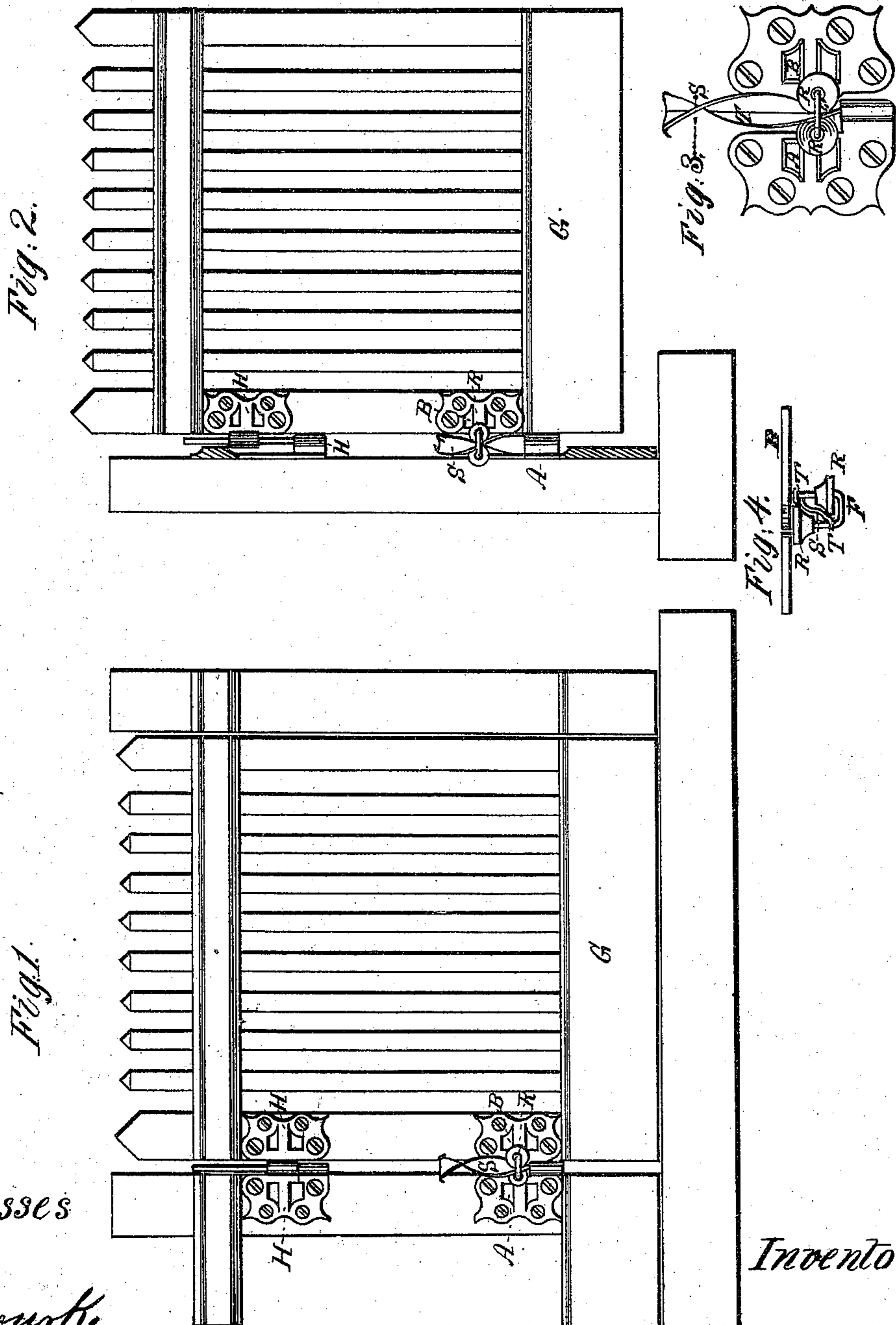


W. HULL.
Gate-Hinges.

No. 143,764.

Patented Oct. 21, 1873.



