

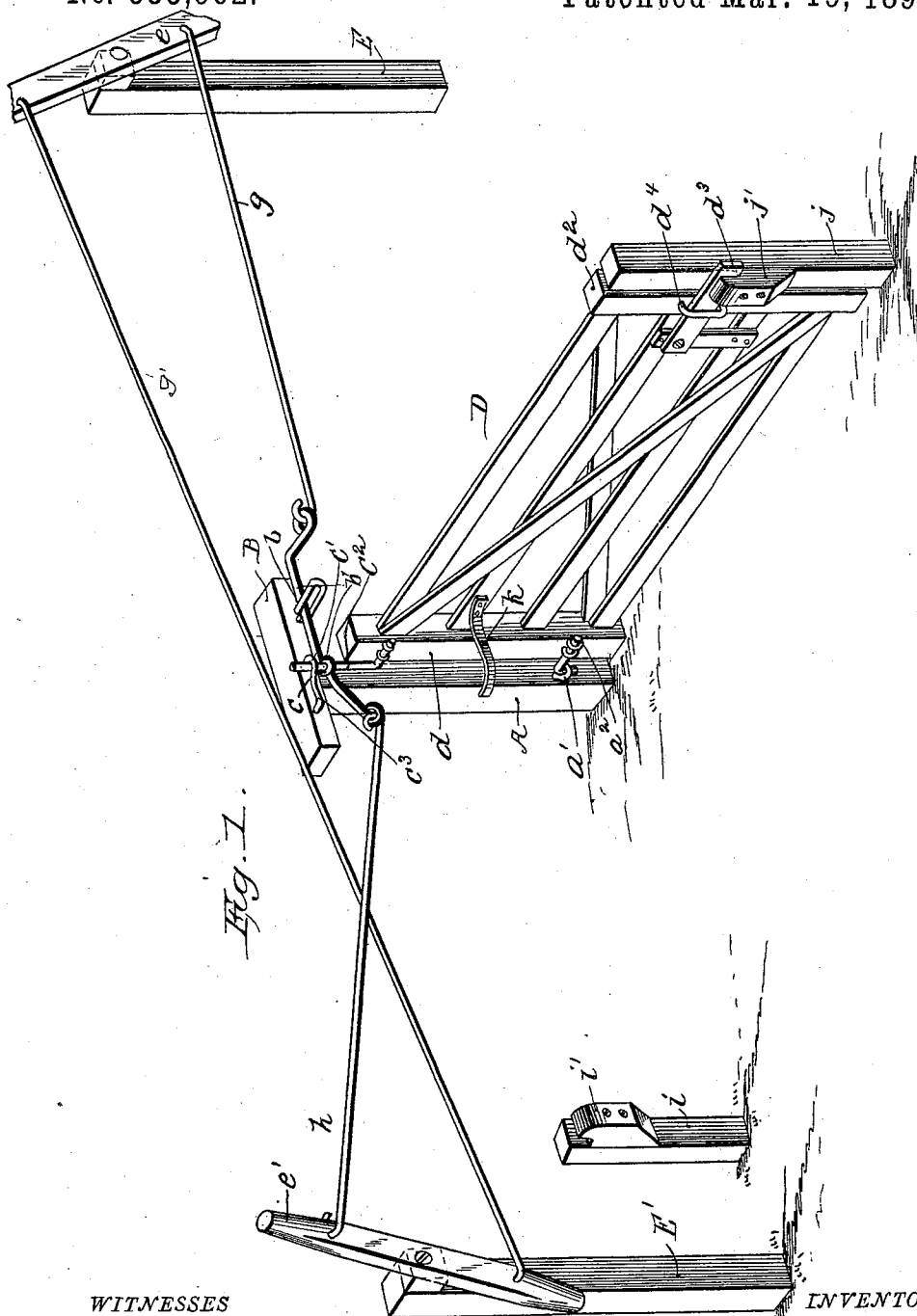
(No Model.)

