(No Model.)

W. H. H. WEST.

FARM GATE.

No. 567,670. Patented Sept. 15, 1896.

Fig. 1.

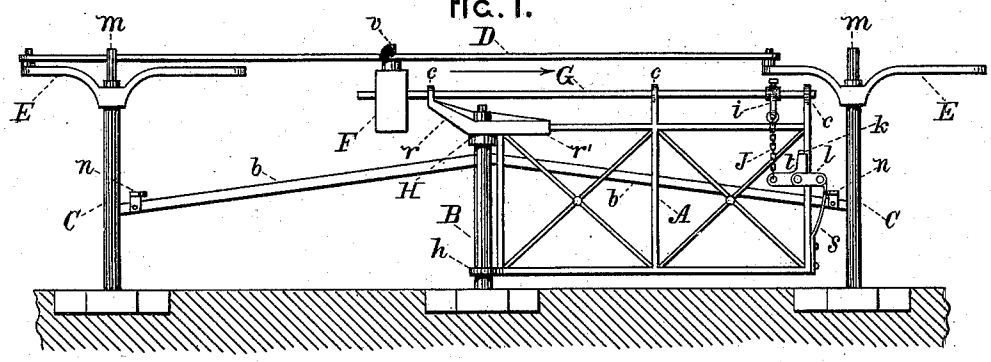


Fig. 2.

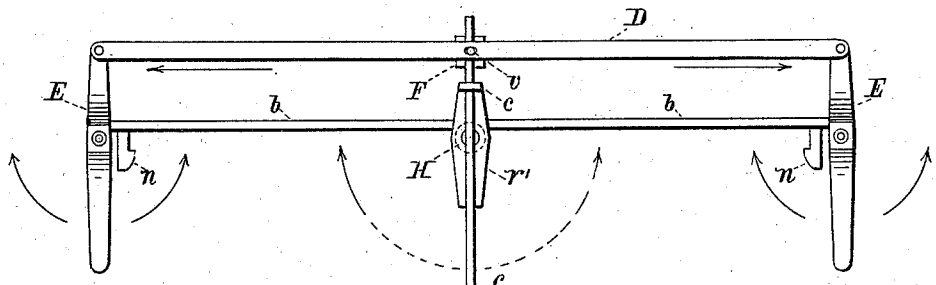


Fig. 3.

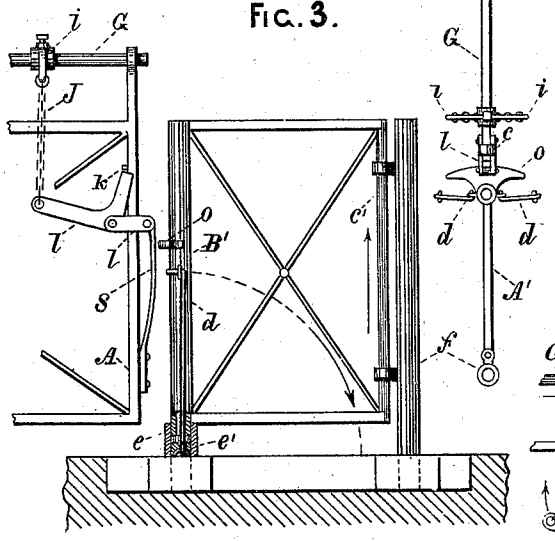


Fig. 4.

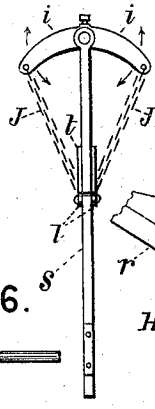


Fig. 5.

