(No Model.) 2 Sheets—Sheet 1.

F. E. CANDA.

CATTLE CAR.

No. 345,482. Patented July 13, 1886.

Fig. 1.

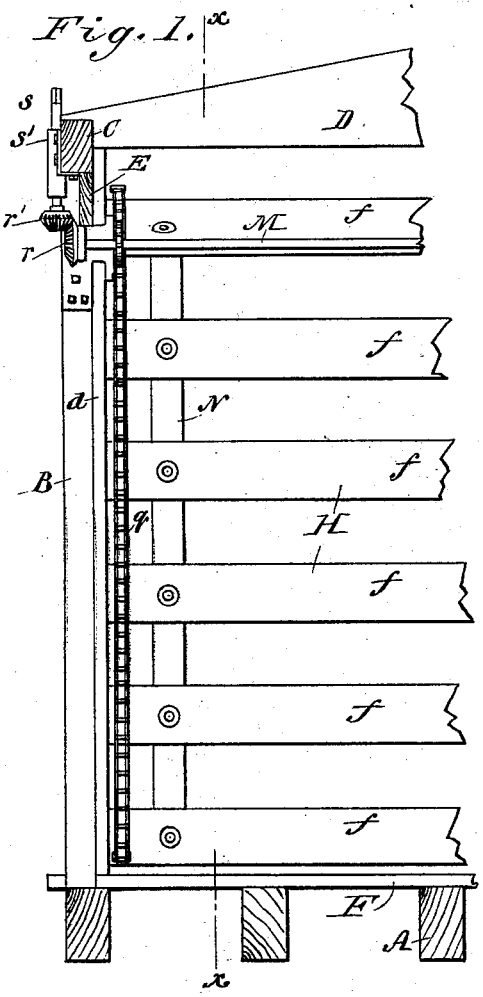
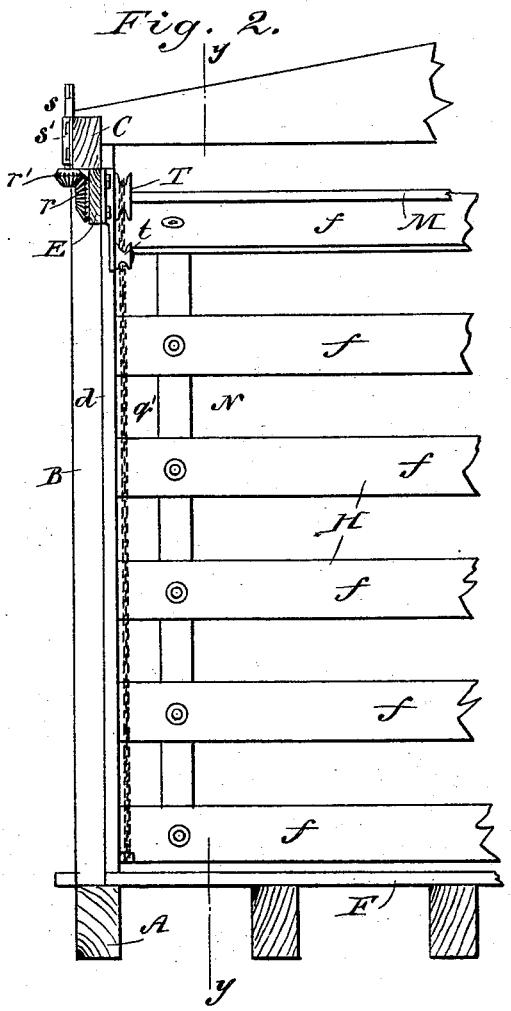


Fig. 2.



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(No Model.)

2 Sheets—Sheet 2.

F. E. CANDA.

CATTLE CAR.

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Fig. 3.