2 Sheets—Sheet 1.

W. SMITH.
LEVER OPENING GATE.

No. 535,962.

Patented Mar. 19, 1895.



WITNESSES

Walter Farnsworth

Rose O. Rabbitt.

INVENTOR

William Smith

by John G. Duffie Attorney

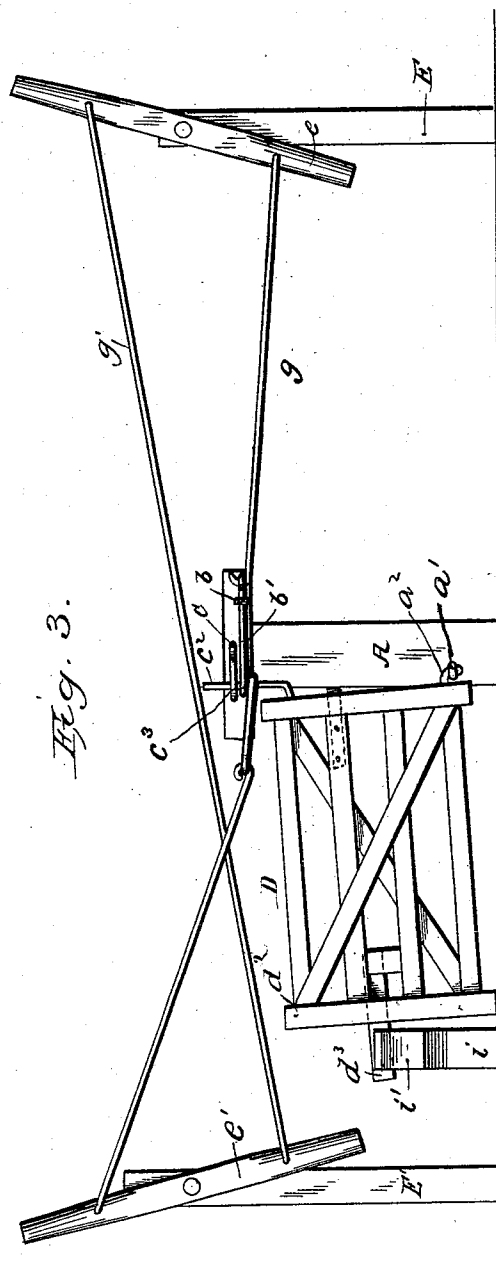
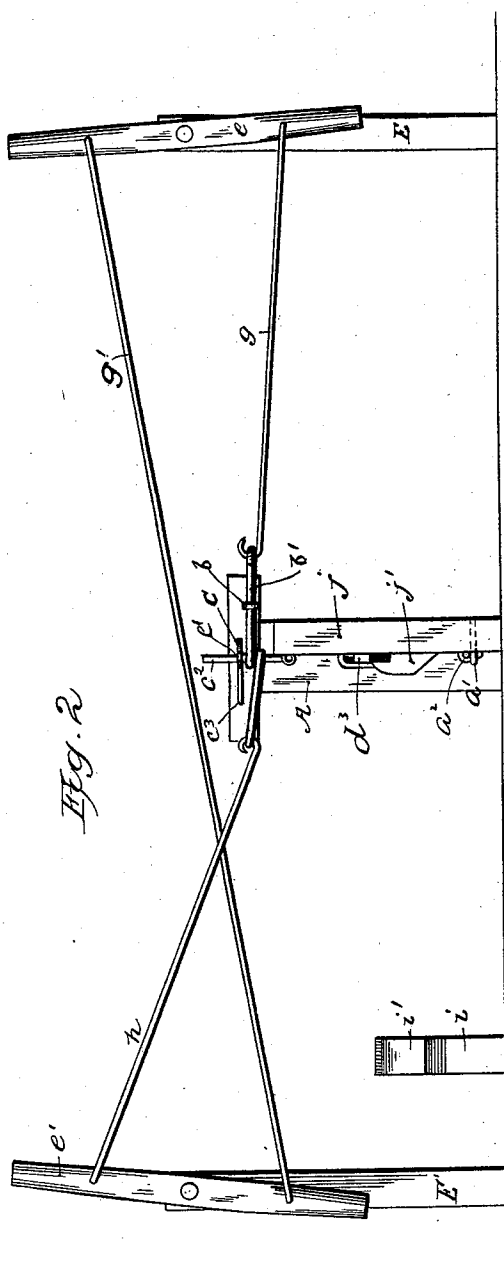
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Walter Gammariss
Rose O. Rabbitt.

