(No Model.) 2 Sheets—Sheet 1.

W. F. GATEWOOD.

GATE.

No. 526,701. Patented Oct. 2, 1894.

Fig. 1.

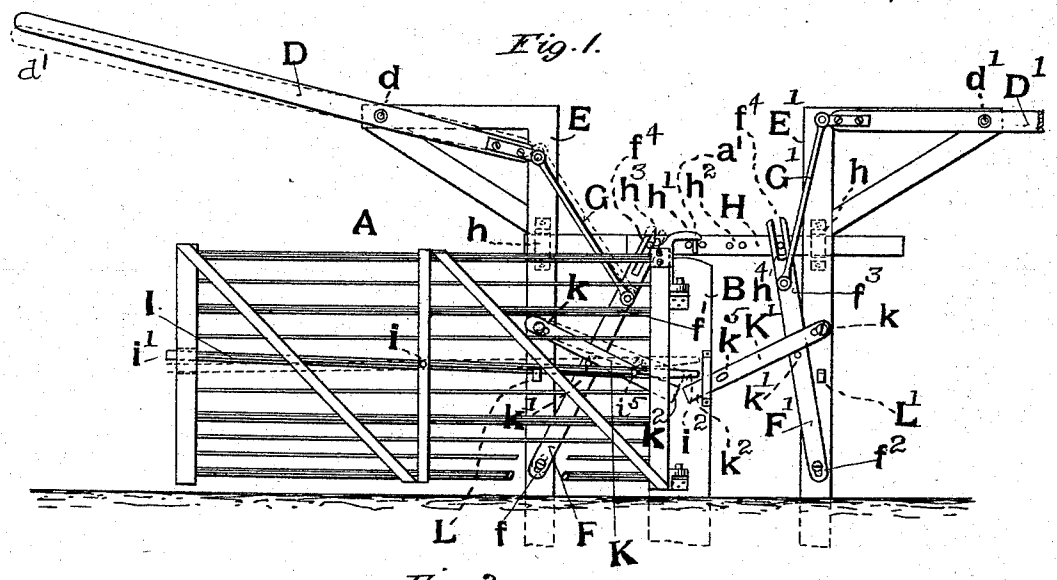


Fig. 2.

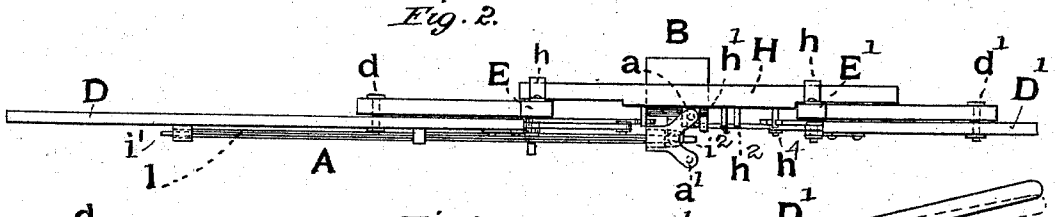
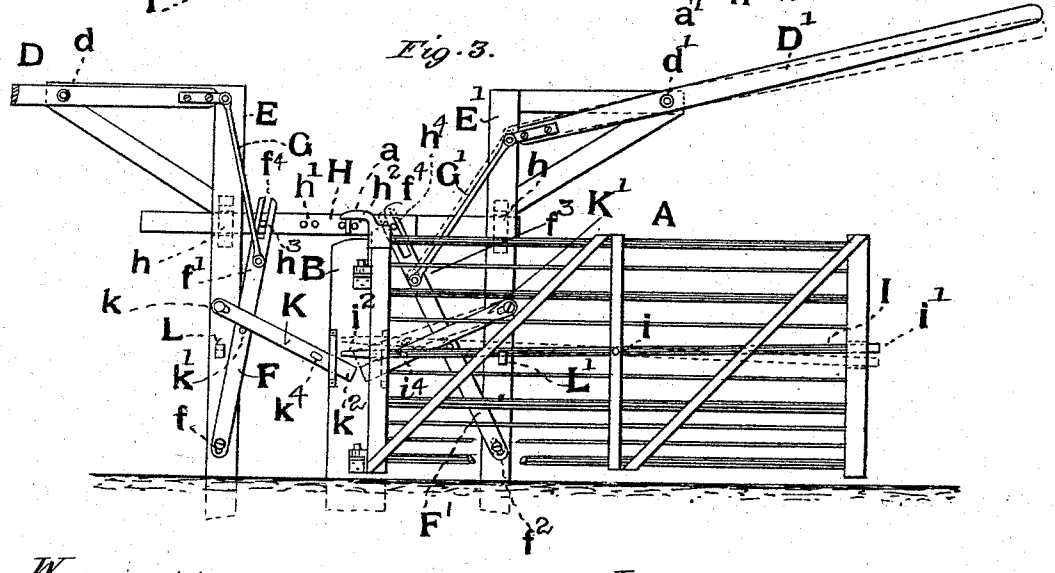


