

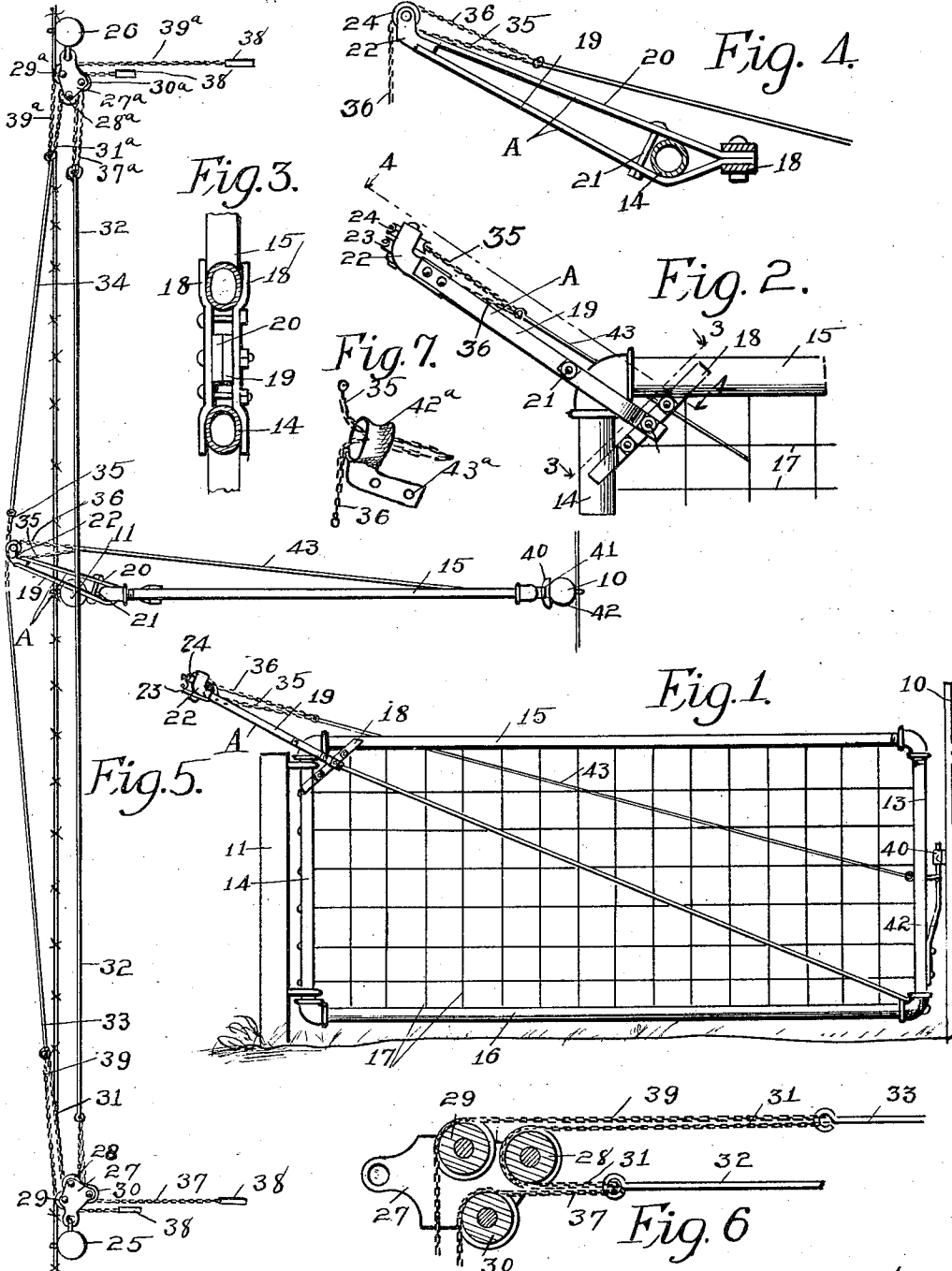
E. M. THEBIAY & J. W. POPE.

