Oct. 23, 1956 H. E. PETERSON 2,767,494

GATE

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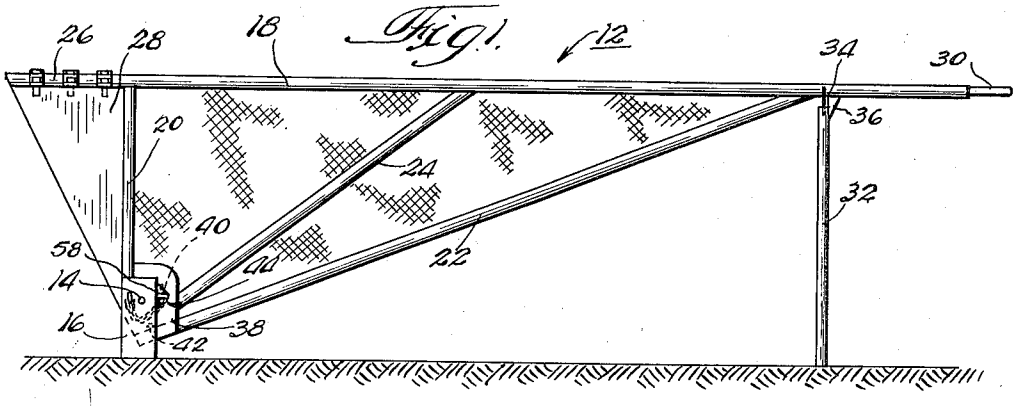


Fig. 1.

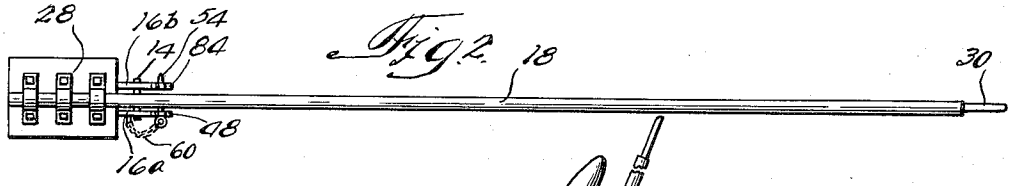


Fig. 2.

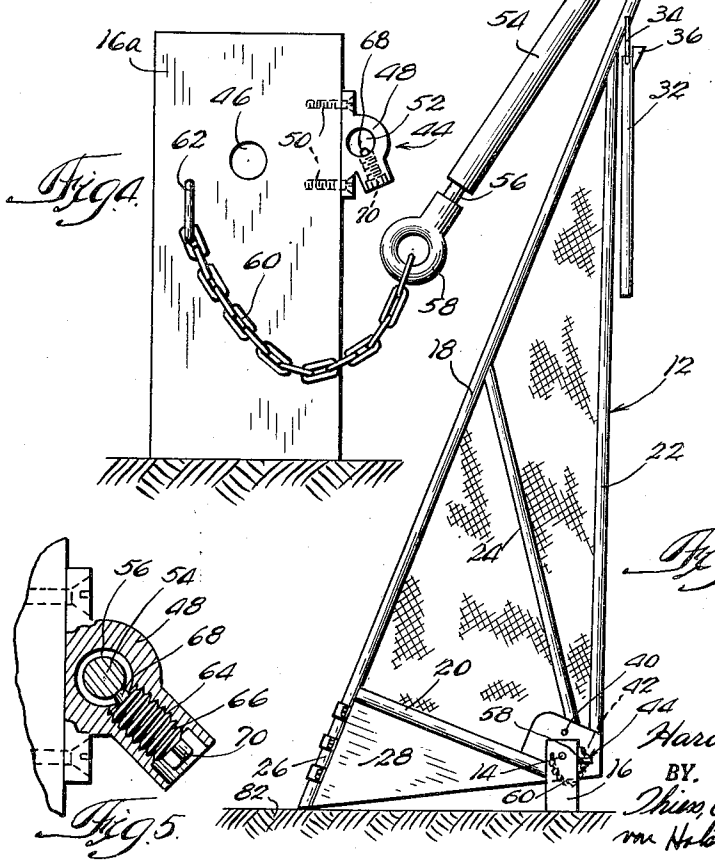


Fig. 4.

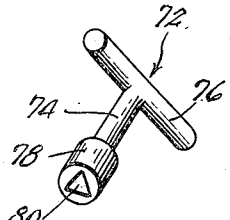


Fig. 6.

Fig. 3.

Fig. 5.

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GATE

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2 Claims. (Cl. 39—91)

This invention relates to improvements in gates, and more particularly to an improved hand-operated gate and means for securing such a gate against unauthorized operation.

It is an important object of this invention to provide an improved gate having means to prevent operation by unauthorized personnel.

Various gates here heretofore been proposed which had means integral therewith for locking said gate in one position, usually a closed position. While such a gate is satisfactory for certain purposes, such as the prevention of trespassing and the like, it is often desired to secure a gate in a plurality of positions. This is especially true in outdoor installations such as driveways and parking lots where vandals and pranksters may operate a gate to its closed position at times when it is desired to maintain the protected passageway open.

