A. STILLINGS & T. W. CARL.

GATE LATCH.

APPLICATION FILED APR. 18, 1917.

1,245,057.

Patented Oct. 30, 1917.

2 SHEETS—SHEET 1.

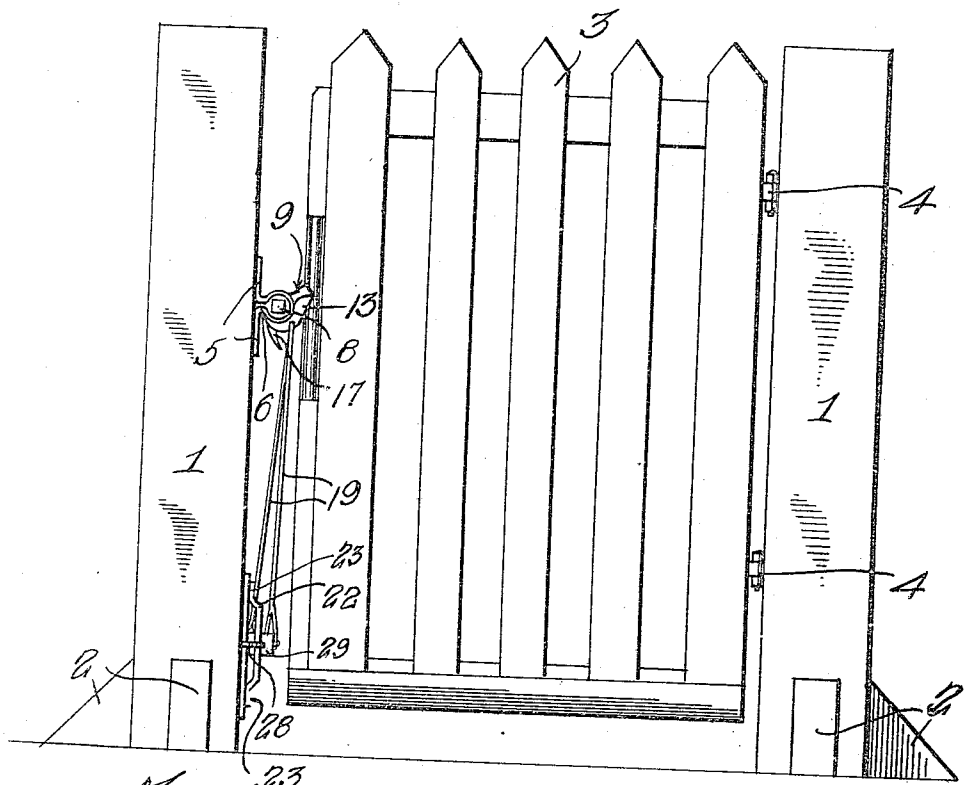


Fig. 1.

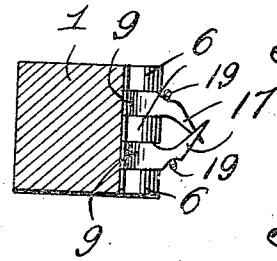


Fig. 5.

Fig. 7.

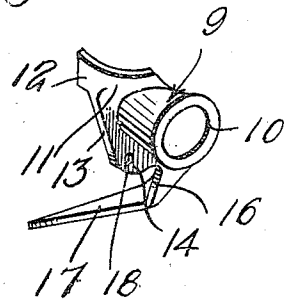
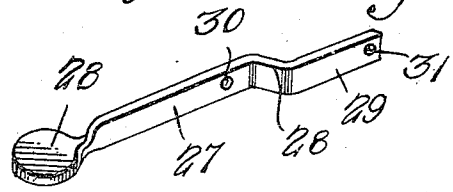


Fig. 6.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 2.

