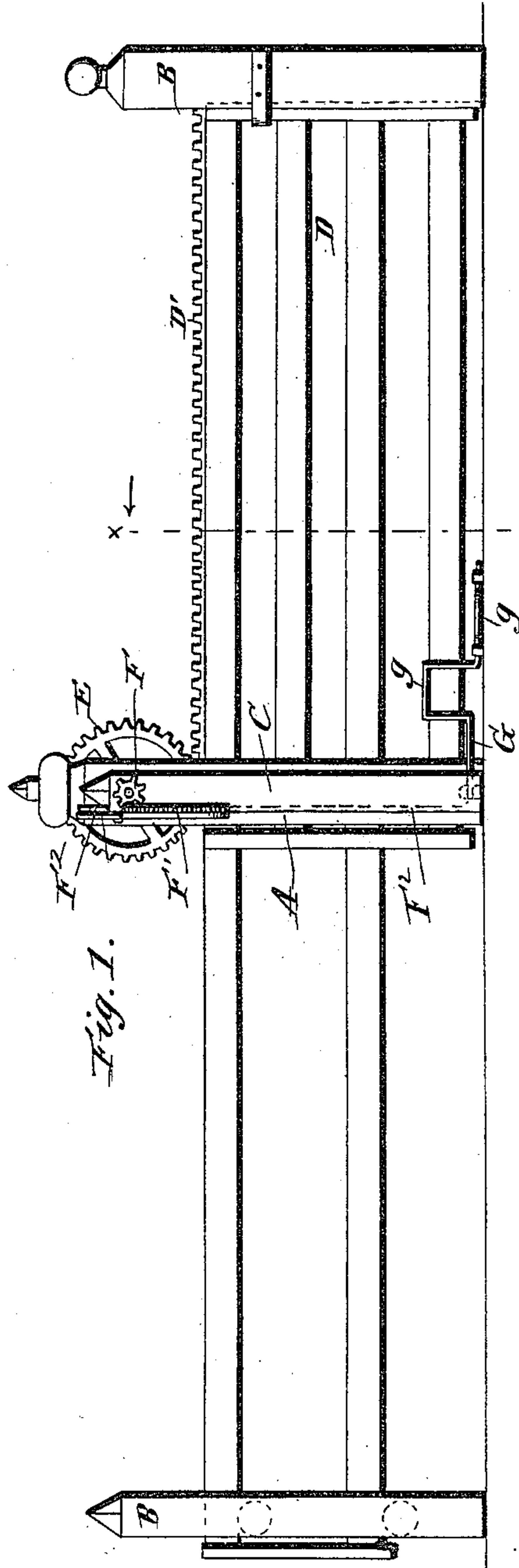
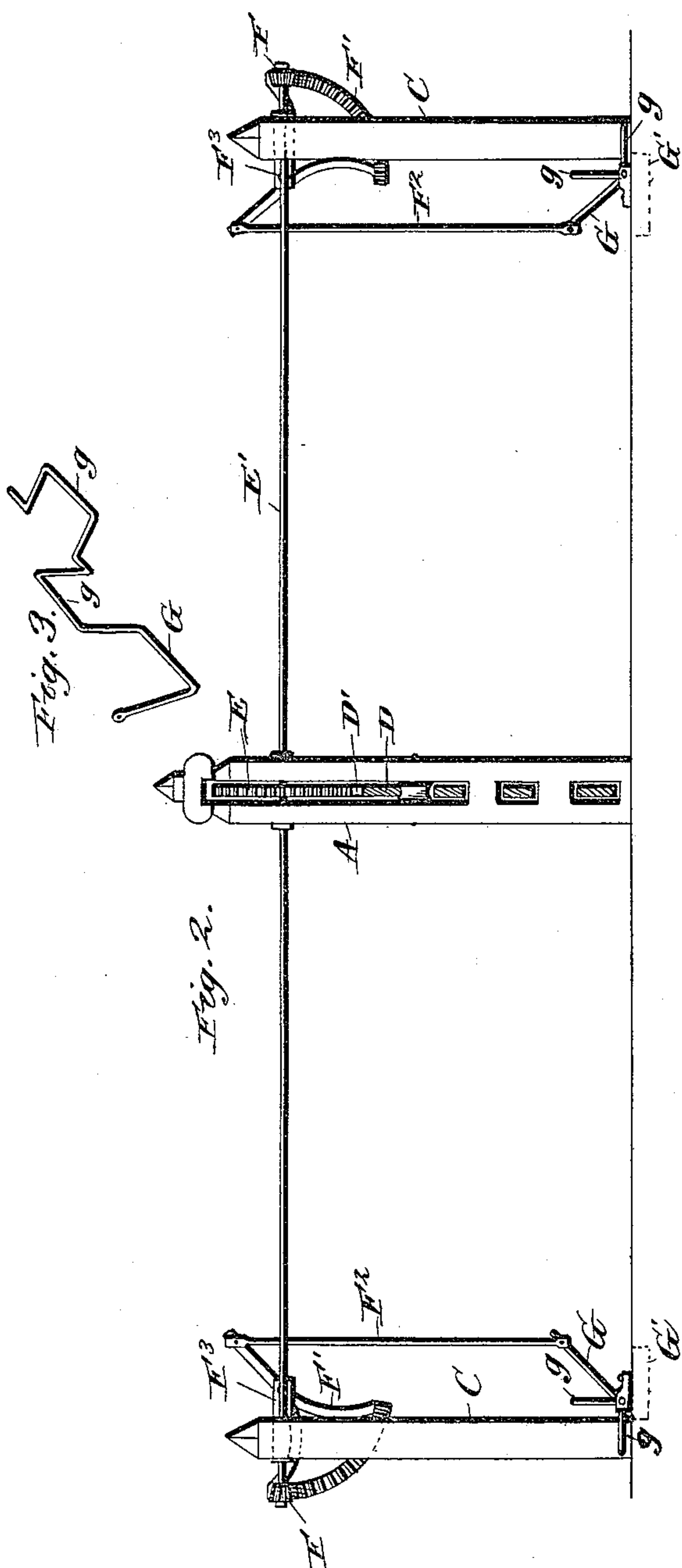


