(Model.)

2 Sheets—Sheet 1.

J. L. KOPECKY.

GATE.

No. 347,620. Patented Aug. 17, 1886.

Fig. 1.

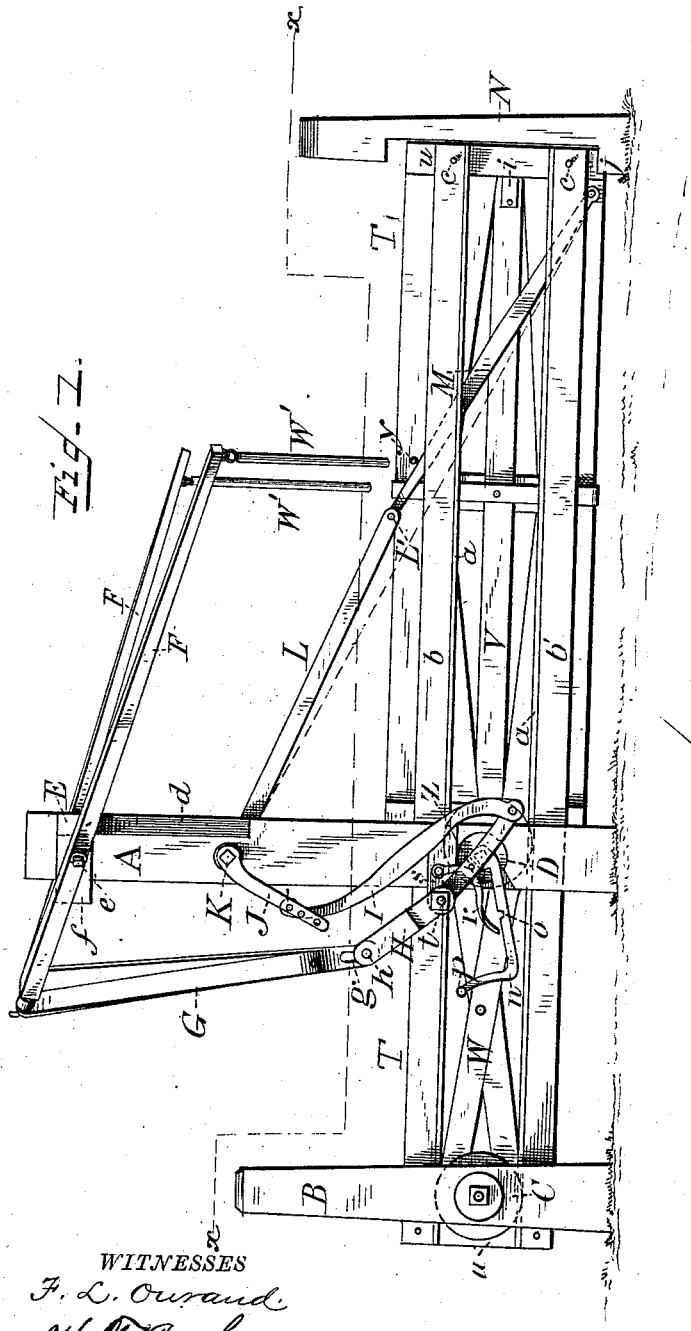
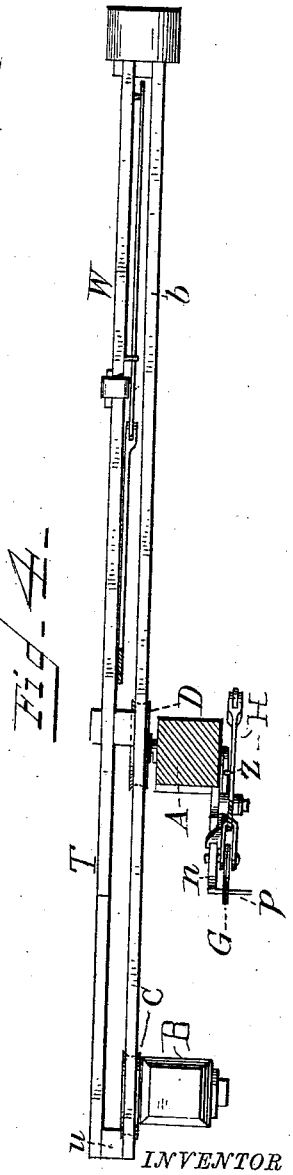


Fig. 4.