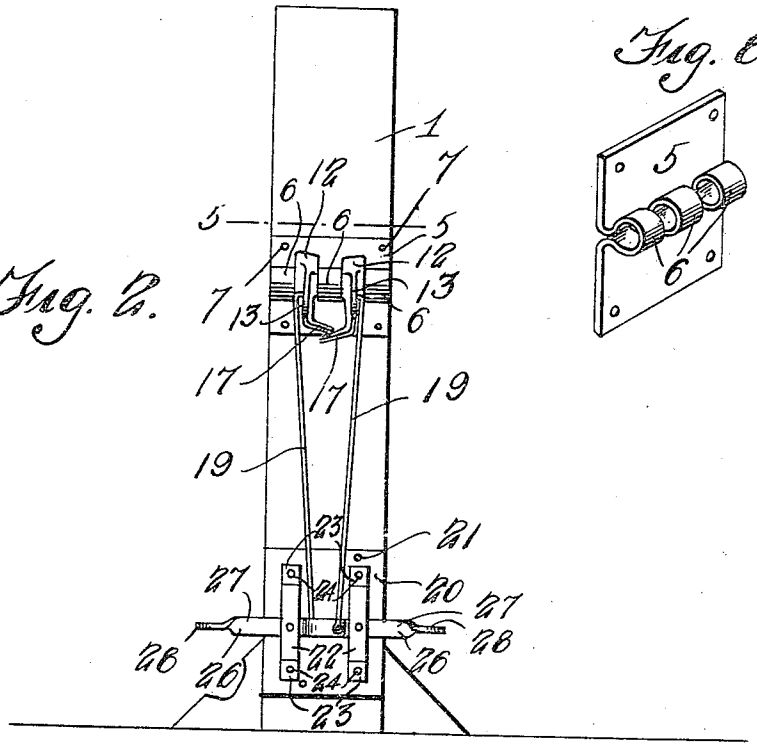


Fig. 3.

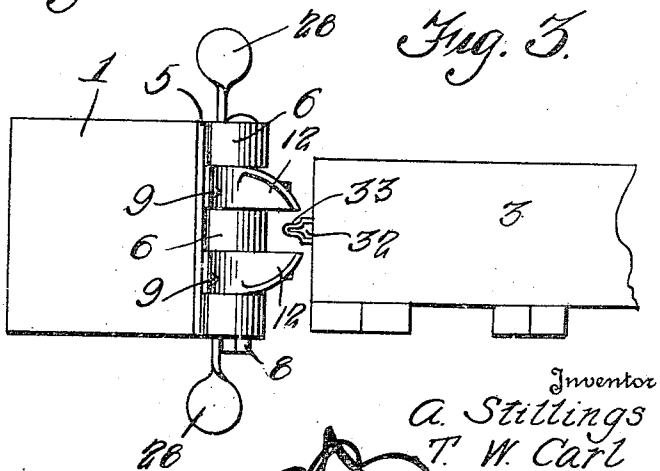


Fig. 4.

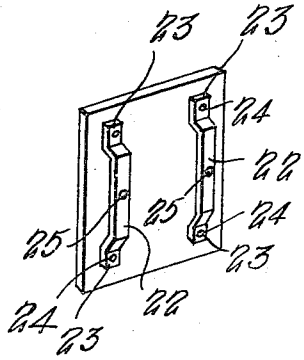


Fig. 6.

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ADELLE STILLINGS, OF SPANAWAY, AND THOMAS W. CARL, OF TACOMA, WASHINGTON.

GATE-LATCH.

1,245,057. Specification of Letters Patent. Patented Oct. 30, 1917.

Application filed April 18, 1917. Serial No. 162,939.

To all whom it may concern:

Be it known that we, ADELLE STILLINGS and THOMAS W. CARL, citizens of the United States, residing at (1) Spanaway, (2) Tacoma, in the county of (1) Pierce, (2) Pierce, and State of Washington, have invented certain new and useful Improvements in Gate-Latches; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in gate latches and operating mechanism.

The object of this invention is the provision of a gate latch, which is adapted to hold a gate closed and is provided with suitable operating means and foot treadles, whereby the gate may be automatically opened by pressing one of the foot treadles.

Another object of this invention is to provide the automatic opening and closing device for gates, which may be operated by foot treadles swinging the gate open in either direction and which will automatically reset itself for another operation upon the closing of the gate.