(No Model.)

E. D. MIDDLEKAUFF & C. D. HARSIN.
GATE.

No. 440,177.

Patented Nov. 11, 1890.



Witnesses:
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UNITED STATES PATENT OFFICE.

ELLSWORTH D. MIDDLEKAUFF AND CHARLES D. HARSIN, OF STOCKTON,
CALIFORNIA.

GATE.

SPECIFICATION forming part of Letters Patent No. 440,177, dated November 11, 1890.

Application filed April 19, 1890. Serial No. 348,751. (No model.)

To all whom it may concern:

Be it known that we, ELLSWORTH D. MIDDLEKAUFF and CHARLES D. HARSIN, citizens of the United States, residing at Stockton, in the county of San Joaquin and State of California, have invented certain new and useful Improvements in Gates; and we do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Our invention relates to an improvement in gates that may be opened and closed by means of the contact of the wheels of the passing vehicle with a double-crank lever on the ground, which by proper connections sets in motion a gear-wheel meshing with a cog-rack gearing on the top of the gate.

In the drawings, Figure 1 is a side elevation of our improved gate. Fig. 2 is an end view, partly in section and through line *xx*, Fig. 1. Fig. 3 is a detached view of the crank-lever.

We construct and operate our improved gate as follows:

The gate proper is composed of two fence-panels of boards *D*, suitably connected together.

B is an end post, which is provided with slots having rollers for the passage of boards *D*.

B' is an independent end post provided with a latch for receiving the gate when closed.

A is a center post provided with slots and rollers for the passage of the gate-boards.

C are posts in a line with the center post *A* and at suitable distances from it. The end posts *C* have attached to their heads the bearings *F*³ of a rolling shaft *E'*, which at the center post *A* has upon it a large gear-wheel *E*, that meshes with a cog-rack gearing *D'* upon the top board of the gate. The roadway is between the posts *A* and *B'*. At each of the posts *C* is provided a double-crank lever

G, having parts *g* at right angles to each other. The lever is secured to the ground near its post, and is connected at one end by a rod *F*² to a bell-crank lever *F'*, which is pivoted on the bearing *F*³, and is provided with cogs on its face which mesh with a pinion *F* on the end of the shaft *E'*. The outside bearings of the crank-levers *G* are attached to bed-pieces *G'*, composed of planks suitably secured to the ground. The wheels of the passing vehicle come in contact with that part *g* of the crank-lever *G* which is upright, setting the shaft *E'* in motion by means of the connecting mechanism above described, so that the gear-wheel *E*, intermeshing with the cog-rack gearing *D'*, throws the gate open and permits the vehicle to pass, and the wheel again coming in contact with the upright part *g* of the lever *G* at the opposite post *C* causes a reverse action and closes the gate.

Having thus described our invention, what we claim is—

The combination, with the catch-post, of the post *B*, having rollers, the post *A*, the gear-wheel *E*, journaled in said post *A*, the sliding gate, the rack secured to the upper side of the rail of the gate, the posts *C*, the crank-levers *G*, journaled in the ground at the lower ends of said posts *C*, the bell-crank levers journaled at the upper ends of said posts and having the segmental racks thereon, the horizontal rod *E'*, secured to the gear *E*, the pinions *F*, secured to the opposite ends of said rod, and the rods connecting the arms of the bell-crank levers with one end of the double-cranked levers, all adapted to operate substantially as and for the purpose set forth.

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

ELLSWORTH D. MIDDLEKAUFF.
CHARLES D. HARSIN.

Witnesses:

JOSHUA B. WEBSTER,
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