Witnesses

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WESLEY HULL, OF FORT WAYNE, INDIANA.

IMPROVEMENT IN GATE-HINGES.

Specification forming part of Letters Patent No. **143,764**, dated October 21, 1873; application filed August 11, 1873.

To all whom it may concern:

Be it known that I, WESLEY HULL, of Fort Wayne, in the county of Allen and State of Indiana, have invented certain new and useful Improvements in Gate-Hinges; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, in which like letters represent like parts in different figures, and which form a part of this specification.

In the accompanying drawings, Figure 1 is a front view of my improved hinge when closed. Fig. 2 is an end view with gate open at right angles. Fig. 3 is a detached front view when open. Fig. 4 is a transverse section, showing the frame and conical rollers.

My invention relates to automatic or self-closing gate-hinges; and it consists in arranging on one plate or leaf of the hinge a horizontal frame bent at right angles in such a manner as to carry on its opposite sides two conical-shaped friction-rollers, which engage with the tracks formed in the opposite sides of a spiral or auger-shaped pintle secured to the other leaf or hinge-plate, as will hereafter be more fully described.

To enable others skilled in the art to which my invention appertains to make and use the same, I will now describe its construction and operation.

In the accompanying drawings, G represents the gate; A B, the hinge secured to the gate, as seen in Fig. 1. To that part of the hinge marked A is secured the spiral pintle S, near the lower end of said hinge, and extends above the top of it. This spiral pintle S, with the spiral tracks T T formed therein, passes between two conical-shaped friction-rollers, R R, which are secured to that part of the hinge marked B, as seen in Fig. 1, resting near the lower end of said tracks when the gate is closed, as seen in Fig. 1. When the gate is opened these rollers R R are caused to revolve on their axes and travel up the spiral pintle S in their tracks T T, thereby elevating the gate, as seen in Fig. 2, which, by its weight, as soon as left free, causes the rollers to return upon the

same track, thereby closing the gate. By this arrangement the friction is transferred from the track to the shaft of the rollers R R, thus allowing the gate to be opened more easily and close with more force. These spiral tracks or inclined planes can be made of a greater or less elevation or spiral turn, so as to act with more or less power upon the gate. Upon opposite sides and near the opposite edges of the spiral pintle S these tracks or grooves T T are formed, and across their base run parallel with the shafts and rollers R R, and are provided with elevations on the inside of each formed in the spiral pintle S to keep the rollers in their tracks T T, as seen in Fig. 3. The top ends of these tracks are bent over sufficiently to prevent the hinge from being separated, as shown in the drawings. These rollers are secured to that part of the hinge marked B by means of the frame F. This frame F can be formed of round iron, bent at right angles with that portion that forms the shafts for the rollers R R, thereby connecting the two shafts and retaining the rollers in place. The other end, which forms the shafts, is secured to that part of the hinge marked B, as shown in Fig. 4 in transverse section, in which is shown the spiral pintle S cut at right angles, thus showing the curves and angles in said pintle which form the tracks T T, as shown upon opposite sides and opposite ends of the shafts and frame F, the central portion of the pintle running in an angle with the base of the tracks T T and shafts, on which the rollers R R are pivoted in their proper position, secured by the shafts entering the part of the hinge marked B, as shown in Fig. 4. These elevations on the inside of the tracks not only act to keep the rollers in place, but the rollers also act on them to keep the edge of the tracks from pressing against the hinge and frame F. The upper hinge H H is so constructed as to allow the lower hinge to act freely.

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

The hinge-plate or leaf B, provided with the horizontal frame F or its equivalent, bent at right angles, and carrying on its opposite

sides the two conical-shaped friction-rollers R R, in combination with the spiral or auger pintle S and spiral tracks T T of the hinge-plate or leaf A, all constructed, arranged, and operating substantially in the manner and for the purpose set forth and described.

In testimony that I claim the foregoing as

my own I affix my signature in presence of two witnesses.

WESLEY HULL.

Witnesses:

E. O'ROURKE,
J. B. DUBOIS.