and the wedge 2 resting against the jamb. The door is pushed inward and forces the wedge into the wood. The cam is now thrown back against the door, the flange on the outer edge thereof coming in contact with the door and being held in position by one of

the hooks 12, engaging with the bar 1 and securely latching or locking the closed door and preventing its being opened from the side opposite the door-fastener unless the latter is torn from its position between the edge of the door and jamb. By throwing out the cam toward the end of the bar 1 the door is released and may be opened without removing the fastener.

A ringing alarm is removably attached to the door-fastener, consisting of a gong-ringing mechanism operated by a coiled spring, which, when released after having been wound up, operates a double striker. This alarm-ringing mechanism is mounted on an oblong plate 17 of approximately the same diameter as the bar 1, one of its ends being formed tapering to engage in the recess 4 in the shoulder 3. This plate 17 is provided with an aperture 18, in which is journaled the end of a post 19, around which is coiled a mainspring 20 for striking the alarm. One end of the spring 20 is provided with an aperture 21 and engages with a hook projecting from the post 19. The outer end of the spring 20 is fastened to the circumference of the barrel 22, which incloses it. One end of the barrel is covered with a plate 23, which has a central aperture for placing it on the post and is also provided with a flange 24, formed at a right angle thereto, for permanently attaching it to a bracket 25, fastened at one of its ends to the plate 17 by any suitable means. The opposite end of the bracket 25 is provided with a collar 26, formed integral therewith and extending outward thereon at a right angle. This collar fits over the end of the post 19, the end of the latter being reduced in diameter and formed with a shoulder, against which the lower side of the bracket 25 abuts and whereby the rear end of the post is retained in its journaled position in plate 17.

The outer circumference of the collar 26 is threaded and is provided with a shoulder 27, and has fitted thereon an alarm-gong 28 by means of a threaded aperture 29 in the center thereof. The outer end of the post 19 is provided with a threaded aperture to receive a key. The inner end of the post 19 is reduced in diameter and is shouldered and has loosely fitted over the reduced end and resting in contact with the shoulder thereon a toothed wheel or escapement 30, which has pivoted to the inner side thereof a spring-pressed pawl 31. The spring 32, which holds the pawl normally in position, consists of an elastic wire provided at one end with an extension formed at a right angle and set in an aperture 33 in the face of the escapement 30. The spring extends around the margin of the circumference of the face of the escapement and its free end rests in contact with the upper side of the pawl near the free end of the latter, and a staple 34 is inserted in the surface of the escapement at a point intermediate of the ends of the spring and holds the latter in position on said escapement.

A ratchet-wheel 35 is rigidly fixed on the reduced end of the post 19 and rests in contact with the inner face of the toothed wheel or escapement 30, the spring-pressed pawl 31 thereon engaging with the teeth on said ratchet and preventing a reverse movement of the latter. The reduced inner end of the post 19 is journaled in the aperture 18 in plate 17. A key 36, consisting of a flat-head thumb-screw, is inserted in the aperture 37, formed in the outer end of the post 19, to wind up the coiled mainspring 20. The gong is sounded by a duplex striker 39, journaled to a post 40, inserted in the plate 17 near its outer end. The striker 39 is formed with two arms and is semicircular in outline and adapted to rest within the gong 28. The end of each arm is provided with enlargements 41, which strike the gong when the spring is released from its tightly-coiled position. The arms of the striker rest in position on each side of the toothed wheel or escapement 30, and one arm is provided with a V-shaped tooth or projection 42, while the other arm is provided with a tooth 43, terminating in a sharp point and inclined slightly in the direction of the pivotal point of the striker. This difference in the construction of these projections is rendered necessary by reason of the pivotal point of the striker being above the middle of the bar 17. The projections on the arms of the striker engage alternately with the teeth 44 on the escapement as the latter rotates and lift or throw the arms of the striker against the sides of the gong, the coiled spring 20, when permitted to uncoil itself, turning the escapement in a backward direction. The V-shaped projection 42 is held normally in contact with the lower circumference of the escapement by a spring 45, which is coiled around the post on which the striker is pivoted, one end of the spring engaging with the arm of the striker by means of a hook on the end of the spring and the other end passing through an aperture in the post 40.

When the mainspring is wound up, it is held in its coiled position by a draw-bar 46, housed in a longitudinal groove or channel on the face of the plate 17, and provided with an arm at each of its ends, the arm on its outer end resting in contact with one of the arms of the striker and holding the arm in contact with the toothed wheel. The arm 48 on its outer end is formed by turning the end of the wire of which the bar is made at a right angle and next turning it back on itself and terminating its end at a distance beyond the bar and providing an arm 49, which passes through a slot 50 in the plate and is secured thereto by any suitable means. The opposite end of the draw-bar 46 is provided with an arm 51, formed at a right angle thereto and transversely of the plate and rests in the recess 15 in the head 14 of the bolt 13, which is received in a slot 52 in plate 17, when the alarm is attached to the door-fastener. A transverse slot 53 is formed in the plate 17 and receives

the lug 5, formed on the end of the bar 1. A sliding bolt 54 is held in position on the rear of plate 17 by a loop 55 and engages in the slot 6 in the lug 5 and securely holds the separable parts together. When the mainspring is wound up and the draw-bar 46 is drawn forward, the arm 48 on the outer end thereof is brought in contact with the lower arm of the striker and holds it in contact with the escapement 30. The latter is prevented from turning on the post 19 by the pawl attached to the escapement and which engages with the ratchet rigidly fixed to said post. When the draw-bar 46 is pushed back and the pressure of the arm of the striker removed from the escapement, the teeth on the escapement lift or throw the projections on the arms of the striker in opposite directions alternately as the escapement-wheel turns and cause the enlarged ends of the arms of the striker to hit the sides of the gong.