Fig. 3.



WITNESSES:

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A. Bonville

INVENTOR:

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by C. P. Moody

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 4.

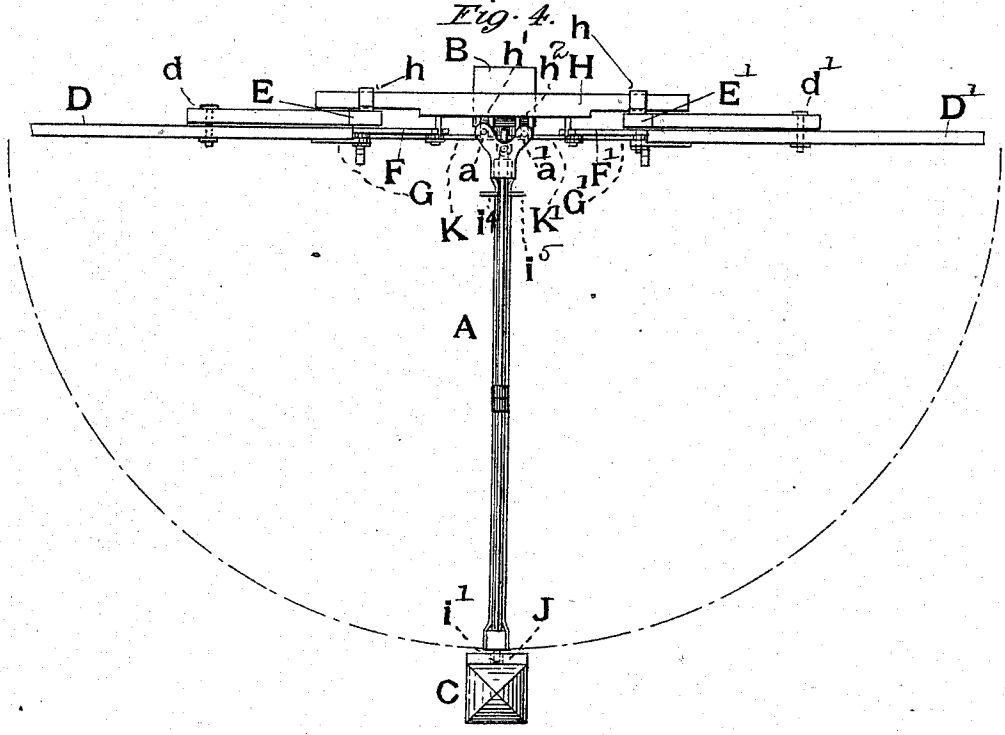


Fig. 5.