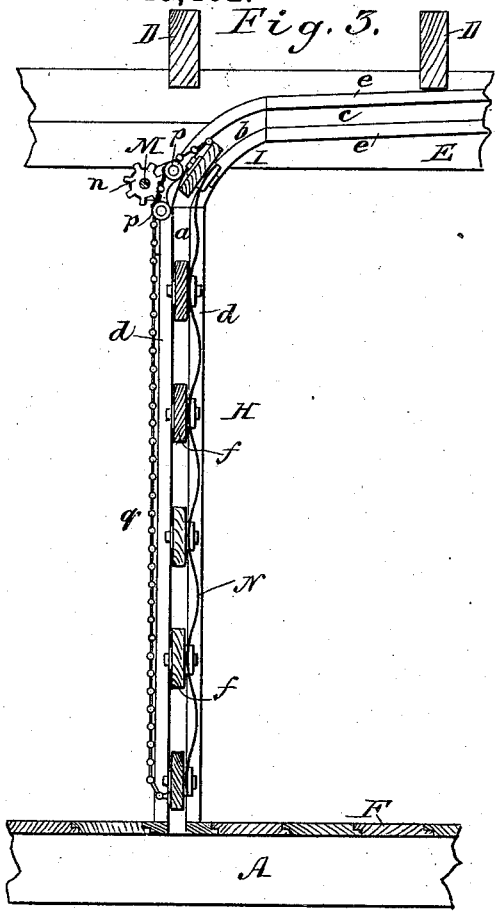


Fig. 4.

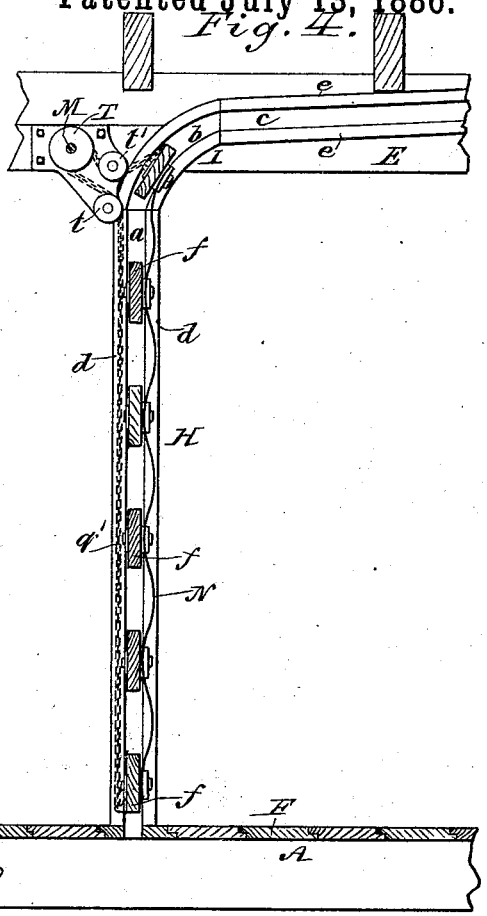


Fig. 5

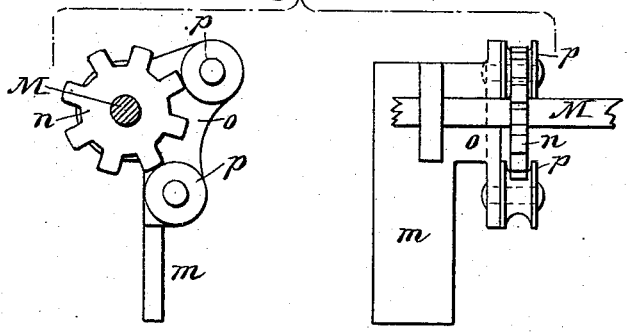
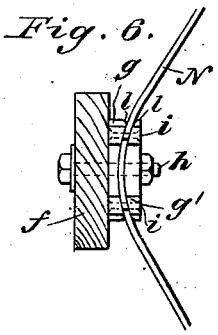


Fig. 6.



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FERDINAND E. CANDA, OF NEW YORK, N. Y.

CATTLE-CAR.

SPECIFICATION forming part of Letters Patent No. 345,482, dated July 13, 1886.

Application filed October 19, 1885. Serial No. 180,308. (No model.)

To all whom it may concern:

Be it known that I, FERDINAND E. CANDA, of the city, county, and State of New York, have invented certain new and useful Improvements in Cattle-Cars, of which the following is a full, clear, and exact description.

My present invention relates to the construction of a mechanism for operating the gates or partitions by which cattle-cars are divided into stalls or compartments, it being understood that cattle are usually transported in but one direction, and that the cars employed for carrying them are loaded with freight when returned; consequently it is necessary that when used for freight the body of the car should be free and unobstructed by the gates or partitions employed to divide the car into compartments when it is used to carry cattle.

The object of the present invention is to do away with the endless chain described in my former application, No. 175,221, and also to provide an improved form of gate; and to these ends the invention consists of a single length of chain attached to the upper and lower bars of the gate or partition, and of a peculiar arrangement of chain or sprocket wheel for imparting motion to the chain, together with an improved form of spring connecting-block.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side view of a partition or gate arranged to be operated by my improved mechanism, the portion of the car shown in connection therewith being in vertical cross-section. Fig. 2 is a similar view of a modified construction. Fig. 3 is a vertical sectional view taken on line *x x* of Fig. 1. Fig. 4 is a similar view taken on line *y y* of Fig. 2. Fig. 5 is a detail view of the sprocket-wheel and its connections, and Fig. 6 is a detail view of the spring connecting-block.

