

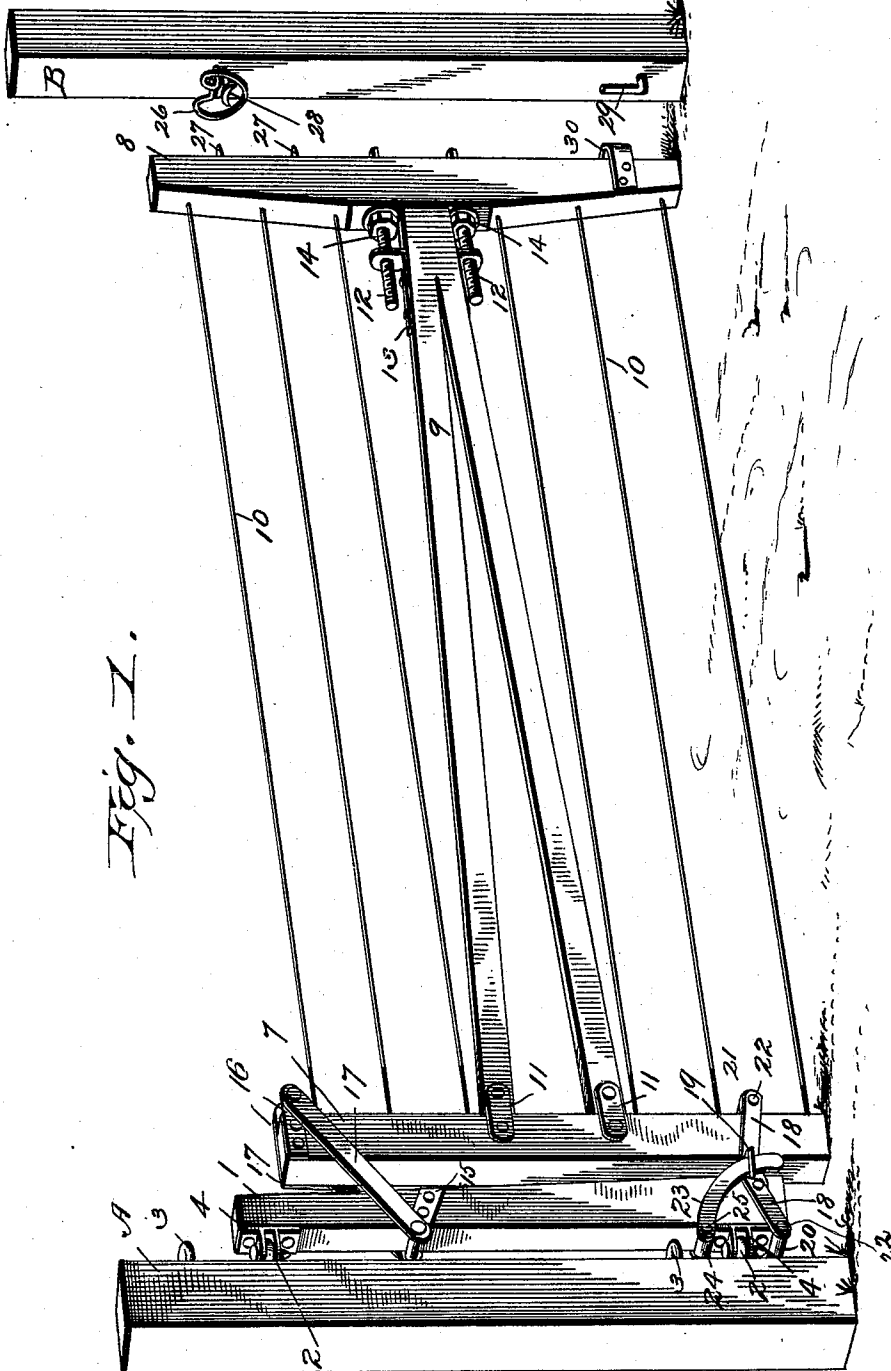
(No Model.)

2 Sheets—Sheet 1.

D. R. BURNHAM.
GATE.

No. 570,198.

Patented Oct. 27, 1896.



