(No Model.)

J. J. SWARTHOUT.

GATE ROLLER AND HINGE.

No. 382,844. Patented May 15, 1888.

Fig. 1.

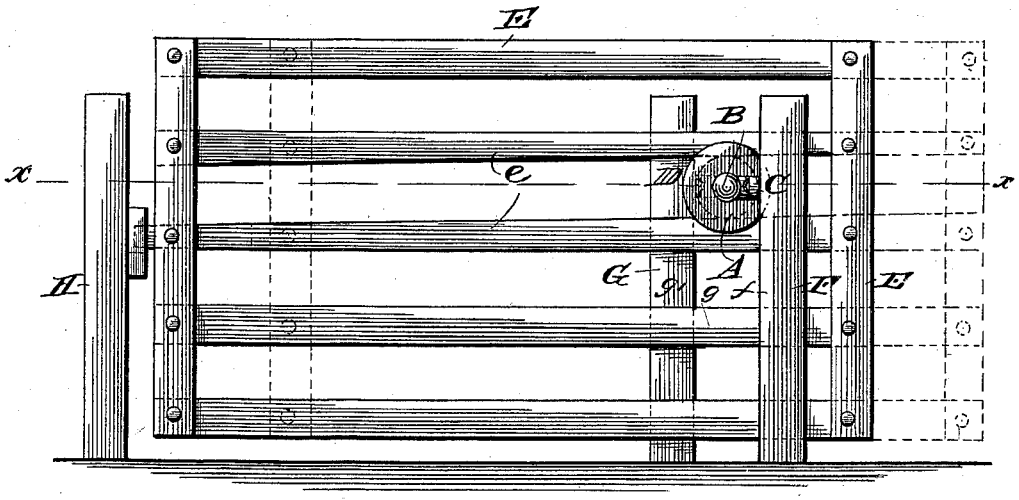


Fig. 2.

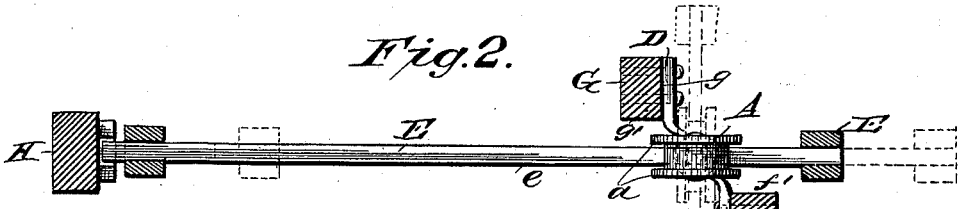
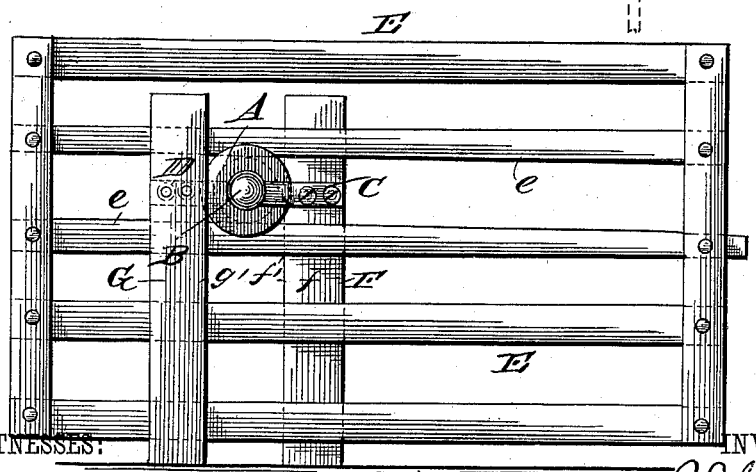


Fig. 3.

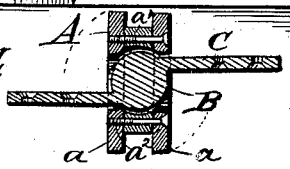


WITNESSES:

Phil. C. Dieterich.

C. Sedgwick.

Fig. 4.



INVENTOR:

J. J. Swarthout

BY Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JAMES J. SWARTHOUT, OF STONE'S PRAIRIE, ILLINOIS.