A further object of this invention is the provision of a swinging gate which is hingedly connected by self closing hinges and is adapted to be held closed by a pair of operating members, which constitute latches and opening members, and these latches are pivotally secured to a supporting plate and are connected to foot treadles and links so that the gate may be automatically swung open in either direction and will automatically close itself and reset the operating members for operation of the gate in either direction.

A still further object of this invention is the provision of a gate provided with self-closing hinges which may be swung open in either direction and has coöperating therewith, a pair of operating members, which are rotatably mounted on a shaft which is rigidly secured to a supporting plate, a second supporting plate located below the first named supporting plate and has pivotally secured thereto, a pair of foot treadles, links connecting each of the foot treadles with one of the operating members, whereby upon operation of either of the foot treadles one of the operating members will be operated moving the gate in either direction desired and the hinges automatically closing the gate and resetting the operating members for another operation.

A still further object of this invention is the provision of a gate latch of this character, which will be simple, durable and efficient, and which may be manufactured and sold at a comparatively low cost.

With these and other objects in view, the invention consists of the novel combination and arrangement of parts hereinafter more fully described and set forth in the claims hereto appended.

In the drawings:

Figure 1 is a front elevation illustrating my gate latch applied to a gate and made in accordance with this invention,

Fig. 2 is a transverse sectional view illustrating the operating mechanism with the gate removed,

Fig. 3 is a horizontal sectional view illustrating a fragment of the gate showing the manner in which the gate is held in closed position,

Fig. 4 is a perspective view of the treadle supporting plate,

Fig. 5 is a horizontal sectional view taken on the line 5—5 of Fig. 2,

Fig. 6 is a perspective view of one of the foot treadles,

Fig. 7 is a perspective view of one of the operating members,

Fig. 8 is a perspective view of the operating members supporting plate.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

Referring more particularly to the drawings, the numeral 1 designates a pair of substantially rectangular posts arranged at a spaced distance apart and they may be embedded in the ground and supported by suitable braces 2. The posts as here shown are substantially rectangular, it being understood that any other desired shape may be used as the invention does not rely on the construction of the posts.

A gate 3 is hingedly connected to the inner face of one of the posts 1 as at 4 and these hinges are of the self closing type of any construction, thus the gate will be automatically returned to a closed position at all times.

Our improved gate latch is applied to the inner face of one of the posts 1 and to the post that is remote from the post to which the gate is hinged as shown in Fig. 1.

The latch comprises in its construction, a supporting plate 5, which is substantially rectangular and is constructed of any suitable material, suitable for the purpose and it has its medial portion struck up to provide the laterally extending centrally arranged spaced barrels 6, which barrels are defined by slitting the plate or providing the plate with a plurality of spaced vertical slits, and these portions are struck up to provide the barrels 6 as illustrated in Figs. 1, 3 and 8.

The plate 5 is secured to the inner face of the posts 1 by suitable fastening means 7, such as screws, nails or the like and is secured thereto adjacent the upper end thereof, as clearly shown in Figs. 1 and 2 of the drawings.

A shaft 8 is arranged transversely in the barrels 6 and rigidly secured therein and is adapted to have rotatably mounted thereon, the operating members, which are designated in their entirety by the numeral 9.

The operating members comprise in their construction, the bearing collars 10 and as the construction of both is identical, thus providing companion or duplicate operating members, description of one is thought to be sufficient for both.

The bearing collar 10 has formed on one end the laterally projecting extension 11, which is arranged substantially at right angles to the collar 10, and each of the collars 10 are rotatably mounted on the shaft 8 and between the barrels 6, as shown in Fig. 3, and by the positioning of the bearing collars on the shaft 8, they are spaced apart by the intermediate barrel 6 of the plate 5 and the extensions 11 on the outer end of each of the bearing collars 10 are directed inwardly and they prevent the bearing collars from being interchangeable.