Witnesses
W. H. Hamilton
Geo. R. Hamilton

Inventor:
Della Rich Burnham
per *Chas. H. Davis*
Attorney

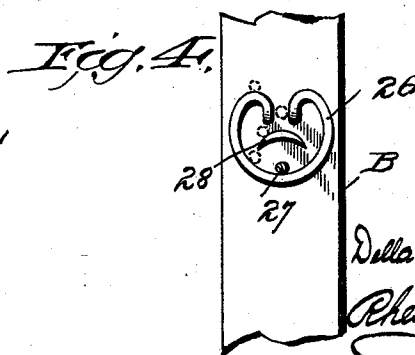
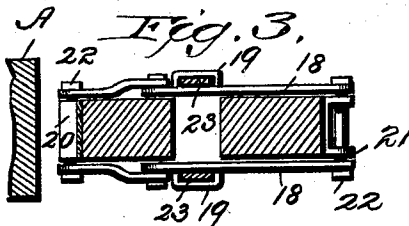
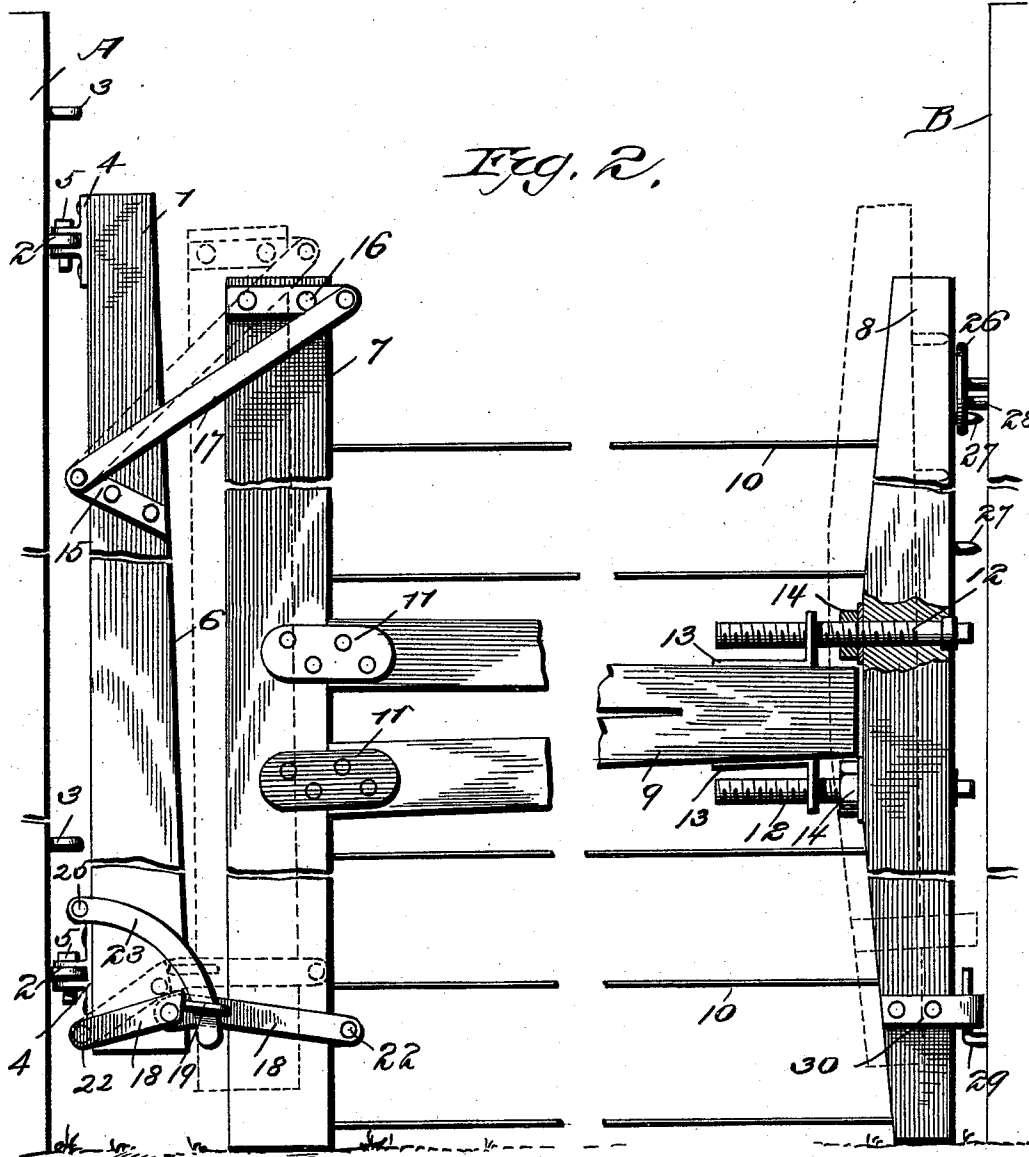
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2 Sheets—Sheet 2.