GATE.

APPLICATION FILED NOV. 27, 1911.

Patented Dec. 3, 1912.

1,046,405.



Witnesses

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GATE.

1,046,405.

Specification of Letters Patent.

Patented Dec. 3, 1912.

Application filed November 27, 1911. Serial No. 662,766.

To all whom it may concern:

Be it known that we, EDWARD M. THEBIAY and JAMES W. POPE, citizens of the United States, residing, respectively, at Eagle Grove, in the county of Wright, and Hillsboro, in the county of Henry and State of Iowa, have invented a new and useful Gate, of which the following is a specification.

The object of our invention is to provide a gate of simple, durable, and inexpensive construction, which is of light weight and is provided with means whereby a person approaching from either side, may open the gate from a distance, without dismounting from a vehicle, which means is also adapted to enable one who has passed through the gate to close said gate from a distance without dismounting from a vehicle.

A further object is to provide means for opening a gate from a vehicle, at a distance from a gate, which means may be operated with a minimum of power, and with comparatively slight movement on the part of an operator.

A further object is to provide a gate and an automatic latch device which catches when said gate is swung to its closed position and to provide means for opening and closing said gate from either side from a distance, which means also serve to disengage said latch when it is desired to open said gate.

Our invention consists in certain details, in the construction, arrangement and combination of the various parts of the device, whereby the objects contemplated are attained as hereinafter more fully set forth, pointed out in our claims, and illustrated in the accompanying drawings, in which—

Figure 1 shows a side elevation of the gate, showing a part of our invention. Fig. 2 shows a detail view of the upper corner of the hinged end of the gate. Fig. 3 shows a sectional, detail view on the line 3—3 of Fig. 2. Fig. 4 shows a detail, sectional view of the rearwardly extending arm at the hinged end of the gate, on the line 4—4 of Fig. 2. Fig. 5 shows a top or plan view of the gate and the mechanism for opening and closing the same. Fig. 6 shows a detail view of part of our device. Fig. 7 shows a detail view of our device used at the end of the rearwardly extending arm.

In the accompanying drawings, we have used the reference numerals 10 and 11 to indicate posts between which our gate is hung.

Our gate proper has preferably the upright end members 13 and 14 and the horizontal top and bottom members 15 and 16, and is provided with any suitable gate fabric 17. The upright member 14 is hinged to the post 11 in any suitable way. Secured to the upper end of the hinged end of the gate, is a bracket A, which may be in any suitable form and may be varied in the construction to be adapted for use with different kinds of gates. As shown in the drawing, this bracket is constructed as follows: Parallel flat bars 18 are secured to the top horizontal member 15 near the rear end of the gate and extending diagonally downwardly and rearwardly to the upright member 14 to which they are secured. One of the bars 18 is located on each side of the gate. Secured to the inner sides of the bars 18 are bars 19 and 20 which extend rearwardly on either side of the upright member 14 and at an obtuse angle therefrom, as shown in Figs. 4 and 5. For strengthening the bars 19 and 20, we secure them together just in the rear of the upright member 14 by means of the bolt 21. At the rearward end of the bars 19 and 20 said bars are secured to a bearing 22, on which are mounted parallel pulleys 23 and 24. It will be seen that the bracket just described, may be made in many forms, but it is preferable that it should extend rearwardly from the gate at an obtuse angle therefrom, for the reason which will be hereinafter more fully explained.