The extension has the tapered outer end 12, which is curved upwardly and inwardly to provide a convex outer surface and constitutes a latch member for holding the gate closed and also the gate will strike the convex surface of this extension, raise the device upwardly and permit the gate to automatically close itself. The extension 11 has the downwardly and outwardly inclined surface 13 and has its lower edge curved inwardly as at 14 to provide the angular extension 16, which has its forward end bent upwardly and outwardly as at 17 to constitute a gate opening member. The portion 14 is provided with the openings 18, in which is pivotally secured one end of the operating rod 19, the purpose of which will be hereinafter more fully described.

The construction of each of the bearing collars 10 is so arranged as to provide the latch holding member, operating members and a gate opening member, providing means whereby the gate may be automatically closed and automatically opened, which will be hereinafter more fully described.

A rectangular supporting plate 20 is rigidly secured by suitable fasteners 21 to the inner face of the posts 1 and is located below the supporting plate 5 adjacent the lower end of the post thereof.

A pair of substantially U-shaped straps 22 have the ends of their legs bent angularly to provide attaching members 23, which are rigidly secured by suitable fastening means 24, such as rivets, screws or the like to the front face of the plate 20, their web portions being in vertical alinement and at a spaced distance apart, and each of the web portions are provided centrally with the openings 25, which are adapted to have pivotally secured therein, the foot treadles 26.

The foot treadles 26 comprise the horizontal body portions 27, having their outer ends twisted at right angles to the body and terminating into circular enlargements 28, which constitute foot receiving portions, whereby the foot may be placed to actuate the treadles 26. One of the members or ends of the horizontal body portions 27 is offset laterally as at 28′ and extended forwardly as at 29 so as to overlap the inner end of the other member when pivotally secured to the web portions 22 of the U-shaped supporting straps.

Each of the horizontal body portions 27 of the treadles are provided intermediate their ends with the openings 30 and are pivotally secured to the inner face of the medial portions of the straps 22 and the inner ends are adapted to overlie one another as shown in Fig. 2, and each of the inner ends of the treadles 26 are provided with the openings 31, which have pivotally secured thereto, the lower free ends of the links 19, thus the treadles 26 will be normally held in a horizontal position, as shown in Fig. 2.

When the treadles are in a horizontal position, as illustrated, the tapered extensions 12 constituting the latches of the bearing collars 10 will also be in a substantially horizontal plane, thus the gate will be held to a swing in either direction. The gate 3 is provided with a vertical rib 32, which has secured thereon, the metal wear plate 33, which wear plate is adapted to be arranged between the latch members 12 of each of the bearing collars 10 when they are in substantially horizontal plane to hold the gate against movement in either direction.

When it is desired to operate the gate, for movement in either direction, it is only necessary to place the foot upon one of the portions 28 of either of the treadles and press the same downwardly and which operation will raise its respective operating member 9 upwardly, thus forcing the extension or gate opening member 17 into engagement with the the rib 33, throwing the gate open in the

direction that the person is walking, and upon the person passing through the gate, the latch will drop back into its original position and after the person has passed through the gate, the gate will automatically close and the rib will strike the convex portion of the extension 12, raising the operating member to permit the gate to be arranged between each of the extensions and the device is reset and ready for operating or movement in either direction.

It is to be understood that when looking at Fig. 2 at the inner end of the lever 26, it appears on the left side of the figure and is connected to the operating member, which appears on the right hand side of the figure and is connected thereto by the link 19, thus it can be seen that by pressing on the portion 28 of the lever or treadle 26 on the left hand side of Fig. 2 that it will raise the operating member 10 that appears on the right hand side of the Fig. 2, this will force the extension or gate opening member 17 into engagement with the left side of the rib 33 and swing the gate outwardly to the right and in the direction the person is walking.

It being understood that when the other treadle on the left hand side of Fig. 2 is operated that the operation will be repeated in the reverse manner.

It can be also understood that the extension 17 or gate opening member 17 of one of the operating members 10 is inclined in a plane below the other member 17 so as to permit them to pass one another during their operation.

What is claimed is:

1. A gate latch and operating mechanism, comprising supporting plates, latch and operating members rotatably carried by one of said plates, and means carried by the other of said plates for operating said members.