When it is desired to use the alarm with the door-fastener, the latter is placed in position between the edge of the door and the jamb against which the door closes. The tapering end of the plate 17 is inserted in the recess 4 in the shoulder 3. The lug 5 on the end of the bar 1 is passed through the slot 52 in plate 17, and the sliding bolt 54 is pushed into the slot 6 in the lug. At the same time the head 14 of bolt 13 is received in the slot 50, the arm 51 on the draw-bar 46 being placed in the recess 15 in the head 14 of the bolt 13.

When the parts of the device are in position and bolted together, the spring may be wound up and the arm 47 on the draw-bar drawn in contact with the arm of the striker.

In using the striking alarm space must be left between the door and the locking-cam to permit the bolt with which the cam is pivoted to rest in the forward end of the slot in order that an attempt to push the door open will carry the draw-bar back and release the arm of the striker held by the arm 47 on the outer end of the draw-bar.

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

1. In a door-fastener, the combination with a bar having a wedge formed at one of its ends at a right angle thereto and a shoulder formed on the same side of said bar with said wedge intermediate of the ends of said bar, of a locking-cam pivoted to the opposite side of said bar near its opposite end, said locking-cam provided with means to engage with said bar and rest in a locked position thereon, substantially as shown and described.

2. A door-fastener consisting of a bar terminating at one of its ends in a wedge formed at a right angle thereto, a locking-cam pivoted to the opposite end, a latch pivoted at one of its ends with said cam, its opposite end provided with hooks passing through a slot in said cam formed therein circumferentially of the pivoted point of said latch, and said hooks adapted to engage with said bar and

hold said cam in locked engagement therewith when said cam is thrown forward, substantially as shown and described.

3. In a door-fastener, the combination with a bar having a wedge formed at one of its ends at a right angle thereto, said bar provided with a shoulder intermediate of its ends, of a cam and a latch therewith pivoted at the side of said bar at its opposite end, said cam provided with a slot formed therethrough concentric with the pivotal end of the latch, the free end of said latch passing through said slot and provided with hooks projecting in opposite directions, and adapted to engage with said bar and hold said cam in a fixed relation therewith, substantially as shown and described.

4. A ringing alarm for attachment to a door-fastener consisting of a gong mounted on a plate provided with means for attachment with said fastener, a duplex striker provided with a pair of striking-arms pivotally secured to said plate with said arms in striking distance of opposite sides of said gong, said arms provided with an escapement contacting with a toothed wheel mounted on a post rotated by a spring coiled around said post and means connecting with said fastener for releasing the tension of said spring, substantially as shown and described.

5. In a door-fastener, the combination with said fastener, of a detachable ringing alarm provided with a gong, a coiled spring mounted within said gong on a rotatable post secured to a plate and carrying a toothed wheel operating a striker pivoted to said plate, said striker provided with arms having projections thereon to contact with the teeth on said wheel whereby said arms are thrown against said gong when said wheel is revolved, means connecting with said fastener for holding the tension of said spring and releasing it, substantially as shown and described.

6. The combination in a door-fastener provided with a bar carrying a locking-cam pivoted on a bolt movable in a slot in said bar, of a plate provided with means of attachment to said bar, said plate having mounted thereon a ringing alarm consisting of a gong struck by a pair of striking-arms resting within said gong on each side thereof and pivotally mounted on said plate, said arms operated by a spring coiled around a post and fixed thereto at one of its ends, an escapement mounted on said post, means for turning said post to increase the tension of said spring, the arms of said striker provided with projections contacting with teeth on said escapement and held normally in contact by a draw-bar connecting with the movable bolt with which said locking-cam is pivoted, substantially as shown and described.

7. A door-fastener provided with a ringing-alarm attachment said fastener consisting of a bar having a wedge formed at one of its ends, for insertion in the jamb of the door, a shoulder on the side of said bar to rest in con-

tact with the edge of said jamb, a locking-
cam pivoted to the side of the bar to a bolt
supported in a longitudinal slot, a plate at-
tached to the side of said bar by means of a
5 lug thereon said bar provided with a slot and
a sliding bolt attached to said plate and en-
gaging in said slot, said plate having mounted
thereon a coiled-spring-operating mechanism
consisting of a spring attached to a revolving
10 post having mounted thereon a toothed es-
capement, a gong fixed to means for holding
said post in position and a striker provided
with arms supported on each side of said es-
capement and having projections thereon op-

erating in contact with the teeth on said es- 15
capement, said striker pivoted to said plate,
a draw-bar connecting with the bolt to which
the locking-cam is pivoted and with one of
the arms of the striker to hold the latter nor-
mally in contact with the toothed escapement, 20
substantially as shown and described.

In testimony whereof I hereto affix my sig-
nature in the presence of two witnesses.

ANDREW E. VEON.

Witnesses:

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