

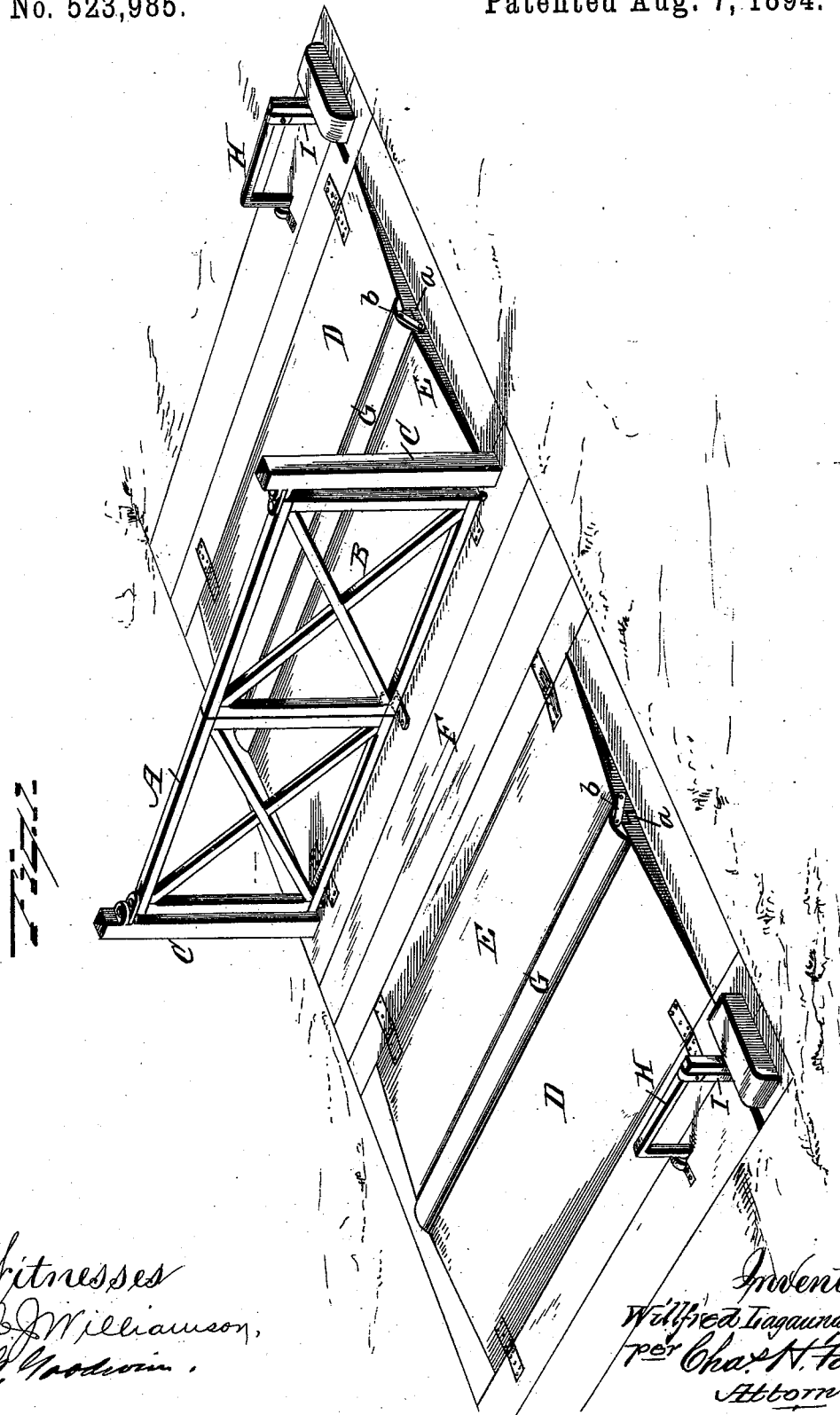
(No Model.)

2 Sheets—Sheet 1.

W. LAGAUNASSA.
AUTOMATIC GATE.

No. 523,985.

Patented Aug. 7, 1894.