Therefore it is a further object of this invention to provide an improved gate having integral locking means by which said gate may be secured in a plurality of positions.

It is another object of this invention to provide gate-locking means for maintaining such a gate in either an open or closed position.

It is another object of this invention to provide an improved gate having a key-operated locking means which is rugged and easily operated. The operative parts of the locking means of this invention have long life and are not susceptible to jamming, freezing, or rusting as a result of adverse climatic conditions.

It is a further object of this invention to provide an improved gate having improved locking means which is simple and inexpensive to construct, versatile in its applications, and easily maintained.

It is another object of this invention to provide an improved gate pivotally mounted about a horizontal axis for vertical movement between an open and a closed position and having a weight distribution whereby said gate will normally remain in either of said positions.

It is another object of this invention to provide an improved gate having a triangular-shaped vertical planar surface which has an aesthetic appearance in both the open and closed positions. One of the advantages of such a triangular gate as described hereinafter is the appearance in both the open and closed positions of a generally rectilinear configuration without rotating the gate through a complete quadrant. Furthermore, such a triangular-shaped gate requires less material in construction and is more easily operated by manual means.

Further and additional objects will become manifest from a consideration of this specification, the accompanying drawings, and the appended claims.

In carrying out this invention in one form, a gate is provided which is pivotally mounted on a bifurcated vertical support. Also mounted on the bifurcated support are a pair of apertured bracket members having horizontally aligned apertures therein and adapted to receive a fastening pin through said apertures. The pivotally

mounted gate is positioned between the two vertical uprights of said support and has a solid plate member in the area adjacent to said pivotal mounting, said plate member having a plurality of apertures therein, one of which will align with the apertured bracket members for each of a plurality of predetermined gate positions. The gate has a triangular shape, and its pivotal mounting is close to one corner of the triangle whereby the side opposite said one corner is substantially horizontal when the gate is in the closed position and a side adjacent to said one corner is substantially vertical when the gate is in its open position.

For a more complete understanding of the invention, reference will now be made to the accompanying drawings, wherein

Figure 1 illustrates one embodiment of this invention showing a gate in the closed position;

Fig. 2 is a plan view of the embodiment of Fig. 1;

Fig. 3 illustrates the embodiment of Fig. 1 in the open position;

Fig. 4 is an enlarged view of the vertical support and locking means of this invention;

Fig. 5 is an enlarged detailed view, partially in section, of the locking means of this invention; and

Fig. 6 is an enlarged view of the key utilized in cooperation with the locking means of Fig. 4.

Referring now to the drawings, and more particularly to Figs. 1 and 2, a gate **12** is shown pivotally mounted upon a pin **14** secured in a bifurcated vertical support **16**. The bifurcated support **16** is preferably set into a secure base in the ground or floor and may be constructed of either wood or metal. The gate **12** is shown in Fig. 1 in the closed position and in that position has a substantially horizontal frame member **18**, a substantially vertical frame member **20** welded to the horizontal frame member **18**, an outer angular frame member **22** completing a generally triangular structure, and a reinforcing frame member **24** joining substantially the midpoint of frame member **18** with the lower terminal of frame member **20**.

The area circumscribed by frame members **18**, **20**, and **22** is enclosed with any suitable fencing material. The chain link type of wire fence has been found especially adaptable for this purpose. The frame member **18** extends horizontally beyond the vertical frame member **20** to provide a mounting bracket **26** to support a counterbalancing weight **28**. The frame member **18** also extends beyond the juncture with frame member **22** to provide a horizontal extension to the normally triangular-shaped gate member. An extension **30** is provided at the end of the horizontal frame member **18** which may be axially movable within member **18** to extend the span of gate **12**.

A pivotally mounted vertical stop **32** is hung by a chain link **34** from the horizontal frame member **18**. The stop **32** is provided with an abutting foot **36** which engages the frame member **18** to support said frame member in a substantially horizontal position when the gate **12** is closed. A metal plate **38** is secured at the juncture of frame members **20**, **22**, and **24**. This plate has two apertures **40** and **42** therein engageable by a locking mechanism **44** which will be explained in connection with Figs. 4, 5, and 6. The frame members may be assembled in any one of several conventional manners. The frame members **18**, **20**, **22**, and **24** may be constructed of wood and bolted together, or preferably may be metal pipe or tubing welded into an integral frame. In a like manner the plate **38** and any other hardware may be either bolted or welded in position.

In Fig. 4 one of the elements of the vertical bifurcated support is shown. This element **16***a* has an aperture **46**

therein adapted to receive the horizontal pivot pin **14** as described above. Mounted on one edge of element **16***a* is an apertured bracket **48**. Bracket **48** may be secured to element **16***a* by any means such as the machine screws **50**, as shown, or by welding, riveting, or the like. The aperture **52** in the bracket **48** receives a pin **54** having an annular recess **56** and an eye **58**. As shown in Fig. 4, the pin **54** is removable from bracket **48**, and it is considered desirable to secure the pin to the vertical upright by a chain **60** connecting the eye **58** of the pin **54** to a cooperating hook **62** mounted on the vertical element **16***a*.