WITNESSES

F. L. Ourand.

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his Attorneys

(Model.)

2 Sheets—Sheet 2.

J. L. KOPECKY.

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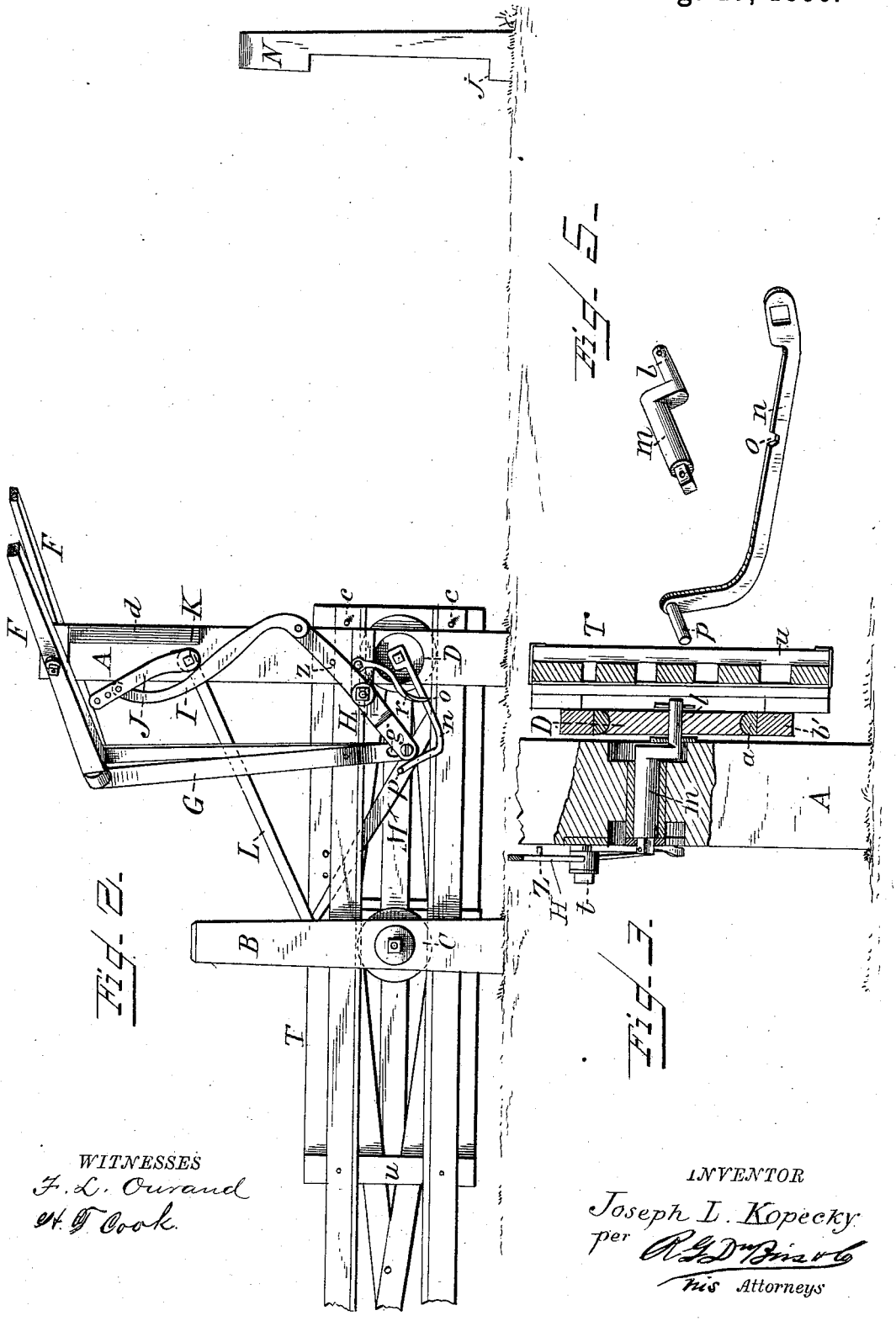

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UNITED STATES PATENT OFFICE.