For acting upon the bracket hereinbefore described, and swinging the gate in either direction, we have provided the following means. At points spaced apart from the gate in both directions therefrom, are posts 25 and 26. Secured to each of the posts 25 and 26 are pulley mountings 27 and 27^a. In each of the mountings 27 and 27^a are rotatably mounted three pulleys 28, 29, 30, 28^a, 29^a and 30^a. Assuming the mounting 27 to be in vertical position, as shown in Fig. 6, the pulley 29 is mounted in the rear of, and slightly above the level of the pulley 28 and the pulley 30, is mounted in the rear of and below the pulley 29, and below and in front of the pulley 29. The pulleys 28^a, 29^a and 30^a are located in the same relative position in the mounting 27^a. Extended around each of the pulleys 28 and 28^a are chains 31 and 31^a, one end of which is secured to a wire 32. The other end of each of the chains 31 and 31^a is secured to the ends of wires 33 and 34

which extend approximately to the bracket A. Secured to the wire 34, is a chain 35 which passes around the pulley 24 and secured to the end of the wire 33 is a chain 36 which passes around the pulley 23. Secured to the wire 32 at approximately the point where the chain 31 is secured to said wire, is a chain 37 which passes around the adjacent pulley 30. On the free end of the chain 37 is a handle 38. Secured to the wire 33 at or near the point where the chain 31 is secured to said wire, is a chain 39 which passes over the adjacent pulley 29. The free end of the chain 39 is provided with a similar handle 38. Secured to the other end of the wire 32 is a chain 37^a which passes over the adjacent pulley 30^a. Secured to the end of the wire 34 near the point where the chain 31^a is secured thereto, is a chain 39^a, which passes over the pulley 29^a. On the free ends of the chains 37^a and 39^a are handles 38.

Secured to the post 10 on the side adjacent to the gate, is a catch member 40 having a notch 41 at its middle point. Secured to the upright member 13 is a catch member 42 formed of a piece of spring metal. The sides of the catch member 40 are inclined so that when the gate is open, and is swung to its closed position, the catch member 42 will engage the inclined side of the catch member 40 until it reaches the notch 41 into which it is forced by the resiliency of the metal of which it is composed. It will thus be seen that the gate, will be automatically latched when it is moved to its closed position. Secured to the latch member 42 is a wire 43, the other end of which is secured to the chains 35 and 36.

In the practical operation of our improved gate opener when the gate is in closed position, a person approaching it from either direction, may pull on one of the handles 38 and open the gate. Assuming in this illustration, that the handle 38 on the chain 39 is pulled, the wire 33 would be drawn away from the gate. The chain 36 and the wire 43 will draw the latch member 42 out of engagement with the latch member 40 and a further pull on the chain 39 will cause the free end of the bracket A to move toward the operator and will cause the gate to move away from him. The operator can then pass through the gate and by pulling on the handle 38 on the chain 39^a will draw the free end of the bracket toward the operator and will close the gate. The reason for inclining the bracket A at an obtuse angle from the gate, is now made apparent. If the bracket were inclined directly rearwardly from the gate, it would be in line with the wires 33, 34 and 32 when the gate is open and the gate could not be closed for the reason that the pull by the operator would be in a direct line. It will further be seen that it is preferable for an operator operating from the right side of

the gate, as shown in Fig. 5 to open the gate toward him and for an operator approaching from the other side, to open the gate away from him.

In the modified form of a part of our gate, shown in Fig. 7, the mounting 42^a is made of a single piece having a socket 43^a to receive the free ends of the bars 19 and 20 and having an opening through its main body through which the chains 35 and 36 pass. The mounting 42^a may be used in the place of the mounting 22.

Our improved gate has a large number of advantages. It may be used with either wooden or metal gates, and is effective with any form of hinged gate. The parts are of simple construction and can be made of comparatively inexpensive material, which is easily accessible. The form of the bracket A is such as to make it inexpensive and strong. It may be easily modified for use with gates of different kinds. The mounting 27 and the location of the pulleys therein and the mounting 27^a and the pulleys therein are believed to be particularly advantageous when used as a part of our device. By means of the pulleys mounted as they are in these mountings, the pull on the chains secured to the wires 32, 33 and 34 is always direct. We have found that the length of the bracket A from the gate to its extreme end, should be over 18 inches to get good results, and it is clear that the distance of the pull on the handles 38 is not great. The location of our means for opening and closing the gate is such that it is not interfered with by animals.

