

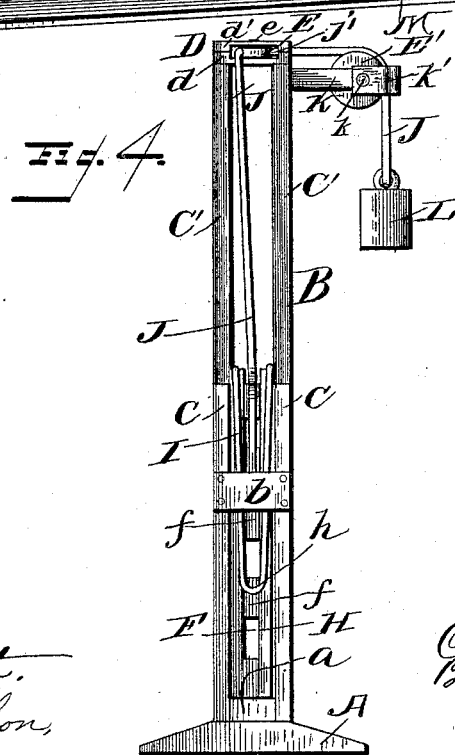
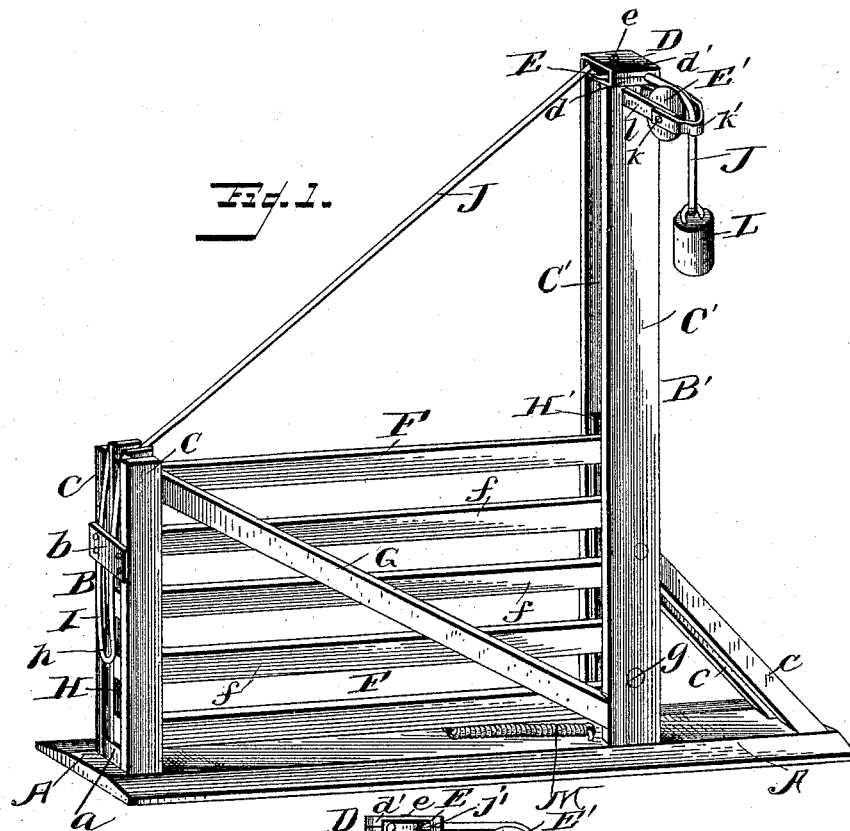
(No Model.)

2 Sheets—Sheet 1.

C. H. RUSSELL.
GATE.

No. 492,237.

Patented Feb. 21, 1893.