2. A gate latch and operating mechanism, comprising supporting plates, a shaft rigidly supported on the face of one of said plates, a pair of duplicate latch and operating members rotatably mounted on said shaft, and an operating means pivotally carried by the other of said plates and pivotally associated with the operating members for operating the same.

3. A gate latch and operating mechanism, comprising a pair of spaced supporting plates, a shaft rigidly supported on the face of one of said plates, treadles pivotally carried by the face of the other of said plates, a pair of duplicate latch and operating members rotatably mounted on the shaft at a spaced distance apart, and means connecting the operating members with the treadles for the operation thereof.

4. A gate latch and operating mechanism, comprising a pair of supporting plates, a pair of duplicate latch and operating members rotatably mounted on the face of one of said plates, a pair of foot treadles pivotally secured to the face of the other of said plates, and means pivotally connecting the treadles to the operating members, whereby upon downward movement on either of the treadles, one of the operating members will be actuated.

5. A gate latch comprising a pair of spaced supporting plates adapted to be secured to a gate post, a shaft rigidly secured to the face of one of the plates, a pair of treadles pivotally secured to the face of the other of said plates and located below the shaft of the first named plate, a pair of latch and operating members rotatably mounted on the shaft and arranged at a spaced distance apart, and links pivotally connecting the operating members with the treadles whereby upon movement of the treadles, the operating members will be actuated.

6. A gate latch and operating mechanism, comprising an upper and lower supporting plate adapted to be secured to the inner face of a gate post, a shaft rigidly secured to the face of the upper plate, foot treadles pivotally mounted on the face of the lower plate and located below the shaft, said treadles having their operating ends extending outwardly beyond the post in opposite direction, a pair of duplicate latch and operating members rotatably mounted on the shaft, each of said operating members provided with extensions constituting gate openers and latches, and links pivotally connected to the operating members and inner ends of the treadles for the actuation of the operating members upon the movement of the treadles, as and for the purpose specified.

7. A gate latch and operating mechanism, comprising a pair of spaced supporting plates, adapted to be secured to the inner face of a post in superposed relation, said upper plate provided with spaced vertical slits defining laterally projecting spaced barrels, a shaft rigidly secured horizontally within the barrels, a pair of latch and operating members rotatably mounted on the shaft, said operating members comprising bearing collars and having right angularly related extensions formed on their outer ends, which extensions constitute latch members and opening members, a pair of treadles pivotally secured to the face of the lower plate and located beneath the shaft, said treadles having their outer ends arranged in overlapped relation, links pivotally secured to each of the operating members and to the inner ends of the treadles for the moving of the operating members by the pressure being applied to the outer ends of the treadles, as and for the purpose specified.

8. The combination with a pair of spaced posts, having a gate hingedly connected thereto, a pair of supporting plates secured

on the inner face of one of the posts and arranged in superposed relation, one of said plates provided with spaced vertical slits defining right angularly related hinged barrels, a shaft rigidly secured to said barrels, a pair of duplicate operating members comprising bearing collars, which are rotatably mounted on the shaft on opposite sides of the intermediate barrel, each of said bearing collars having their outer ends provided with laterally extending right angularly related extensions, said extensions having their upper ends tapered and curved upwardly and inwardly to define a latch member, the lower ends of the extensions bent inwardly and inclined downwardly to define opening members, a pair of U-shaped straps secured to the face of the lower plate, a pair of treadles pivotally secured to the web portions of the straps, one of said treadles having its inner end offset laterally to overlap the inner end of the other treadle, links pivotally connected at one of their ends to the inner ends of each of the treadles, the opposite ends of said links pivotally secured to the extensions of each of the operating members, the outer ends of said treadles being enlarged to define foot portions, which are adapted to receive pressure thereon releasing the opening members, thus releasing the gate, as and for the purpose specified.

In testimony whereof we affix our signatures in presence of two witnesses.

ADELLE STILLINGS.
THOMAS W. CARL.

Witnesses:
E. F. GREGORY,
R. E. CHASE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."