In the following claims, by the terms wire, or chain we mean any suitable device for the purpose.

We claim as our invention:

1. In a device of the class described, two posts, a gate having upright end members and top and bottom horizontal members, one of said upright members being hinged to one of said posts to permit the gate to swing either way, a bar secured to the top horizontal member near the hinged end of the gate and extending diagonally across the gate to the upright end member at the hinged end of the gate, a bracket secured to said bar fulcrumed on said last named upright end member and extending rearwardly from the gate at an obtuse angle to the vertical plane thereof, a wire extending to points spaced apart from the hinged end of said gate, on either side thereof, and means for operatively connecting said wire with the free end of said bracket.

2. In a device of the class described, two posts, a gate having upright end members and top and bottom horizontal members, one of said upright members being hinged to one of said posts to permit the gate to swing either way, a bar secured to the top

horizontal member near the hinged end of the gate, and extending diagonally across the gate to the upright end member at the hinged end of the gate, a bracket secured to said bar, fulcrumed on said last named upright end member and extending rearwardly from the gate at an obtuse angle to the vertical plane thereof, catching latch devices on the free end of said gate and on the other post, designed to automatically engage, when said gate is moved to its closed position, and means whereby the movement of said wire disengages said latch devices when the wire is moved to open the gate.

3. In a device of the class described, two posts, a gate hinged to one of said posts, to swing in either direction, a bracket secured to said gate at a point near the hinged end thereof, said bracket extending rearwardly from the gate at an obtuse angle therefrom, mountings secured to points spaced apart from the hinged end of the gate on the respective sides thereof, each of said mountings having mounted therein in the same plane, three pulleys, so arranged that when said mounting is in vertical position, if the first pulley is called the front pulley, the second pulley is located above and behind the first pulley and the third pulley is located below and behind the first pulley and in front of the second pulley, a wire, a chain secured adjacent to one end thereof, and passed around one of said front pulleys, a second wire secured to said chain and operatively connected with said bracket, a second chain secured to said first wire and passed around the other of said front pulleys, a third wire secured to said second chain, and operatively connected with said bracket, chains secured to first said wire and passed over the respective third pulleys, chains secured respectively to said second and third wires, and passed over said respective second pulleys.

4. In a device of the class described, two posts, a gate hinged to one of said posts, to swing in either direction, a bracket secured to said gate at a point near the hinged end thereof, said bracket extending rearwardly from the gate at an obtuse angle therefrom, mountings secured to points spaced apart from the hinged end of the gate on the respective sides thereof, each of said mountings having mounted therein, three pulleys,

so arranged that when said mounting is in vertical position, the pulleys are in the same vertical plane and if the first pulley is called the front pulley, the second pulley is above and behind the first pulley and the third pulley is above and behind the first pulley and the third pulley is below and behind the first pulley and in front of the second pulley, a wire, a chain secured adjacent to one end thereof, and passed around one of said front pulleys, a second wire secured to said chain and operatively connected with said bracket, a second chain secured to said first wire and passed around the other of said front pulleys, a third wire secured to said second chain, and operatively connected with said bracket, chains secured to first said wire, and passed over the respective third pulleys, chains secured respectively to said second and third wires, and passed over said second pulleys, catching latch devices on the other post and on the free end of said gate designed to automatically engage when the said gate is moved to its closed position and means whereby said latch devices are disengaged by the movement of said wires when said wires are moved to open the gate.

5. In a device of the class described, a gate having upright end members and horizontal top and bottom members, said gate being hinged to swing in either direction, parallel bars secured to the top horizontal member near the hinged end of the gate and extending diagonally downwardly and rearwardly and secured to an upright member at the hinged end of the gate, bars secured to said first named bars near the middle thereof, and extending on either side of said last named upright end member, rearwardly from the gate at an obtuse angle from the vertical plane thereof, and means for fastening said last named bars together in the rear of said last named upright end member.

Des Moines, Iowa, November 8, 1911. 100

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