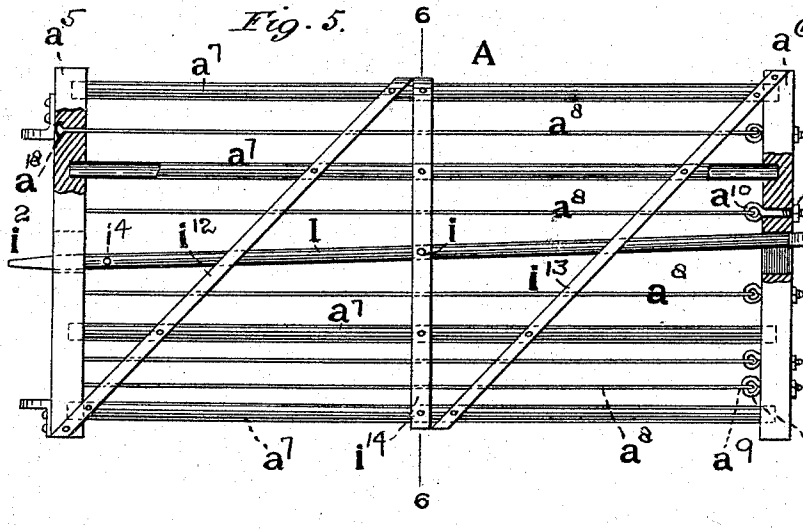
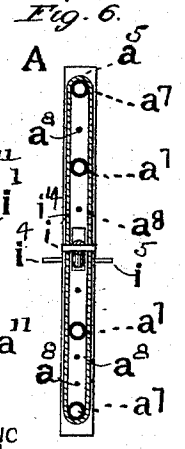


Fig. 6.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM F. GATEWOOD, OF ALTON, ILLINOIS.

GATE.

SPECIFICATION forming part of Letters Patent No. 526,701, dated October 2, 1894.

Application filed January 24, 1894. Serial No. 497,906. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. GATEWOOD, of Alton, Illinois, have made a new and useful Improvement in Gates, of which the following is a full, clear, and exact description.

The improvement relates mainly to the class of gates that are operated by means of overhead levers arranged at the road side to be used by persons in carriages or on horseback, and it consists in the special system of levers and associated parts whereby the gate is opened and closed, all substantially as is hereinafter set forth and claimed, aided by the annexed drawings, making part of this specification, in which—

Figure 1 is an elevation of the gate opened; the view is looking toward the road side; Fig. 2, a plan of the parts as in Fig. 1; Fig. 3, an elevation like Fig. 1, but showing the gate swung in the opposite direction; Fig. 4, a plan of the entire mechanism; that is, of the gate, the gate-posts, and the system of levers for operating the gate; the semi circular broken line indicates the gate motion; Fig. 5, an elevation partly in section of the gate; and Fig. 6 a vertical section on the line 6—6 of Fig. 5.

The same letters of reference denote the same parts.

A represents the gate, B the post on which it hangs, and C the post at the opposite side of the roadway to which the gate closes, D and D′ of the levers initiating the operation of the gate. The lever D is pivoted at d to a post E. The lever D′ is similarly pivoted at d' to a post E′. The posts E and E′ are at opposite sides respectively of the post B, and the three posts, B, E, E′, are substantially in line with each other. A lever F is pivoted at f to the post E, extending thence upward and toward the post B, and at or toward its upper end f' it is, by means of the rod G, jointed to the lever D. A similar lever F′ is similarly pivoted at f^2, to the post D′, and extends upward and toward the post B and at its upper end f^3, by means of the rod G′ is jointed to the lever D′. By this means when the lever D, at its outer end d', is drawn downward the upper end of the lever F is drawn toward the post E.

H represents a bar that is adapted to work endwise and horizontally in bearings h, h, arranged preferably in or upon the posts E, E′, respectively. This bar and the gate A are intergeared to enable the movement of the bar to effect the swinging of the gate. A desirable mode of connecting the bar and gate is shown. The bar is provided with two sets of projections, h', h^2, and the gate is provided with the coacting projections a and a'. The engagement is of such a nature that when the bar H is moved, the gate is swung in the opposite direction to that in which the bar is moved. Any other suitable method of connecting the gate and bar may be used.

The movement of the bar H is accomplished as follows: Each lever F, is slotted at f^4, substantially as shown, and a stud h^3 upon the bar H engages in the slot of the lever F, and a stud h^4 upon the bar H engages in the slot of the lever F′. The operation of swinging the gate therefore is accomplished by pulling one or the other of the levers D, D′, downward as indicated by the broken lines in Figs. 1 and 3, whereupon the bar H is shifted in its bearings accordingly, the bar being shifted toward that lever whose outer end is drawn downward, and in the opposite direction to that in which the bar is shifted, the gate is swung.