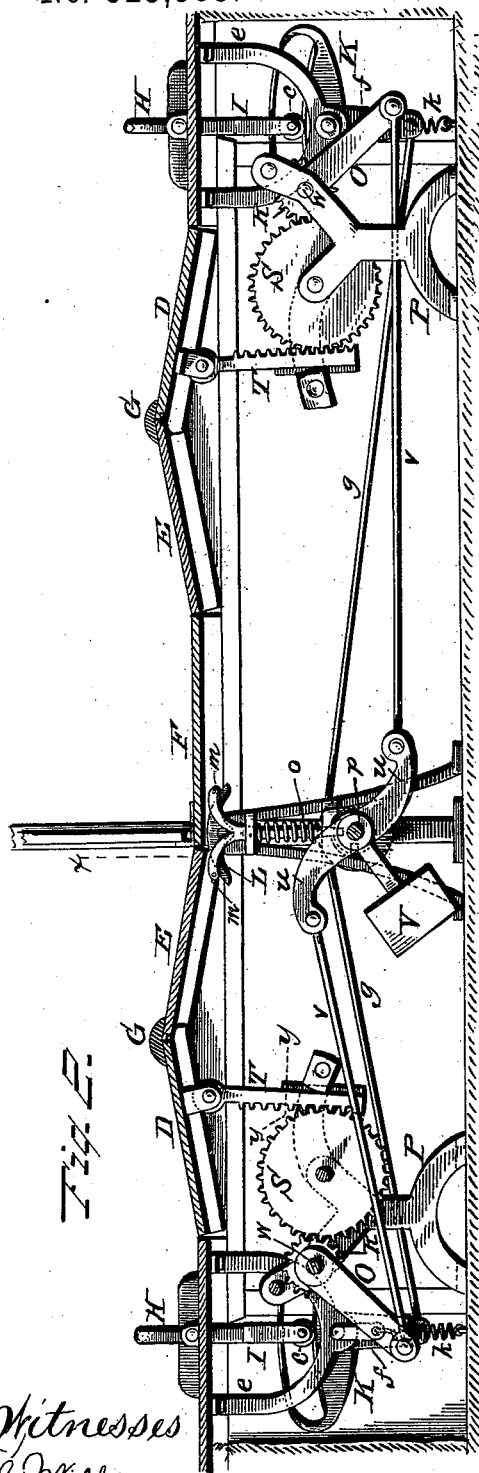
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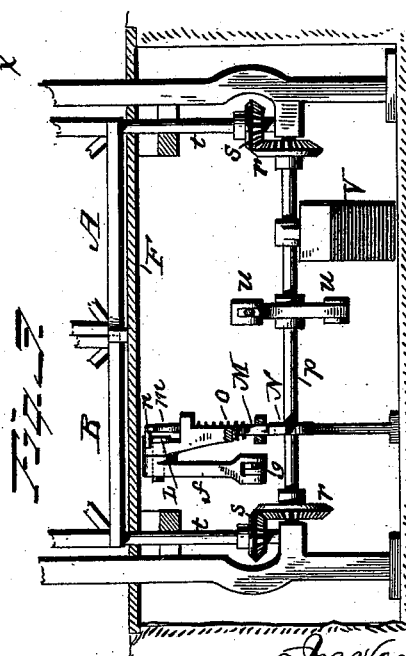
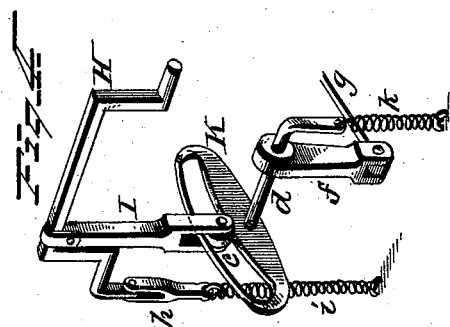
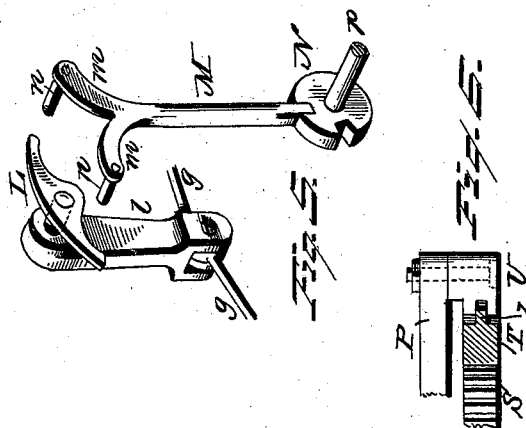
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AUTOMATIC GATE.