Witnesses

C. E. Hunt.
M. J. McMahon.

Inventor

Charles H. Russell,
By J. R. Little,
his Attorney

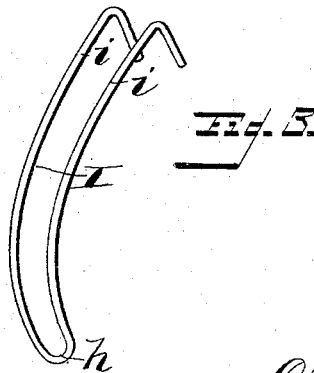
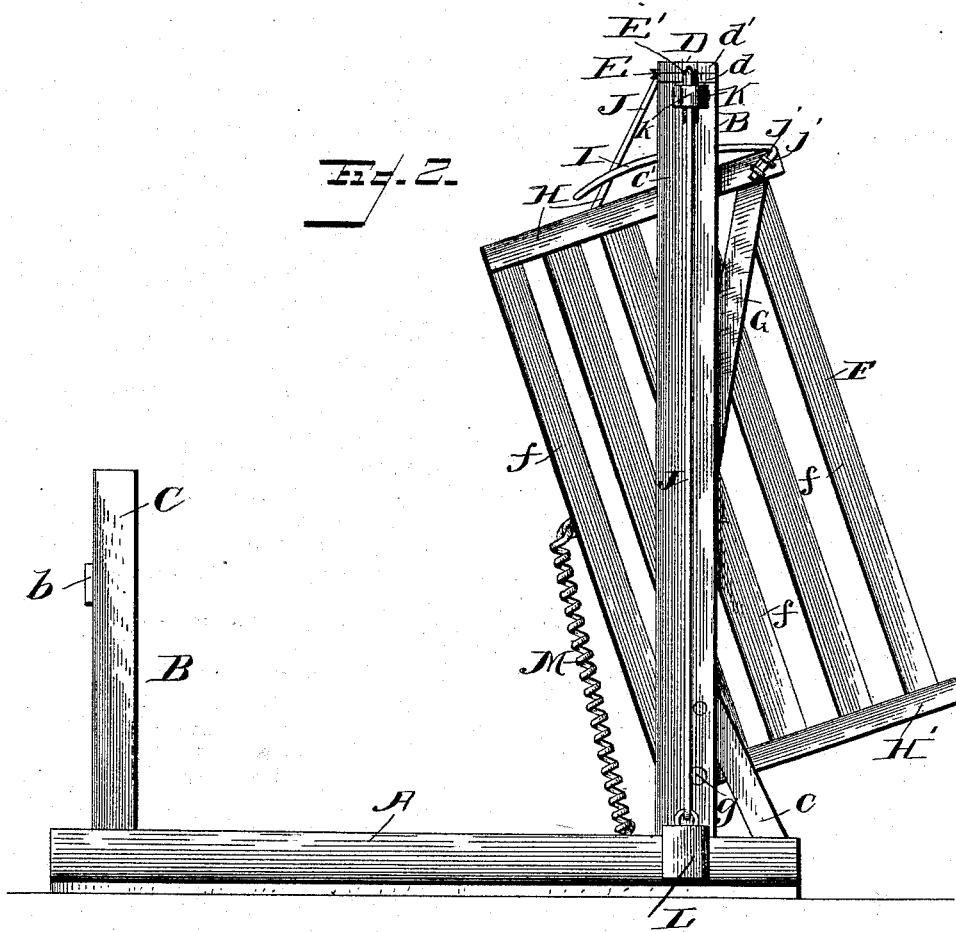
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UNITED STATES PATENT OFFICE.

CHARLES H. RUSSELL, OF ENNIS, TEXAS.

GATE.

SPECIFICATION forming part of Letters Patent No. 492,237, dated February 21, 1893.

Application filed October 1, 1892. Serial No. 447,511. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. RUSSELL, a citizen of the United States, residing at Ennis, in the county of Ellis and State of Texas, have invented a new and useful Gate, of which the following is a specification.

This invention relates to a new and improved gate for roadway and farm purposes, and more particularly relates to a novel arrangement and construction of an improved vertically swinging gate.

My invention has for its object to provide a gate of simple and inexpensive structure, readily and conveniently operated, durable in use, and not liable to become deranged or inoperative by reason of ordinary usage or by exposure to weather.

With such objects in view, my invention consists in certain details of construction, arrangement and combination of parts, all of which will be more fully described hereinafter, and specifically pointed out in the appended claims.

Referring to the accompanying drawings forming a part of this specification:—Figure 1 is a perspective view showing the gate closed. Fig. 2 is a side elevation, showing the gate open. Fig. 3 is a detail perspective view of the spring latch for locking the gate in a closed position; and Fig. 4 is a front end view of Fig. 1.

Like letters of reference indicate like or corresponding parts in the several views of the drawings.

A indicates the sill of the gate of ordinary construction beveled laterally from the center, as shown to facilitate the passage of vehicle wheels thereover and serving as a support for the front and rear gate posts, B B', which are mortised in said sill and stand in parallel vertical planes with each other.

The front gate post B comprises two parallel standards, C C, spaced a proper distance apart as shown, and rigidly braced and held apart by the bottom block, *a*, and the transverse plate, *b*, secured on the front face or sides, of the said standards and serving the dual purpose of bracing the same at or near their upper extremities, and acting as an engaging and retaining agency for the spring gate latch hereinafter described.