Referring now to the general construction of the gate and car, as illustrated in the drawings, A A represent the sills, B B the intermediate posts, C C the plates, D D the carlings, and E the facing-strips, the floor F being, as usual, secured to the sills. The gates or partitions H are arranged to slide or be moved in ways *a b c*, formed by strips *d d*, secured to the inner surfaces of the posts B B, strips *e e*, secured to the plates and facing-strips, and by segments I, formed with non-concentric walls, as shown, the idea being to provide a system of ways or runs wherein the gates may be lowered to a position to divide the car into compartments, or raised to rest beneath the roof, so as not to take up available space in the body of the car.

The gates H are formed of bars *f f*, preferably connected by two or more spring-bands, N, which are fixed in place by means of such blocks as I have illustrated in Fig. 6, in which figure *g* represents a flat-backed block having a concave face, the spring being secured to said block by a second block, *g'*, which has a convex face, the two blocks being riveted together, as shown, by rivets *i i*, which pass through the two blocks outside of the spring N. As many of the blocks *g g'* are fixed to each spring as there are bars *f* in the gate, and the bars are secured to said blocks by bolts *h*, which pass through the bar, the springs, and both of the blocks. The edges of the blocks are rounded, as shown at *l l*, in order that the springs need not move on a perfectly square edge.

It will be noticed that when the gate or partition is placed in position the springs N are on the side toward the center of the segment I, the partition being so placed in order that when it is raised the springs will tilt the bars *f f*, so that they will not bind within the curved ways *b;* and it is to further assist the motion of the bars through said curved ways that the segments are made with non-concentric walls, thus preventing the binding of bars within the ways.

In order that the gate may be readily moved within the ways *a*, *b*, and *c*, I provide a transverse shaft, M, that carries sprocket-wheels *n n*, and is mounted in bearings formed in the brackets *m*, that are bolted to the sides of the posts B. The brackets *m* have inwardly-extending arms *o*, which carry two guiding-sheaves, *p p*, so arranged that the teeth of the sprocket-wheel *n* will enter the space between them. The chains *q*, by which the gates are moved, are fastened to the upper and lower bars of the gate and run over the sheaves *p p*, being engaged by the sprocket-wheel as they pass from sheave to sheave. In fixing the chains *q* in position care must be taken not to make them too tight, in order that the increased

length of chain necessary to permit the bars to pass through the curved way *b* may be provided for.

To one end of the shaft M there is fixed a bevel gear-wheel, *r*, which is engaged by a bevel-pinion, *r'*, carried by a vertical shaft, *s*, mounted in bearings formed in a bracket, *s'*, which is bolted to the outer face of the plate C. The shaft *s* extends up through the roof-boards, and its end is formed to fit within the socket of a crank-handle, by which the shaft is turned.

The chains *q* may be of any of the ordinary forms of drive-chains; but I prefer to use a chain having interchangeable links.

It will be readily understood that the rotation of the shaft M will move the gate upward or downward, according to the direction of the rotation.

In Figs. 2 and 4 I illustrate a modified construction of operating mechanism, wherein the chain *q'* is carried partially over a sheave, *t*, over a chain-wheel, T, which takes the place of the sprocket *n*, and finally under a sheave, *t'*, both ends of the chain being connected to the gate, as in the construction illustrated in Figs. 1 and 3.

I am aware that stock-cars have heretofore been constructed wherein each of the gate-bars is connected to an endless operating-chain; and I am also aware that stock-cars have been constructed wherein the gate-bars were each connected to an operating-chain that was arranged to be wound upon a drum, and such constructions I do not claim herein.

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

1. The gate or partition H, consisting of bars united by springs, which carry blocks *g* *g'*, to which blocks the bars are fixed by bolts, substantially as set forth.

2. The combination, with a car formed with ways *a*, *b*, and *c*, of a sliding gate, a chain having its ends fixed to the upper and lower bars thereof, but disconnected with the other bars of the gate, and an operating mechanism, substantially as set forth.

3. The combination, with a car formed with ways *a*, *b*, and *c*, of a sliding gate, a chain, *q*, having its ends connected to the upper and lower bars of said gate, but disconnected from the other bars thereof, sprocket *u*, shaft M, sheaves *p p*, and a mechanism for rotating the shaft, substantially as described.

FERDINAND E. CANDA.

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