JOSEPH L. KOPECKY, OF SUMMITVILLE, IOWA.

GATE.

SPECIFICATION forming part of Letters Patent No. 347,620, dated August 17, 1886.

Application filed April 15, 1886. Serial No. 198,968. (Model.)

To all whom it may concern:

Be it known that I, JOSEPH L. KOPECKY, a citizen of the United States, residing at Summitville, in the county of Lee and State of Iowa, have invented certain new and useful Improvements in Gates; and I do hereby 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.

The object of my invention is to provide a sliding and rolling gate which can be opened and closed with facility by equestrians and the occupants of a vehicle.

My invention consists, first, in a sliding and rolling gate carried by a supporting-wheel on the gate-post, said wheel being pivoted to the crank of a turning-shaft, which is provided with a lever, in combination with overhanging levers and intervening mechanism for operating said lever and crank, whereby the forward end of the gate is raised and lowered; secondly, the combination, in a sliding and rolling gate, of a vibrating arm, L, and connecting-link M, having their free ends joined together, a shaft, K, journaled in the gate-posts and provided with a crank, J, a connecting-link, I, and lever H, downwardly-extending bar G, operating-levers F, supporting-wheel C, raising and lowering wheel D, lever *n*, provided with arm *p*, notch *o*, a pawl adapted to engage said notch, and a pin, Z, secured to lever H, whereby the pawl is disengaged from the lever *n*, all arranged and adapted to operate as described more fully hereinafter.

In the drawings, Figure 1 is a side elevation of my complete device, showing the gate closed; Fig. 2, a similar view showing the gate open and locked; Fig. 3, a detail view of an attachment for raising and lowering the end of the gate; Fig. 4 a detail view in cross-section through *x x* in Fig. 1, and Fig. 5 detail views of the shaft and its lever for raising and lowering the end of the gate.

Like letters represent like parts throughout the several views.

A represents a vertical main post; B, an additional post located near the said main post. C D are grooved wheels provided with axes extending through said posts.

T represents a sliding and rolling gate.

b b' are horizontal parallel bars, each having a track, *a*, made of metal or other suitable material or formed out of the wood composing the bars. The gate rolls and rests upon the track on the lower side of the upper bar, *b*.

c c are stops upon the end of the gate, which come in contact with the main post A, to prevent it from going back too far.

E is a cross-arm secured to the top of the main post A. Said cross arm is provided with braces *d*. F F are vertically-operating levers, pivoted diagonally to both ends of said cross-arms by carriage-bolts *e* or by any suitable pivots. Said levers are kept from wabbling laterally by means of flat-faced guides *f f*. The short arms of said levers are secured to a downwardly-extending connecting bar or rod, G, by loose fastenings. The lower end of said bar is provided with a slot, *g*, which holds a bolt, *h*, passing transversely through the slotted end of a lever, H, thereby forming a loose connection between the two parts. The opposite end of lever H is hinged to a curved link, I, which connects it with the crank J upon the end of shaft K. Said shaft extends through the main post A, and has upon its opposite end a long oscillating arm, L, extending downwardly and making connection by means of a toggle-joint, L', with the rod M, which is pivoted to the front part of the gate-frame.

When it is desired to give the gate a greater throw, the lower end of the rod M may be attached at a higher point—such as *i*—upon the end of the gate.

N is a post, against which the end of the gate is adapted to abut, and it is provided with a seat, *j*, upon which the end of the gate rests when closed.

The grooved wheel D is arranged to be automatically raised and lowered for the purpose of keeping the gate clear of the ground when it is being extended forward to the abutting-post N, and to have the end descend upon the seat *j* upon said post. This is accomplished by extending a shaft, *m*, through the main post, and providing one end of said shaft with crank *l*, upon which the grooved wheel D rotates, and having upon the other end a lever, *n*, provided with a notch, *o*, and an arm, *p*.

r is a pawl, pivoted to the main post just above said lever *n*, and drops by gravity into notch *o* when the lever *n* is depressed, thereby holding it down and keeping the grooved wheel D raised.

s is a metal piece secured to the main post A, to which is attached the pivot *t* of the lever H, and also the pawl *r*. Said lever H is provided with an inwardly-projecting pin, Z, which comes in contact with the under side of the pawl *r* and lifts it from the notch *o*, thereby lowering the grooved wheel D and letting the front end of the gate descend upon the seat *j* of the abutting-post.