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Geo. R. Hamlin

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UNITED STATES PATENT OFFICE.

DELLA RICH BURNHAM, OF PULLMAN, WASHINGTON.

GATE.

SPECIFICATION forming part of Letters Patent No. 570,198, dated October 27, 1896.

Application filed December 11, 1895. Serial No. 571,824. (No model.)

To all whom it may concern:

Be it known that I, DELLA RICH BURNHAM, a citizen of the United States, residing at Pullman, in the county of Whitman and State of Washington, have invented certain new and useful Improvements in Gates; and I 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 and figures of reference marked thereon, which form a part of this specification.

Heretofore it has been customary to employ swinging gates having their heel ends so connected to the gate-post as to allow vertical adjustment of the gate when desired. In some instances this has been accomplished by means of links connecting the gate to the usual upright pivoted hinge-post or spindle in connection with means for holding the links at the adjusted position, while in other cases curved metal segments were used, so that only the front end or toe of the gate might be held in a tipped-up position. Gates of this class are used where the ground is hilly or rocky or in a country where snow falls.

My invention relates to vertically-adjustable swinging gates, and in it I have embodied many improved features over the old style of gates of this class. The vertically-adjustable swinging gates previously referred to do not always serve their purpose, for some animals, particularly hogs, can open them by using their snout to lift up the front end or toe of the gate, and thus unlatch it. In the present invention an improved form of fastening is employed to obviate this difficulty with its accompanying annoyance.

A further objection to this old style of gate is that it requires some time and labor to adjust it vertically. With the present structure, however, adjustment may be effected and changed as often as desired in an exceedingly short space of time and with but little labor. When it is desired to keep the old style of gate open, a prop of some kind is necessary, as the gate will either swing or be blown closed by the wind. My gate may be kept open by simply swinging it to the desired position and allowing it to drop to come in contact with

the ground, which operation is possible owing to its peculiar construction. It is then impossible for it to swing or be blown closed by the force of the wind. Furthermore, it is particularly adapted for northern climes, as it may be adjusted to swing clear of any snow on the ground.

For a further knowledge of its construction and advantages reference is to be had to the following detailed description and claims.

In the accompanying drawings, Figure 1 represents a perspective view of my improved gate shown held in open position; Fig. 2, an enlarged side elevation showing the gate closed, dotted lines indicating the position of the parts after the gate has been adjusted vertically, so that it may clear the surface of the ground when swung open; Fig. 3, a view in cross-section to better disclose the position, structure, and operation of the improved means whereby the gate may be adjusted; and Fig. 4, an enlarged view of my improved gate-fastening.

The fixed gate-posts are shown at A and B. The gate proper is connected to and swings with the support 1, which may be hinged to the gate-post by any suitable means, but in the present instance I prefer to employ respective sets of eyebolts 2 and 3, affixed to the gate-post A, (the upper set generally being only used when the ground is covered with snow,) and hinge-irons 4, connected to the hinge-post 1, removable pins 5, passing through the lips of the irons and the eyebolts, serving as the pivots on which the hinge-post swings. That part of the hinge-post which faces the gate proper is beveled upwardly, as at 6, which bevel is necessary, as the gate, when raised vertically, swings in the arc of a circle, as will appear hereinafter.

The gate proper consists of the usual upright end pieces 7 and 8, a brace 9, wires 10, and adjusting devices for tightening the wires. The end pieces may be of any desired construction, being connected together by the brace 9. This brace consists of a suitably-trimmed piece of timber, split for the major portion of its length to form two arms, which are sprung apart and connected to the end post 7 by plates 11 or in any other suitable manner. The solid end of the brace is adjustably connected to the other end post 8,

so that suitable tension may be brought to bear on the wires 10, which serve as the cross-bars of the gate. The front end post 8 is bored transversely to receive screw-threaded
 5 adjusting-bolts 12, which are provided with nut-heads, so that they can be readily turned by a wrench. These bolts screw into angle-irons 13, rigidly connected to the head of brace 9. The check-nuts 14 serve to clamp
 10 the bolts in adjusted position.

The gate proper may be constructed in any other desired manner, and I sometimes use wire fabric as a substitute for the wires 10, but the general construction just given I find
 15 very satisfactory.

The body of the gate is connected to the support 1 by improved devices now to be described, and as these connecting devices are duplicated on both sides of the gate a description of one set will suffice.
 20

Respective sets of irons 15 and 16 are rigidly connected to the hinge-post 1 and the end post 7, and these irons are pivotally connected one to the other by links 17.