The latching-mechanism consists and is operated as follows: I represents a bar carried by the gate and pivoted at i, therein and adapted to be vibrated vertically substantially as is indicated by its different positions shown in the full and in the broken lines in Figs. 1 and 3. One end i' of the bar is adapted to engage in the catch J upon the post C. The other end, i^2, of the bar is adapted to be raised and lowered to effect the disengagement and engagement of the latch-bar.

The preferable means for operating the latch-bar is as follows: K represents a lever pivoted at k, to the post E and riding upon a projection k' upon the lever F, and having its free end k^2 adapted, when the gate is closed, to drop beneath the end i^2 of the latch bar, and when the lever D is drawn downward the free end of the lever K is lifted against the latch-bar which in consequence is turned on its pivot to unlock the gate. A similar lever K′ is similarly pivoted to the post E′ and is similarly adapted to be operated by the levers D′, F′, to actuate the latch bar similarly. By this means the gate can be disen-

gaged from the post C and swung more or less open in either direction. When swung wide open the gate is preferably adapted to remain open against accidental displacement. To this end the posts E and E′ are respectively provided with the catches L and L′. When the gate is swung open in the direction of the post E the latch bar engages in the catch L. When the gate is swung in the opposite direction the latch-bar engages in the catch L′. To enable the gate to be loosened from the catches L, L′, the latch bar is provided with laterally-extended projections i^4, i^5. The levers K, K′, are slotted respectively at k^4, k^5. When the gate is engaged with the catch L the projection i^4, enters the slot k^4 in the lever K, and when engaged with the catch L′, the projection i^5 enters the slot k^5. When the lever D is moved to operate the gate it first acts to lift the latch-bar end i^3 out of the catch L, and by continuing to draw the lever D, the gate is swung into engagement with the catch on the post C, or beyond the post C, and into engagement with the catch L′, as may be desired. When the gate is swung into its open position in the opposite direction, and its latch bar is in engagement with the catch L′, and it is desired to close the gate, the lever D′ is drawn and accordingly the lever K′ operates first to lift the latch-bar out of engagement with the catch L′ and then the gate can be swung to or beyond the post C and into engagement with the catch L, as may be desired. The latch-bar when free turns to cause its end i' to engage with the catch J upon the post C when the gate is closed, and its end i^2 to engage with the catch L or L′, as the case may be when the gate is wide open. Perhaps the simplest mode of accomplishing this is to weight the end i^2 of the latch bar; but any other means may be employed for this purpose.

The catch J upon the post C is preferably turned downward—that is, the latch bar, to loosen the gate, moves downward. By this means the gate cannot be unlatched from the post C by an uplift of the gate at the latch-end thereof. This is desirable to prevent animals from opening the gate by lifting it from beneath. Another advantage is less likelihood of foreign matter collecting in the catch.

The construction of the gate itself is a feature of the improvement. While other forms thereof will answer my purpose in part the gate in the present instance is composed mainly of the uprights a^5, a^6, the horizontally arranged tubes a^7, and the tie rods a^8. The tubes at both ends thereof are mortised into the uprights substantially as shown, and the tie rods operate to hold them together upon the tubes. The tie-rods are headed at a^{18}, in one of the posts, and are adapted to be tightened by connecting them at the other end, a^9, with a swivel bolt, a^{10}, that passes through the post and is provided with a nut, a^{11}, substantially as shown. To unite the parts properly at first, and to tighten them subsequently, the nuts are turned up upon the threaded ends of the swivels to any desired extent. If preferred diagonal braces i^{12}, i^{13}, and a vertical one i^{14}, may be used. The last-named one is a convenient support for the latch-bar pivot, and the others in conjunction with the mortised posts serve to guide the latch-bar in its movement. By this means a very substantial, but light, gate is obtained, and one also that, so far as the posts, tubes and tie-rods are concerned, can be readily taken apart if it is desired to transport it in a knock down shape.

I claim—

1. The combination of the gate, having the pivoted latch-bar, and the pivoted levers K, K′, substantially as described.

2. The combination of the gate, the pivoted latch bar having the lateral projections, the pivoted slotted levers K, K′, the pivoted levers F, F′, the rods G, G′, and the levers D, D′, substantially as described.

Witness my hand this 20th day of January, 1894.

WM. F. GATEWOOD.

Witnesses:
C. D. MOODY,
L. BONVILLE.