

May 20, 1930.

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1,759,207

AUTOMATICALLY OPERATED FENCE GATE

Filed Aug. 31, 1928

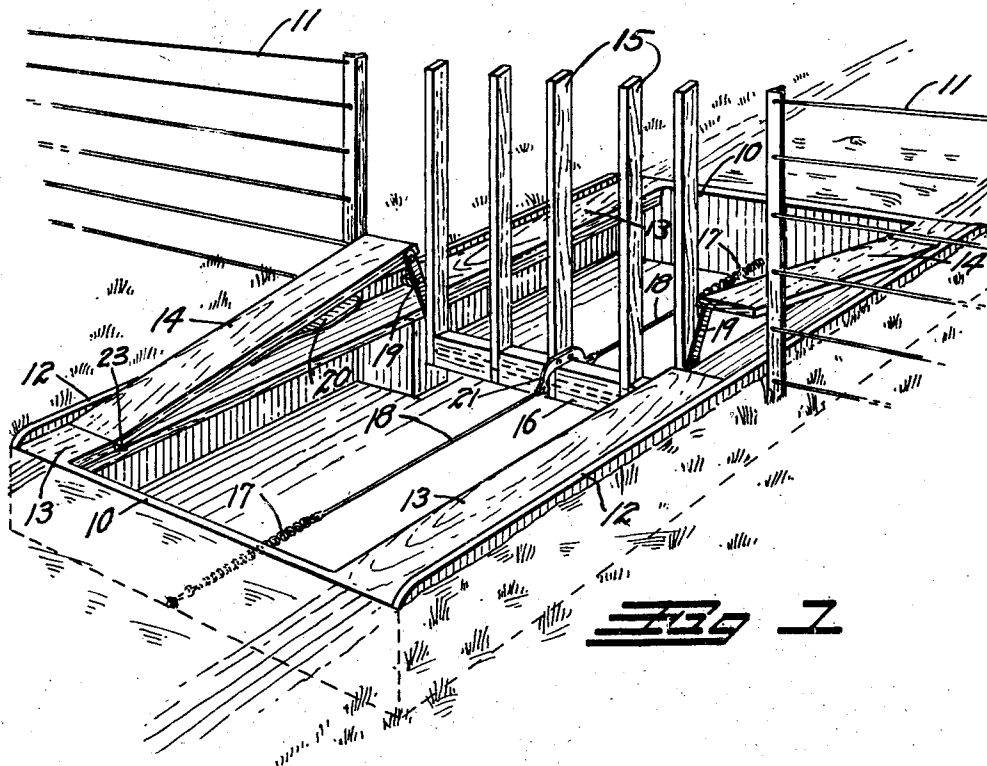


Fig 1

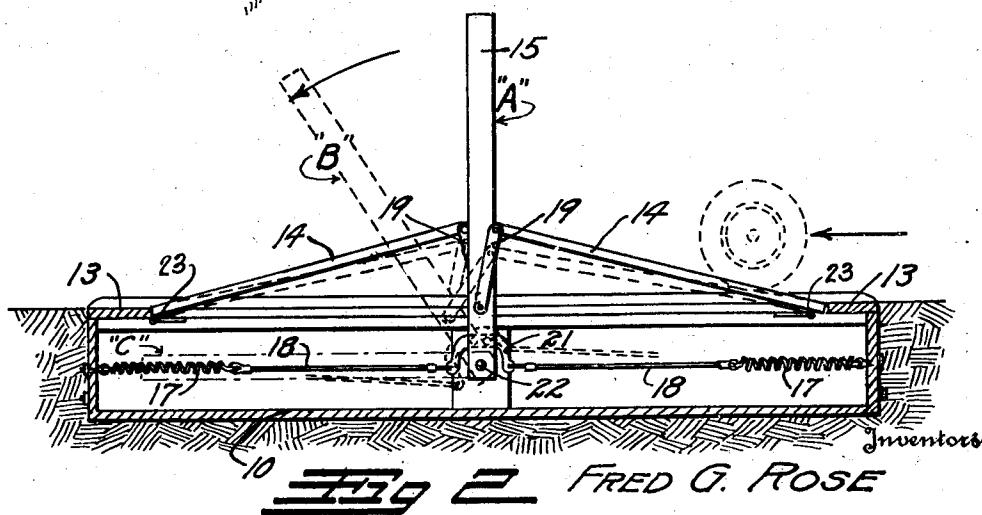


Fig 2

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AUTOMATICALLY-OPERATED FENCE GATE

Application filed August 31, 1928. Serial No. 303,170.

This invention relates to an automatic fence gate and has for its principal object the provision of a roadway gate which will be automatically opened by the weight of an approaching automobile.

Another object of the invention is to so construct a gate that it will remain open until the automobile has completely passed the gate and which will then automatically return to the closed position.

A further object of the invention is to provide a gate of this character which can not be operated by cattle or other animals.

Other objects and advantages reside in the detail construction of the invention, which is designed for simplicity, economy, and efficiency. These will become more apparent from the following description.

In the following detailed description of the invention reference is had to the accompanying drawing which forms a part hereof. Like numerals refer to like parts in all views of the drawing and throughout the description.

In the drawing:

Fig. 1 is a perspective view illustrating the gate in position in a fence line.

Fig. 2 is a side elevation of the gate with the near side of the enclosing box removed.

In this view the full closed position is indicated at "A," partially open at "B" and fully open at "C."