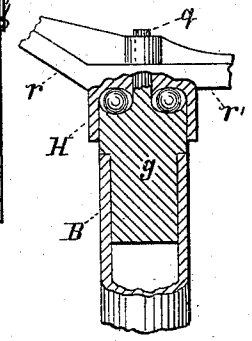
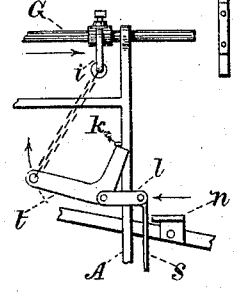


Fig. 6.



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UNITED STATES PATENT OFFICE.

WILLIAM H. H. WEST, OF JERSEYVILLE, ILLINOIS.

FARM-GATE.

SPECIFICATION forming part of Letters Patent No. 567,670, dated September 15, 1896.

Application filed March 9, 1896. Serial No. 582,345. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. H. WEST, of Jerseyville, in the county of Jersey and State of Illinois, have invented a new and Improved Farm-Gate; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon.

My invention relates to an improvement in farm-gates of that class commonly designated as "automatic," and adapted to be opened and closed by a person riding in a vehicle or on horseback.

My object is, first, to provide means for unlatching the gate when opened as well as when closed; second, to eliminate, as much as possible, friction; third, to counterbalance the gate, so that it will have no tendency, by side strain, to incline the hinge-post from its normal vertical position; fourth, to provide means for preventing the hand-levers getting on the dead-center; fifth, to provide means for increasing the width of the gateway when so required for any special purpose.

With these ends in view my invention consists in certain details of construction and combinations of parts fully set forth in the following specification and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the gate and its actuating mechanism, the gate being shown as turned back and latched in the open position. Fig. 2 is a top view of the same, the gate being shown as closed and latched in connection with the small supplementary side gate. Fig. 3 is an enlarged side elevation of the small supplementary side gate shown in connection with a portion of the large gate, the latch of which is shown in position for liberating it from the small gate. Fig. 4 is an enlarged elevation of the free end of the large gate, showing the cross-arms and chains by which the latch is operated. Fig. 5 is an enlarged transverse sectional view of the ball-bearing on the top of the post upon which the gate swings. Fig. 6 is an enlarged side elevation of a portion of the main gate, showing the position of the several parts of the latch mechanism when the latch is withdrawn from the latch-bar by which the gate is retained in the open position.

A represents the gate; B, the hinge-post; C C, hand-lever posts; E E, hand-levers pivotally mounted on the top of said posts and connected together by a bar D, which is provided at the middle of its length with a slightly-elongated hole for the reception of a stud *v*, secured in the top of a balance-weight F, which is supported upon a rocking bar G, the latter mounted in bearings *c* on the top of the gate and carrying two cross-arms *i i*, as shown in Fig. 4. Depending from the ends of said arms are two chains J J, the lower ends of which are connected with the long arm of a bent lever *l*, the short arm of which is channeled to receive the front vertical bar of the gate. (See Figs. 3, 4, and 6.) To each side of the bent part of this lever is pivotally secured a link *l*, to the outer end of which is similarly secured the free end of a spring-latch S, the latter secured to the lower part of the gate, as shown. Secured to each of the inclined stay-bars *b* (see Fig. 1) is a latch-bar *n*, adapted to engage with the spring-latch when the gate is turned back into the open position.

Fitted into the top of the hinge-post, which is preferably made of iron or steel tubing, is a ball-bearing, consisting of a block *g*, provided with a central stud *q* and surmounted by a cap H, adapted to turn upon balls, as shown in Fig. 5, said cap having an arm *r* projecting from one side, by which the gate is actuated, and which also serves to support the rocking bar G. On the opposite side is an arm *r'*, to which the gate is secured, thus forming the upper hinge of the gate, the lower hinge consisting simply of a hoop *h*, secured to the gate and encircling the lower part of the post, as shown, Fig. 1.

To prevent side strain upon the hinge-post, I rigidly secure a weight F upon the inner end of the rocking bar as a counterpoise to the gate. This throws the entire weight of the gate vertically upon the ball-bearing and consequently reduces the friction to a minimum.