No. 523,985.

Patented Aug. 7, 1894.



Witnesses
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Willfred Lagaunassa,
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UNITED STATES PATENT OFFICE.

WILLFRED LAGAUNASSA, OF FORD RIVER, MICHIGAN.

AUTOMATIC GATE.

SPECIFICATION forming part of Letters Patent No. 523,985, dated August 7, 1894.

Application filed March 31, 1894. Serial No. 505,863 (No model.)

To all whom it may concern:

Be it known that I, WILLFRED LAGAUNASSA, a citizen of the United States, residing at Ford River, in the county of Delta and State of Michigan, have invented certain new and I do hereby declare that the following is a useful Improvements in Automatic Gates; and full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

The present invention has relation to that class of automatically acting gates in which hinged platforms are provided and connected with the swinging gates through suitable mechanism whereby the gates will be opened by the weight of the vehicle or horses upon the platform and will automatically close after the horses and vehicle pass through the gate. It is the object of the invention to improve the construction of the above class of gates whereby a perfect automatically acting gate is provided and the mechanism connecting the gates with the hinged platforms will render the action of the gates easy, less liable to get out of order and possess the required strength and durability necessary in this class of gates which are operated by the weight of the team. These several objects I attain by the construction substantially as shown in the drawings and hereinafter described and claimed.

Figure 1 of the drawings represents a perspective view of my improved gate showing the several parts projecting above the surface of the ground; Fig. 2 a longitudinal vertical section of Fig. 1 showing the operating mechanism; Fig. 3 a transverse section taken on line *xx* of Fig. 2; Fig. 4 a detail perspective view of the trip-bar and its connections; Fig. 5 a detail perspective view of the mechanism for locking the gates closed; Fig. 6 a detail view showing a portion of the rack-bar and gear which connect the hinged platform with the swinging gate.

In the accompanying drawings A B represent the two gates which are suitably hinged to posts C and at each side of the gates on the line of the roadway are hinged platforms D E which partly cover a pit in the ground to contain the operating mechanism. The platforms are hinged to the boarding which

cover the pit, said boarding being of any suitable construction and shown at F. The inner or free edges of the platforms D E are rabbeted as shown at *a* so as to form a closed joint and enable the platform D to form a support for the platform E.

To prevent any sand or dirt from working into the joint between the edges of the platform suitable guards G are provided which are of the same width as the platforms and extend over the joint and are connected to the platform E by means of pivoted links *b* at the ends thereof.

Pivoted trip-levers H project above the boarding upon each side of the gate and in the rear of the hinged platforms D, said trip levers connecting with said platforms and with the gates A B whereby the depression of the trip-levers and hinged platforms will operate the gates. The trip-levers H are especially intended to unlock the gates while the depression of the platforms D opens them. The trip-levers have connected to them slotted arms I and upon the lower end of each arm is a grooved roller *c* to engage with a slotted rock-lever K.

The rock-lever K is connected to a shaft *d* which has its bearings in suitable brackets *e*, said shaft having rigidly connected to it an arm *f* to which is pivoted one end of a rod *g*, the opposite end of the rod being connected to the mechanism for unlocking the gates. The trip-lever H has pivoted to one of its crank ends a link *h* and to this link is connected a suitable coiled spring *i* and to the crank end of the shaft *d* is connected a similar spring *k*, the springs at their opposite ends being connected to any suitable stationary object. The purpose of these springs is to bring the several parts connected with the locking mechanism back to their normal position when pressure is removed from the trip-lever.

The slotted rock-lever K forms a track and guide for the grooved roller *c* and renders the operation of the parts more effective and less liable to bind when the trip-lever is depressed.

The rod *g* is connected to a pivoted arm *l* which arm carries a cam L for operating the locking pawl M, said pawl having arms *m* with pins *n* against which the cam comes in contact when raising the pawl to disengage it

from the notched wheel N, a suitable spring o bringing the pawl back to its normal position to engage with the notched wheel.