INVENTOR

William Smith
to John L. Dwyer Attorney

UNITED STATES PATENT OFFICE.

WILLIAM SMITH, OF DRAKE'S CREEK, ARKANSAS, ASSIGNOR OF ONE-HALF
TO JAMES LAFAYETTE YOUNG AND BURSS MONROE BILLINGSLY, OF
SAME PLACE.

LEVER-OPENING GATE.

SPECIFICATION forming part of Letters Patent No. 535,962, dated March 19, 1895.

Application filed July 27, 1894. Serial No. 518,761. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM SMITH, a citizen of the United States, residing at Drake's Creek, in the county of Madison and State of Arkansas, have invented certain new and useful Improvements in Lever-Opening Gates; and I 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.

My invention is a new automatic lever opening gate; and consists in the novel construction and arrangement of its parts, hereinafter set out in this specification and the claims thereunto attached.

In the accompanying drawings: Figure 1 is a perspective view of my invention. Fig. 2 is an end view showing the gate closed. Fig. 3 is a rear face view, gate opened.

My gate opens and shuts by force of gravity and is described as follows:

A, represents the hinge post. B, is a beam that is secured horizontally to the upper end of said post and runs parallel with the road. To the inner face of said beam is secured a loop *c*, having a U-bend *c'*. In this loop works the upper end of a rod *c*², the lower end of which is secured to the rear upright *d*, of the gate D.

Near the lower end of the post A, is secured an eye *a'*, and to the rear upright *d*, is secured a rod *a*², the free end of which turns down and enters the eye *a'*, and thus the gate D, is hinged to the main post A. I may use a post constructed as shown, or I may use a tree or other equivalent means.

The gate D, as shown in the drawings, is the ordinary panel gate and the latch post *d*², is provided with the usual latch *d*³, and latch loop *d*⁴. The gate, however, may be constructed in any known manner, so that it may swing open and shut by gravitation, and be capable of carrying a latch and latch loop, substantially as shown.

In the face of the beam B, is secured an eye *b*, in which works a rigid rod *b'*. This rod is given one twist around the rod *c*². Each end of said rod is turned forward or outward in the direction of the road and terminates in an eye.

On each side of the road and some distance from the gate are secured two posts E, and E', and to these posts are pivoted levers *e*, and *e'*. Near the upper end of the lever *e*, is pivoted one end of a wire *g'*, the other end of which is pivoted in the lower end of the lever *e'*. In the lower end of the lever *e*, is pivoted one end of a wire *g*, while its other end is hooked in the eye on the near end of the rod *b'*. In the upper end of the lever *e'*, is pivoted one end of a wire *h*, while its other end is hooked in the eye of the near end of the rod *b'*.

Near the road and not far from the post *e'*, is secured a latch-post *i*, and latch-keeper *i'*, and on the latch-post *j*, is secured a latch-keeper *j'*.

The bends in the rod *b'*, are to enable me to set the posts E, and E', immediately on the side of the road, so that the levers *e*, and *e'*, may be in easy reach of the rider or driver.

To the rear face of the gate D, is secured one end of a spring *k*. The other end sets out from the gate and is so bent that when the gate is thrown open it will rest against the side face of the post A, in such manner as to cause the spring to be somewhat sprung, so that when either of the levers *e* or *e'*, are pulled to throw the top of the gate forward or to the right (looking at the drawings) the spring will immediately start the gate to swing shut, thus causing quick action of the gate.