To prevent either of the hand-levers getting on the dead-center when the arm connected with the bar D is turned from the gate, I provide a stud *m* on the top of each of the posts C, with which the bar D comes in contact, so as to prevent the dead-center being reached.

An extra wide gateway is sometimes desirable for the passage of farm machinery and wagons loaded with corn, fodder, or other bulky material. To meet this requirement, I provide a small supplementary gate A′, (see Fig. 3,) the front or swinging bar B′ of which is preferably made of metallic tubing and is provided at its lower end with a socket *e*, adapted to fit a stud *e′*, secured in the foundation, as shown.

To give to the bar B′ the requisite stability, it is provided on each side with a removable stay-rod *d*, the lower end of which is secured to the foundation by a staple, as shown, and the upper end to the bar B′ by a similar staple in the side thereof. Thus secured and provided with a latch-bar O, this gate-bar serves the purpose of a post against which the main gate, when closed, is latched.

It will be observed by reference to Fig. 2 that the first effect of the movement of either of the hand-levers, when the gate is closed, is to turn the bar G about its axis, and consequently tilt the arms *i i*, as shown by the arrows in Fig. 4, and thus unlatch the gate, as shown in Fig. 5.

By reference to Fig. 1, in which the gate is shown latched in the open position, it will be seen that the movement of either of the hand-levers, instead of first giving to the bar G a rocking motion like that given to it when it is closed or stands at right angles to the bar D, it will impart to it a longitudinal motion in the direction of the arrow shown above the gate, and raise the latch, not by an oscillatory motion of the arms *i i*, but by a longitudinal motion, which produces an oblique draft on the chains J J, as shown in Fig. 6. To prevent the bent lever *t* sliding up the bar upon which it impinges, the latter is provided with a small stud *k*. By this contrivance, when the gate is closed the effect of the movement of either of the hand-levers is to first unlatch it and then swing it round into the open position, in which it is latched automatically, and by a reverse movement of either of the hand-levers the gate is first unlatched and then swung round into the closed position, the latching in both cases being effected automatically.

To open the small supplementary gate, the stay-rods *d* are first turned down, as indicated by the arrow shown in Fig. 3. The gate is then lifted, being hinged so as to admit of that movement, until the socket *e* is raised above the top of the stud *e′*, when it may be turned back into the open position.

It is evident that numerous changes in the construction and arrangement of the details of my gate might be resorted to without departing from the spirit of my invention, and hence I would have it understood that I do not limit myself to the exact construction of parts shown and described, but consider myself at liberty to make such changes as come within the legitimate scope of my invention.

I am aware that the combination of the hand-levers, bar D, and rocking bar G for opening and closing a farm-gate is not new, and therefore I do not claim such.

What I do claim, however, and desire to secure by Letters Patent, is—

1. In a farm-gate having a rocking bar journaled thereon carrying cross-arms from which depend chains for actuating the latch mechanism, the combination with said chains, of a latch mechanism comprising a bent lever *t*, connecting-links *l*, a stud *k*, a spring-latch S, and latch-bars *n*, all of said parts constructed and adapted for united operation substantially in the manner and for the purpose set forth.

2. The combination with a farm-gate adapted to be opened and closed by a person riding in a vehicle or on horseback, of a supplementary side gate against the free or swinging side of which, when closed, the main gate may be latched; said gate comprising a tube B′, the lower end of which is provided with a socket adapted, when the gate is closed, to engage with a stud *e′*, secured in the foundation, a latch-bar O; removable side braces *d*, *d*, and a bar C′ adapted to form part of the frame of the gate and slide vertically in the hinges so as to admit of the gate's being lifted to disengage it from the stud *e′*, for the purpose of opening it; all constructed and adapted to operate substantially as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 26th day of February, 1896.

WILLIAM H. H. WEST.

Witnesses:
B. S. HOOD,
FORD LEWIS.