GATE ROLLER AND HINGE.

SPECIFICATION forming part of Letters Patent No. 382,844, dated May 15, 1888.

Application filed March 12, 1888. Serial No. 267,012. (No model.)

To all whom it may concern:

Be it known that I, JAMES J. SWARTHOUT, of Stone's Prairie, in the county of Adams and State of Illinois, have invented a new and Improved Gate Roller and Hinge, of which the following is a full, clear, and exact description.

My invention relates to a gate roller and hinge device comprising a roller or wheel and a ball-bearing on which the roller may turn and swing in opening and closing a gate supported on the roller; and the invention has for its object to provide a simple, inexpensive, and efficient gate roller and hinge device which will give a more substantial support to the gate and its hinge-posts and assure easier movements of the gate than are attained by the use of other devices of like general character.

The invention consists in certain novel features of construction of the gate roller and hinge device, and in its combination with a gate and its hinge-posts, all as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of a closed gate supported by my improved roller and hinge device. Fig. 2 is a plan view in horizontal section on the line *x x*, Fig. 1. Fig. 3 is a view taken at right angles to Fig. 1 and with the gate open, and Fig. 4 is a detail sectional plan view of the roller and hinge device.

The gate roller and hinge device consists of a roller, A, having a flange, *a*, at each edge and supported centrally upon a ball, B, which is provided with two arms, C D, which project from opposite sides of the ball in about the same horizontal plane and parallel to each other, so that the roller may turn on the ball to present its side faces either at right angles to the arms C D or in parallel plane with them. The roller A is preferably made in three pieces, a central smaller disk, *a'*, on which the gate rests and slides, and two side plates, a^2 a^2, which project beyond the periphery of the disk *a'* to form the roller-flanges *a a*, before referred to.

In applying this roller and hinge to hang a gate, E, the roller A, with the ball B in it, will be fitted between any two of the rails *e e* of the gate, and the opposite arms C D of the ball will then be fixed to adjacent faces *f g* of the two gate-hinge posts F G, which posts stand in such relation to each other that the closed gate may be slid or moved away from the gate-latch post H in a direct line or plane parallel with and between the two adjacent faces *f' g'* of the posts F G and upon the roller, which then rotates on the ball in a plane at right angles to the ball-arms, as will be understood from Figs. 1 and 2 of the drawings; and when the gate is moved or rolled back sufficiently in this direction it may be swung around bodily with the roller and upon the ball until it assumes the open position indicated in dotted lines in Fig. 2 and in full lines in Fig. 3 of the drawings, the gate when thus swung open then lying with the roller in a plane parallel with the ball-arms C D and between the faces *f g* of the hinge-posts.

It will be noticed that the roller-ball B has a substantial connection by its arms C D with both the hinge-posts of the gate, and thus serves as a brace to both posts and allows them to be made lighter than usual, and at the same time the two posts give a much more secure support to the ball-bearing of the roller and gate than a connection of the ball with but one of the posts would afford. Furthermore, this relative arrangement and connection of the ball with the two gate-hinge posts never allows the sides of the gate to strike either post; hence the gate will move either way endwise on the roller and ball-bearing, and may also be swung bodily flatwise on its bearing with great freedom and ease of movement.

The gate itself may have any ordinary or approved construction which provides rails or ways between which the hinge-roller may be placed, and these rails or ways may be arranged in inclined positions, or may have inclined edges, as shown, on which the roller bears so as to lift the gate as it opens and assist the closing of the gate by its own gravity, as will readily be understood.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A gate roller and hinge device consisting of a ball having two oppositely-extending

arms adapted for connection to two posts, between which the gate may slide and swing, and a roller fitted loosely on the ball and adapted to support the gate, substantially as herein set forth.

2. In a gate, the combination, with two diagonally-set posts, F G, of a ball-bearing, B, having arms C D fixed to said posts, a roller, A, fitted loosely onto the ball B, and said gate provided with rails or ways supporting it to slide on the roller and swing with the roller on the ball, substantially as herein set forth.

JAMES J. SWARTHOUT.

Witnesses:
McCLELLAN WAGG,
C. W. STURTEVANT.