In installing the improved gate a box 10 is imbedded in the roadway and across the fence line which is illustrated at 11. The sides of the box 10 are raised as illustrated at 12, to act to guide the automobile wheels upon a runway 13. At each side of the fence, and at opposite sides of the box 10, a hinged board 14 is placed for a portion of the runway the hinges being indicated at 23.

The gate proper may be of any desired construction such as a series of vertical bars 15 separated by separating blocks 16. The gate is hinged upon an axle bar 22 which may be passed through the bars 15 and the blocks 16 to tie the entire structure together. The gate is free to swing to a horizontal position at each side of the fence within the box 10.

The gate is normally held perpendicular

by springs 17 of substantially equal tension. The springs 17 are connected within the extremities of the box 10 and connect through the medium of a chain or cable 18 with an inverted U-shaped spring lever 21 which is rigidly secured to the gate in a position to cause the two springs to pull in opposite directions in direct alignment with the axle bar 22. At each side of the gate, a link 19 connects the elevated extremity of one of the hinged boards 14 at an angle to the gate above the axle bar 22.

In operation, an automobile is driven on to the runway 13, as the left front wheel rolls upon the hinged board 14, it will depress this board, as indicated in broken line at "B" in Fig. 2, causing its link 19 to swing the gate away from the car and downwardly into the box 10 to the position "C". As the left front wheel of the automobile leaves the first hinge board 14, the front right wheel will be resting upon the second or opposite hinge board 14, which will act to maintain the gate in its lowered position. The right rear wheel finally releases the second hinge board after all of the automobile wheels have left the runway and the automobile is clear of the gate. The springs 17 will then return the gate to its normal vertical position.

It is desired to call attention to the fact that both springs operate simultaneously regardless of the direction the gate swings; their tension increases equally; and both are provided with a lever arm for closing the gate which increases in length as the gate opens. The shape of the lever arm 21 is not essential since any lever construction which will maintain the spring attachment points in alignment with and spaced from the bar when the gate is open will operate satisfactorily. The gate strikes no obstruction in closing. It simply swings back to the normal position, cushioned by the springs 17, so that there is practically nothing to become damaged by the continual operation of the gate.

If desired, to prevent the hinge boards from being depressed too rapidly, leaf springs 20 can be secured to these boards to act as a cushion therefor. Ordinarily, how-

ever, these springs can be eliminated since the springs 17 increase their tension at this time and will act as a cushion for the hinge boards.

5 It will be noted that the gate always swings away from the automobile regardless of the direction approached. The open box 10 prevents cattle or other animals from approaching the gate and the angularly placed hinge
10 boards 14 prevent an animal from forcing his way between the gate posts and the gate, since any weight upon these boards will cause them to move downwardly, frightening the animal away.

15 The tension of the springs 17 can be such that they will prevent the gate from opening under less than the weight of an automobile, therefore, the gate could not be opened by an animal or a person standing upon the hinge
20 boards 14. Turn-buckles or similar adjusting devices may be placed in the line of the springs 17, if desired to adjust the tension thereof. It is not essential that the tension of the two springs be equal since the gate will
25 still function with one of the springs entirely out of commission.

While a specific form of the improvement has been described and illustrated herein, it is desired to be understood that the same may
30 be varied within the scope of the appended claims, without departing from the spirit of the invention.

Having thus described the invention, what we claim and desire secured by Letters Patent
35 is:—

1. An automatic fence gate comprising: a gate hinged across its lower extremity so as to swing to a substantially horizontal position; and means operable by the weight of a
40 vehicle for swinging said gate to said latter position; spring means for returning said gate to its perpendicular position, said spring means acting in horizontal alignment with the hinge of said gate when the latter
45 is in the perpendicular position and acting out of horizontal alignment with said hinge when said gate is in any other position than perpendicular.

2. An automatic fence gate for a roadway comprising: a gate pivoted below said roadway so as to swing to either side of said fence and to a position below said roadway; depressible members in said roadway; rigid
50 members connecting said depressible members with said gate so that weight on said depressible members will push said gate below said roadway, said rigid members being connected between said gate and said depressible
55 members at a forward and downward angle so that said gate will be forced to swing away from an approaching vehicle; and means for returning said gate to the vertical position.

3. An automatic fence gate comprising: a gate hinged across its lower extremity so as
65 to swing to a substantially horizontal position; and means operable by the weight of a vehicle for swinging said gate to said latter position, said means comprising a board-like member hinged at its one extremity and raised at its other extremity; and a link extending downwardly and forwardly from the raised extremity to a pivot on said gate, there being a similar construction at each side of said gate, so that downward movement of said hinged boards will push said gate downwardly and forwardly to a substantially horizontal position.

tion; and means operable by the weight of a vehicle for swinging said gate to said latter position, said means comprising a board-like member hinged at its one extremity and raised at its other extremity; and a link extending downwardly and forwardly from the raised extremity to a pivot on said gate, there being a similar construction at each side of said gate, so that downward movement of said hinged boards will push said gate downwardly and forwardly to a substantially horizontal position.

4. An automatic fence gate for a roadway comprising: a gate pivoted below said roadway so as to swing to either side of said fence and to a position below said roadway; depressible members in said roadway arranged to support a vehicle and be depressed by the weight thereof; rigid members connecting
85 said depressible members with said gate at a forward and downward angle so that weight on said depressible members will push said gate away from said vehicle and below said roadway.

In testimony whereof, we affix our signatures.

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JOHN H. MURRAY.

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