The bars *b b'* form a part of the main portion of the gate and extend back a sufficient distance to overcome with security the weight of the main portion of the gate, and to operate upon the pulley C to hold the gate up when it is being extended across the carriage or foot way to the abutting-post. Said bars *b b'* are secured to one side of vertical pieces *u*, which have upon their opposite sides longitudinal bars V and braces W, thereby leaving a space between the track-bars and the said bars V, in order to allow room for the passage of the grooved wheels when the gate is operated, as will be seen in Fig. 4.

The downwardly-extending bar G, the link I, and crank J are provided with additional pin-holes, for the purpose of increasing or diminishing the leverage of these parts.

The long arms of the overhanging levers F are provided with depending handles W', which hang down far enough for pedestrians or the occupants of the vehicles to take hold of for the purpose of opening and closing the gate.

In using my device the operator upon approaching the closed gate takes hold of one of the depending handles W' and pushes it upward. This raises the long arm of the overhanging lever F and lowers the short arm, which operation depresses the end of lever H by means of the downwardly-extending bar G, and raises the end of the crank J through the medium of the intervening link I. As said crank J is raised, it turns the shaft K and swings the free or lower end of arm L downward and rearward, and as the free end is pivoted to the free end of rod M it draws the gate back until the same is arrested by reason of the stops C C coming in contact with the post A. In its downward movement the lower end of the connecting-bar G comes in contact with the arm *p* upon the lever *n*, which depresses said lever, raises the crank *l*, carrying upward the grooved wheel D, which elevates the front end of the gate. At this moment the pawl *r* drops into the notch *o* and holds the lever down and keeps the gate raised. In closing the gate the operator pulls the long arm of the overhanging lever downward, which operation slides the gate out to the abutting posts, and just as the forward end of the gate comes over the seat *j* the inwardly-projecting pin Z, attached to the lever H, slides under and lifts the pawl *r* up out of the notch O in the lever *n* and releases the lever H, which allows the grooved wheel D to drop and lower the forward end of the gate so that its end will rest upon the seat *j* and hold the gate in place, as will be seen in Fig. 1. In order to more securely hold the gate closed, I provide a pin or suitable stop, *y*, in one of the upper gate-rails, so that when the gate is closed the long oscillating lever L and connecting-rod M can be pushed up until the latter comes in contact with the stop *y*. Just before said rod M comes in contact with the stop *y* the toggle-joint L' passes the straight line of direct endwise pressure of the two rods, so that any force upon the gate to open it will the more strongly press the rod M against the stop *y*, as will be seen in Fig. 1, in which dotted lines show the position of the rods L and M previous to locking and their position after the gate is locked. Said rods L and M might be connected together by a different joint, whereby the stop could be dispensed with; but I prefer the construction shown.

It is evident that my invention could be varied in many ways which might suggest themselves to a skilled mechanic. Therefore I wish it understood that I do not limit myself to the precise construction shown and described, but consider myself entitled to all variations which come within the scope of my device.

I am aware that prior to my invention sliding and rolling gates have been operated by means of overhanging levers in combination with reciprocating mechanism. Therefore I do not claim such a device, broadly.

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

1. A sliding and rolling gate carried by a supporting-wheel on the gate-post, said wheel being pivoted to the crank of a turning shaft which is provided with a lever, in combination with overhanging levers and intervening mechanism for operating said lever and crank, whereby the forward end of the gate is raised and lowered, substantially as set forth.

2. The combination, in a sliding and rolling gate, of a vibrating arm, L, and connecting-link M, having their free ends joined together, a shaft, K, journaled in the gate-posts and provided with a crank, J, a connecting-link, I, and lever H, downwardly-extending bar G, operating-levers F, supporting-wheel C, centered upon the post B, raising and lowering wheel D, lever *n*, provided with arm *p*, notch *o*, a pawl adapted to engage said notch, and a pin, Z, secured to lever H, whereby the pawl is disengaged from the lever *n*, all arranged and adapted to operate as described.

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

JOSEPH L. KOPECKY.

Witnesses:
MATT BIBYN.
VINCENT HAJEK.