The operation of my gate is as follows: We will assume that a rider is approaching by the way of the post E. When he comes to the lever *e*, he takes hold of the lower end of the same and pushes it forward. This motion carries its upper end backward and carries the lower end of the lever *e'*, forward. This carries the upper end of lever *e'*, backward and the wire *h*, pulls on the rod *b'*, and pulls the rod *c*², to the right and out of the U-bend *c'*. The first effect of this operation is to raise the latch upright *d*³, and consequently the latch *d*³, up out of the latch-keeper *j'*. The second effect is to incline the top of the gate backward or to the left until the rod *c*², rests against the end *c*³, of the loop *c*, and then the gate, by force of gravitation, swings back and the latch *d*³, catches in the latch-keeper *i'*, of the post *i*. It will be observed that the loop *c*, is just long enough to allow the free end of the gate up-

right d^2 , to swing low enough, but only just low enough to allow the latch d^3 , to rise over the incline of the latch-keeper i' , and the U-bend c' , is only deep enough to allow the free end of the gate or the upright d^2 , to drop low enough so that the latch d^3 , will rise over the incline of the latch keeper j' . Now, we will presume that the rider is approaching the gate by the post E' , and the gate is shut. He takes hold of the lower end of the lever e , and pushes it forward. This causes the wire h , to pull on the rod b' . The first effect of this operation is to raise the free end of the gate or upright d^2 , up, and consequently the latch up out of the latch-keeper j' , and the second operation is to incline the top of the gate to the right, and thus, by its own gravity, it swings open, and the latch d^3 , drops in the latch-keeper i' , and the gate is latched to the post i . The operation of closing the gate is the same as that of opening it.

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

1. The combination of the post A, head beam B; loop c , provided with the U-bend c' , secured to the inner face of said beam; gate D, provided with the upright d^2 , latch-loop d^4 , and latch d^3 , adapted to catch in a suitable latch-keeper; rear upright d , provided with hinge rods a^2 and c^2 ; rod b' , coiled around the rod c^2 , and having its ends turned forward terminating in eyes; posts E and E' , provided with levers e and e' ; wire g' , having one end hinged to the upper end of lever e , and the other to the lower end of lever e' ; wire g , having one end hinged to the lower end of lever e , and the other hooked in the eye of the near end of the rod b' ; wire h , having one end hinged to the upper end of lever e' , and its other hooked in the eye of the near end of

the rod b' , substantially as shown and described and for the purposes set forth.

2. The combination of the post A, head beam B; loop c , provided with the U-bend c' , secured to the inner face of said beam; gate D, provided with the upright d^2 , latch-loop d^4 , and latch d^3 , adapted to catch in a suitable latch-keeper; rear upright d , provided with hinge rods a^2 and c^2 ; rod b' , coiled around the rod c^2 , and having its ends turned forward terminating in eyes; posts E and E' , provided with levers e and e' ; wire g' , having one end hinged to the upper end of lever e , and the other to the lower end of lever e' ; wire g , having one end hinged to the lower end of lever e , and the other hooked in the eye of the near end of the rod b' ; wire h , having one end hinged to the upper end of lever e' , and its other hooked in the eye of the near end of the rod b' ; spring k , having one end secured to the gate D, and the other adapted to impinge against the side of the post A, when the gate is open, substantially as shown and described and for the purposes set forth.

3. The combination of the gate D, hinged to the post A, by means of rods a^2 and c^2 ; eye a' , and loop c , provided with the U-bend c' ; rod b' , working in an eye b , secured to the cross beam B, and coiled around the upper end of the upright rod c^2 , and having its ends bent forward, terminating in eyes and adapted to be attached to proper mechanism to incline the top of the rear upright d , backward or forward, substantially as shown and described and for the purposes set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM SMITH.

Witnesses:

E. H. SHIPLEY,
N. A. GAGE.