As shown more clearly in Fig. 5, the bracket **48** has a transverse threaded aperture **64** therein in which a correspondingly threaded plug **66** is engaged. The threaded plug **66** is provided with a pin-engaging stud **68** on one end thereof which is adapted to engage the recess **56** of the pin **54** when said pin is in place. The outer end of the plug **66** has an extension **70** having a predetermined shape and engageable by a key member having a corresponding opening therein. Such a key **72** is shown in Fig. 6 as having a shaft **74**, a transverse handle **76**, and a plug-engaging end **78**. The plug-engaging end **78** is here shown with a triangular aperture **80** therein which will correspond to a triangular-shaped plug extension **70** on the end of plug **66** whereby the key **72** will be engageable with the plug to facilitate rotation thereof and thus withdraw the stud **68** from the recess **56**.

It will be obvious that unauthorized operation of the gate will thus be impossible without a proper key **72**. Nevertheless, the locking system provided by this invention is of sufficient simplicity that little difficulty is encountered with wear of moving parts, freezing in cold weather, or serious damage due to rust or corrosion. Furthermore, the key is of sufficiently unique design that a substitute therefor cannot be readily provided by unauthorized persons, but in the event that the key is lost or misplaced it may be readily replaced without incorporating the services of a locksmith.

The open position of gate **12** is shown in Fig. 3 illustrating the manner in which the gate has an aesthetic appearance resulting from the frame member **22** assuming a substantially vertical position. This gives the appearance that the gate is fully open, even though the gate member has not, in fact, been rotated through a full 90°. The embodiment herein shown and described in detail requires motion through approximately 60° to go between the open and closed positions. It is also seen in Fig. 3 that the extension **26** of frame member **18** abuts against the ground **82** whereby the locking pin **54** is not required to support the entire weight of the gate.

Also shown in Fig. 3 is the manner in which the stop **32**, pivotally mounted by link **34**, is always maintained in a vertical position and will lie substantially along the frame member **22** when the gate **12** is in its open position. A second apertured bracket **84** having an aperture therein horizontally aligned with aperture **52** in bracket **46** is provided on the vertical upright **16***b*, as shown most clearly in Fig. 2. This apertured bracket, however, does not have a locking means as this would be unnecessary duplication of parts.

While one particular combination of the locking means and triangular gate structure of this invention has herein been shown and described, many modifications will be immediately apparent to one skilled in the art. While a single gate member is herein shown and described, it will be immediately obvious that to provide a barrier across a span of substantial width a pair of the gates herein described may be placed at opposite sides of said

span and extend inwardly to provide a substantially complete barrier and to thus prevent unauthorized passage through a span of any desired width. Furthermore, the novel locking means of this invention may be incorporated with any type of gate which is pivotally mounted, and likewise the novel triangular gate having a counterbalancing weight and being pivotally mounted about its lower corner is useful without the incorporation of the locking means taught by this invention.

Without further elaboration, the foregoing will so fully explain the character of my invention that others may, by applying current knowledge, readily adapt the same for use under varying conditions of service, while retaining certain features which may properly be said to constitute the essential items of novelty involved, which items are intended to be defined and secured to me by the following claims.

I claim:

1. In a hand operated gate, a vertical bifurcated support, a substantially triangular shaped gate pivotally mounted between the uprights of said support for vertical movement between an open and a closed position, said gate having weight distribution whereby the gate will normally remain in either one of said positions, a pair of apertured brackets mounted on said vertical support and disposed on opposite sides of said gate with the apertures therein horizontally aligned, a pin received in said apertures to engage said gate in either one of said positions, said pin having a reduced annular portion, the points of engagement of said pin being in spaced relationship adjacent to the pivotal axis of said gate whereby lines connecting said points with said axis define an acute angle and key operated securing means to prevent the unauthorized removal of said pin from said apertured brackets.

2. In a hand operated gate, a vertical bifurcated support, a substantially triangular shaped gate pivotally mounted between the uprights of said support for vertical movement between an open and a closed position about a pivot substantially at one of the corners of said triangular gate, said gate having two apertures therein spaced from said pivot and from each other a predetermined distance said apertures being in spaced relationship adjacent to the pivotal axis of said gate whereby lines connecting said apertures and said axis define an acute angle, said gate having weight distribution whereby the gate will normally remain in either one of said positions, a pair of apertured brackets mounted on said vertical support and disposed on opposite sides of said gate with the apertures therein horizontally aligned, a pin received in said apertures to engage either one of the apertures in said gate to maintain the gate in either one of said positions, said pin having a reduced annular portion, and key operated securing means to prevent the unauthorized removal of said pin from said apertured brackets.

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