The rear post B' comprises the two vertical

parallel standards, C' C', placed side by side proper distances apart, and vertically extending to a greater height than the front post B. At their bottoms the standards C' C' are braced rearwardly by oblique transverse braces, *c c*, secured to the standards C' C' and to the sill A, while at their tops said standards C' C' are held rigidly in position by the horizontal composite plate, D, which latter consists of two rectangular metallic plate members, *d d'*, fitted together with the member *d'* superposed on the member *d*, and both members riveted together and fastened by the same rivets to the top of the standards C' C'. The members *d d'* are centrally recessed on their inner adjacent faces to permit the insertion and rotation of the sheaf pulley wheel, E, journaled therein by the journal-pin, *e*, secured at its extremities respectively in the members *d d'* of the composite plate D.

F designates the gate, consisting of the longitudinal bars, *f f*, vertically spaced a suitable distance apart and held rigidly together by the oblique brace, G, and the vertical end pieces H H and H' H'. The two end pieces H H are secured on the two sides of the bars *f f* parallel with and opposite to each other, across the front extremities of said bars, in such manner as to enter in between and stand parallel with the front gate posts C C, and the two rear pieces H' H' are similarly secured and arranged across the rear extremities of the bars *f f* and stand intermediate of the rear standards C' C'. The gate F is hinged or pivoted at its rear end near the bottom, between the standards C' C' by the transverse pivot-pin, *g*, journaled in the standards C' C', so that the gate, can be swung up vertically from the position shown in Fig. 1 to the position shown in Fig. 2.

A spring tension latch, I, is arranged on the front of the gate to keep the same normally closed, and to that end consists in a spring loop or tongue made of a single piece of spring metal bent at its forward extremity, *h*, and comprising the two parallel arms, *i i*, the terminals of which are secured at the top of the front end of the gate to the standards H H by staples, *j j*, while the body of the spring tongue or latch thus formed curves downwardly and outwardly and at its forward end is curved inwardly toward the end of the gate

F. The forward curved end of this latch I is designed to engage and be pressed inwardly against its tension by the plate *b* when the gate descends from the position shown in Fig. 2 to that shown in Fig. 1, in which latter position, the tension of said spring latch, I, serves to hold the gate closed against vertical displacement.

J is a stout cord or rope fastened at its forward end to the upper portion of the front of the gate and passed around and over the horizontal sheave-pulley, E, through a horizontal orifice, in the plate D, out over the vertically arranged pulley, E', journaled by the pin, *k*, between the arms, *l l*, of the bifurcated bracket, K, secured on the side of one of the standards C' near the top thereof. A clip or guard, *k'*, is secured over the periphery of the pulley E' to guide and hold the cord in proper position on the pulley, and at the lower or depending rear end of the cord, J, is secured a weight L of a weight sufficient to overcome the weight of the gate, and to uplift the same when released from the retaining agency of the latch I. Thus, when the gate is released and slightly lifted and swung upwardly by the operator, the gravitating tendency of the adjusted weight L serves to swing the gate to the position shown in Fig. 2 without further assistance on the part of the operator.

In order readily to overcome the influence of the weight L when it is desired to close the gate, I provide the spring M, secured at one extremity to the sill, A, near the rear post B' and at its forward end attached to the bottom bar *f* of the gate a certain distance forward from the post B', so that the normal tendency of the spring is to close the gate, and when the gate is opened the said spring is elongated or expanded against its tension. Thus it takes but slight expenditure of power on the part of the operator to close the gate,

since the retracting agency of the spring M is a material aid to that end. It is also apparent that the spring M is an aid to the latch I to retain the gate in a closed position.

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

1. The combination, with a vertically movable gate hinged at its rear lower end, of a weighted cord for aiding the operation of opening the gate, suitable guides and pulleys for said cord, a spring tension latch on the forward end of the gate adapted to engage a stationary retaining plate on the gate post, said latch comprising a spring loop made in one piece of metal and secured at the upper front end of the gate, and a retaining plate on the gate post to compress the spring latch when the gate is closed, substantially in the manner set forth.

2. The combination, with a hinged vertically movable gate, of a weighted cord attached to the gate in such manner as to aid the operation of opening the same, suitable guides and pulleys for the said cord, a spring tension latch made in the form of a loop out of a single piece of metal, on the forward end of the gate adapted to be compressed by engagement with a stationary retaining plate, a retaining plate on the front gate post to compress the said spring against its tension when the gate is closed, and an extensible retracting spring attached to the sill of the frame work and to the bottom bar of the gate and normally tending to hold the gate down, substantially in the manner set forth.

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

CHARLES H. RUSSELL.

Witnesses:

M. T. JACKSON,
L. W. ATWOOD.