(Model.)

# D. W. BARR.

## GATE HINGE.

No. 260,354. Patented July 4, 1882.

Fig 1

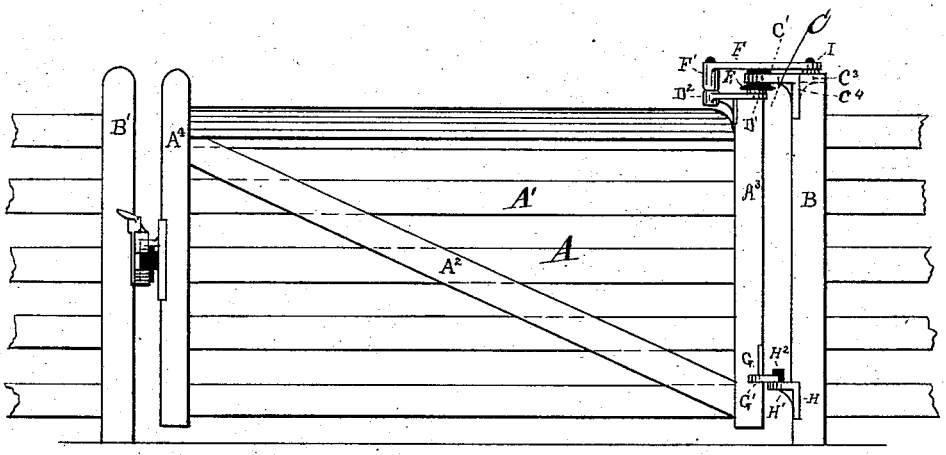



Fig 2

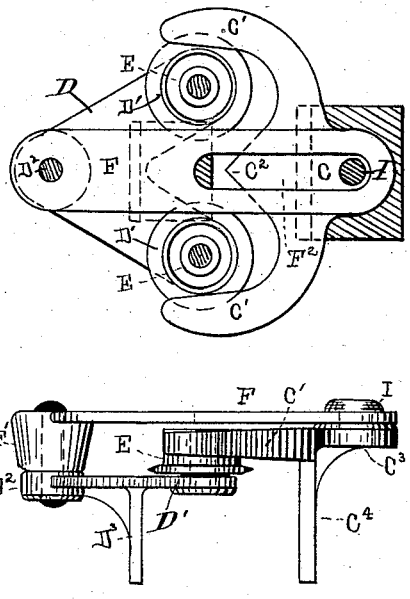
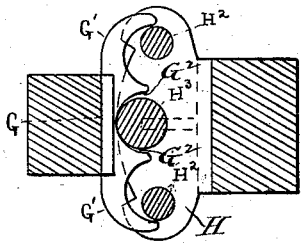
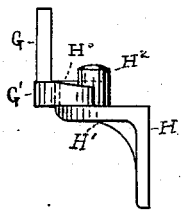



Fig 3










Witnesses
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# UNITED STATES PATENT OFFICE.

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## GATE-HINGE.

SPECIFICATION forming part of Letters Patent No. 260,354, dated July 4, 1882.

Application filed March 16, 1882. (Model.)

*To all whom it may concern:*

Be it known that I, DANIEL W. BARR, of the city of Reading, county of Berks, State of Pennsylvania, have invented a new and useful Improvement in Gate-Hinges, of which the following is a specification.

This improvement relates to that class of hinges adapted to swing in both directions, and is applicable to farm, lawn, or yard gates.

Referring to the drawings herewith, in which corresponding parts are similarly lettered, Figure 1 represents a front elevation of a farm-gate with the hinges attached; Fig. 2, a plan and elevation of the several parts of the upper hinge as detached from the gate and post; Fig. 3, a plan and elevation of the lower hinge detached from the gate and post.