The notched wheel N is rigidly secured upon a transverse shaft *p* which has its bearings in suitable brackets, and upon the ends of the shaft are bevel gear wheels *r* which engage with pinions *s* upon the ends of upright shafts *t*. These shafts may form an extension to the end rails of the gates A B or be connected thereto in any suitable manner.

The shaft *p* has connected thereto suitable arms *u* and said arms connect with cranks O by means of rods *v*, which cranks are rigidly connected to short shafts *w* with bearings in suitable frames P of any preferred construction. Suitable gear wheels R are connected to the shafts *w*, said wheels meshing with larger gear wheels S whose shafts have their bearings in the frame P. The gear wheels S engage with the teeth of rack-bars T which are pivoted to the under side of the hinged platforms D. The rack-bars have a longitudinal guide-flange *z* to engage with grooved guide U upon the frames P, as shown in Fig. 6. The shaft *p* has a weight V connected thereto to bring said shaft back to its normal position when released.

A suitable arrangement of levers may be substituted for the gearing herein described for unlocking and opening the gates, and such changes may be made with relation to the operating mechanism as would come within ordinary mechanical skill, and this without departing from the principle of my invention.

When the team passes onto the hinged platform D the front wheel of the vehicle will strike the trip-lever H and depress it. This depression of the trip-lever will, through its connections with the pivoted arm *l*, and through the medium of the cam L and pins *n*, raise the locking pawl K from engagement with the notched wheel N. Now when the shaft *p* is released and free to turn in its bearings by the disengagement of the pawl M with the notched wheel N, the gates A B will be unlocked and ready to be swung open by the depression of the hinged platform D. When the platform is depressed by the weight thereon, the rack-bar T upon said platform will turn the gear wheel or pinion R through the medium of the large gear wheel S. This movement of the pinion R will turn the shaft *w* and operate the connecting rod *v* and through its connections with the shaft *p* said shaft will be turned. This shaft *p* through the medium of the gear wheels *r s* connects with the upright shafts *t* and these latter shafts connecting with the gates A B, as the upright shafts are turned the gates will also turn and be swung open and held in such position by the pawl M engaging with the notched wheel N. As the team passes through the gate and the front wheel strikes the trip-lever upon the opposite side thereof, the pawl will be again released from the notched wheel

and the weight V will bring the shaft *p* back to its normal position, and the pawl engaging with the notched wheel will again lock the gates closed.

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

1. The combination with a gate of means for automatically operating it, consisting of hinged platforms D E having rabbeted edges, and guards G connected thereto by pivoted links, pivoted trip levers, and suitable mechanism connecting said levers and hinged platforms with the gates for releasing and opening them, substantially as and for the purpose set forth.

2. The combination with a gate, of suitable means for locking it closed and releasing it, consisting of the transverse shaft *p* with notched wheel N, the locking pawl M, the pins *n*, the arm *l* and cam L, the trip-lever H and intermediate connections between the trip-lever and the means for operating the pawl, substantially as and for the purpose described.

3. The combination with a gate, of means for locking it closed and releasing it, consisting of the trip-lever H, the arm I and roller *c* connected thereto, the slotted rock-lever K, springs for bringing the parts back to their normal position, the shaft *p*, means for locking said shaft stationary, and intermediate connections between the same and the rock-lever, substantially as and for the purpose specified.

4. The combination with a gate, of means for automatically operating it, consisting of hinged platforms D E, rack-bars T, gear wheels S R, arms O and rods *v*, the transverse shaft *p*, the upright shafts *t* connecting with the gate, the gears *r s*, connecting the shafts together, and the weight V upon the transverse shaft to bring it back to its normal position, and means for locking said shaft, substantially as and for the purpose set forth.

5. The combination with a gate, of means for automatically operating it, consisting of hinged platforms D E, trip-levers H, transverse shaft *p* connecting with the gate, means for locking the shaft stationary and releasing it, said means connecting with the trip-levers, and means for swinging the gates open consisting of the shafts *t* and gearing connecting them with the transverse shaft, intermediate connections between the transverse shaft and trip-levers, and a suitable weight upon the transverse shaft to bring it to its normal position, substantially as and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

WILLFRED LAGAUNASSA.

Witnesses:

G. M. COPENHAVER,
WM. H. DE LACY.