The connection between the lower part of the hinge-post and the end post of the gate consists of pairs of toggle-levers 18, having their forward legs provided with eyes 19. These sets of toggle-levers are pivotally connected to elongated eyes 20 of the lower hinge-iron 4 and to a bracket 21 on the end post of the gate by means of pins 22. At 23 are shown metal segments which pass through the eyes 19 and are pivoted to an upper elongated eye
 25 24 of the hinge-iron 4 by means of a pin 25.

My improved fastening consists of a keeper fastened to the gate-post B and provided with a heart-shaped face 26, having an opening at its top, and which is adapted for the reception
 30 of a pin 27, projecting from the end post 8 of the gate, and an inverted-crescent-shaped stop 28 also fastened to the gate-post and projecting within the heart-shaped face of the keeper. The lower portion of the gate-post B is also
 35 provided with an upturned hook 29, over which a loop 30, projecting from the end post 8, fits when the gate is closed. This latter fastener is used to better hold the gate rigid when in closed position.

Having described the construction of my improved gate, I will now explain its operation.

Let it be assumed that the gate is in closed position, as shown in Fig. 2. It can now be
 40 opened only by human hands, for if any animal, as, for instance, a hog, should try to open it by rooting with his snout, if the movement was directly upward, the pin 27 would strike the crescent-shaped stop 28 and the
 45 gate would rise no farther. If the movement was both a push and an upward movement, the pin would first clear the crescent-shaped stop only to be caught in one of the upper lobes of the keeper, either in the right or left,
 50 as the case might be. After the movement had ceased the gate would gravitate and the pin assume its original position at the bottom

of the keeper. If it is desired to open the gate, its front end or toe may be so lifted (this being possible, as the heel is pivoted so
 55 that the gate may rise vertically) that the pin 27 will be guided out of the keeper, as shown by its different positions in dotted lines in Fig. 4. After the gate has been unfastened and is still in raised position it may be ad-
 60 justed to swing clear of the surface of the ground by merely allowing it to drop.

It will be observed that when the gate is raised to unfasten it the toggle-levers 18 have their knees forced upward, and, as the seg-
 65 ments 23 are pivoted loosely at their upper ends, the eyes 19, affixed to these toggle-levers, will not bind on the segments; but when the fore end of the gate is allowed to drop the weight of the gate exerts a tendency to force
 70 the knees of the levers still farther upward, and as the gate is descending the tendency is for the fore legs of the toggle-levers to drop faster than the rear legs of said toggle-levers, and hence the eyes 19 bind on the segments,
 75 as the constant tendency of said segments is to drop to a vertical position, and the gate is held at the desired position.

When the gate is in adjusted position and it is desired to keep it open, as in Fig. 1, this
 80 may be accomplished by merely exerting a slight horizontal pull on the toe of the gate until it reaches the ground. In this case the segments 23 are pulled forward and they pass freely through the eyes 19.
 85

It is obvious that my invention might be varied in many slight ways such as would readily suggest themselves to a skilled mechanic, and hence I do not limit myself to the precise construction herein shown and
 90 claimed, but consider myself entitled to all such variations as come within the spirit and scope of the invention.

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

1. In a gate, the combination with a gate-body, of a support therefor, and a connection between the two consisting of toggle-levers pivoted to the gate-body and to the support,
 100 and means for controlling the movement of the toggle-levers.

2. In a gate, the combination with a gate-body and a support therefor, of a link pivotally connecting the two, toggle-levers also
 105 connecting the gate-body and support, and means for controlling the movement of the toggle-levers.

3. In a gate, the combination with a gate-body, and a support therefor, of a connection between the two consisting of toggle-levers,
 110 and a pivoted arm having its free portion adjustably connected to the toggle-levers.

4. In a gate, the combination with a gate-body and a support therefor, of a connection between the two consisting of toggle-levers,
 115 an eye carried thereby, and a pivoted segment having its free portion passing through said eye.

5. In a gate, the combination with a gate-body, and a support therefor, of a connection between the two consisting of a link, toggle-levers, an eye carried thereby, and a pivoted
5 segment having its free portion passing through said eye.

6. A gate-fastener comprising a pin, a keeper provided with a substantially heart-shaped open face having an opening leading there-

into, and which is adapted to receive said 10 pin, and an inverted-crescent-shaped stop located inside the open face of the keeper.

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

DELLA RICH BURNHAM.

Witnesses:

V. E. BULL,
MOSES BULL.