A represents the gate, composed of rails A′, braces $A^2$, hinge-stile $A^3$, and latch-stile $A^4$; B, the hinge-post, and B′ the latch-post. C is a bifurcated curvilinear cap to the hinge-post; C′, curvilinear arms; $C^2$, a central stop; I, fulcrum for link; $C^4$, bracket for attachment to post; D, a bifurcated angular-armed cap to the hinge-stile of the gate, having bosses D′ for the support of anti-friction rollers, and boss $D^2$ for the fulcrum-pin of the link F. $D^3$ is a bracket for securing the same to the hinge-stile of the gate. F is a link; F′, a boss for the fulcrum-pin; $F^2$, an oblong slotted guide working on the guide-pin I. Rollers E are placed one at each end of the angular-armed cap. G is the stile-hinge at the lower part of the gate, having triplicate crescent-shaped projections G′, G′, and $G^2$, which serve as points of rest and revolution, respectively, as the gate is moved outward or inward or is in a state of rest. H represents the fulcrum-plate of the lower hinge, is secured by a bracket to the gate hinge-post B, and is provided with two outside fulcrum-pins, $H^2$ $H^2$, upon which the crescents G′ G′ rotate on swinging the gate, and a center or locking pivot, $H^3$, upon which $G^2$ rotates as G′ in the use of the gate swings away from either of the fulcrum-pins H′.

A gate mounted upon this system of hinges may be swung in either direction in which it is opened completely around and back against the line of fence in which the gate is placed. This makes it a convenient gate for farmers and others, as the team may be driven up against the gate from either side, and being opened away from the horses there is no bar to the team passing through.

In the operation of the upper hinge, when it is in a state of rest the anti-friction rollers E are both in contact with the inner curve of the arms C′, and are kept in contact therewith by the link F. This link is pivoted at $D^2$ by a pin common to it and the boss F′ of the link, and when the gate is closed has the pin I at the outer extremity of the oblong guide-slot $F^2$, and this position is maintained until the gate has opened to ninety degrees, when, as the motion continues until the circuit of one hundred and eighty degrees is completed, the guide-slot $F^2$ passes over the guide-pin I until its inner extremity is reached. This automatic adjustment of the length of the link retains the roller E in contact with the arm C′ and steadies the movement of the top of the gate.

In the operation of the lower set of hinges the following movements occur: First, when the gate is closed the crescent $G^2$ fits snugly against and clasps the semi-circumference of the pin or fulcrum $H^2$. On opening the gate in either direction the arms G′ G′ come in contact with the pivots or fulcrum-pins H′ H′, and when contact is secured, and not before, the crescent $G^2$ leaves $H^2$, and the further movement of the gate is upon one of the fulcrum-pins H′, and in closing the release of the arm G′ from H′ does not occur until contact between $G^2$ and $H^2$ has taken place, the motion being then transferred from H′ to $H^2$.

The construction of the several parts of the hinge is such that all may be readily cast, and when "rattled" a very small amount of machine-work fits them for application.

I am aware that hinges permitting a rotation of the gate in either direction to the extent of one hundred and eighty degrees is not new, (see patent of Barr and Smeck, No. 233,394, October 19, 1880,) and that a lower hinge having two fulcrum-points has been used for many years, (see Clark's patent, gate-hinge, No. 4,855, May 2, 1871;) but I believe that I am the first to use the top and bottom hinges of a gate constructed as described.

The drawings are sufficiently detailed to en-

able an expert to construct the same; and having described the operation of the same, I desire to secure by Letters Patent the following claims:

1. An upper gate-hinge composed of the following elements: a hinge-post cap, C, provided with arms C′ C′, center stop, $C^2$, guide-pin I, and bracket $C^4$, in combination with hinge-stile cap D, provided with arms D′ D′, link-boss $D^2$, bracket $D^3$, and rollers E E, and secured in working contact by link F, provided with fulcrum-pin boss and pin F′, oblong guide-slot $F^2$, and guide-pin I, all arranged, constructed, and adapted to operate as a hinge, substantially as and for the purpose specified.

2. A gate-hinge composed of the following elements: a post-bracket, H, provided with a shelf, H′, having mounted upon it two outer pivots, $H^2$ $H^2$, and a center pivot, $H^3$, in loose working contact with stile-bracket G, having two external crescent arms, G′ G′, and a central crescent, $G^2$, operating upon the pivots $H^2$ and $H^3$, substantially as shown and described.

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