

(No Model.)

F. H. LEONARD & S. D. SNOW.

CAR COUPLING.

No. 285,419.

Patented Sept. 25, 1883.

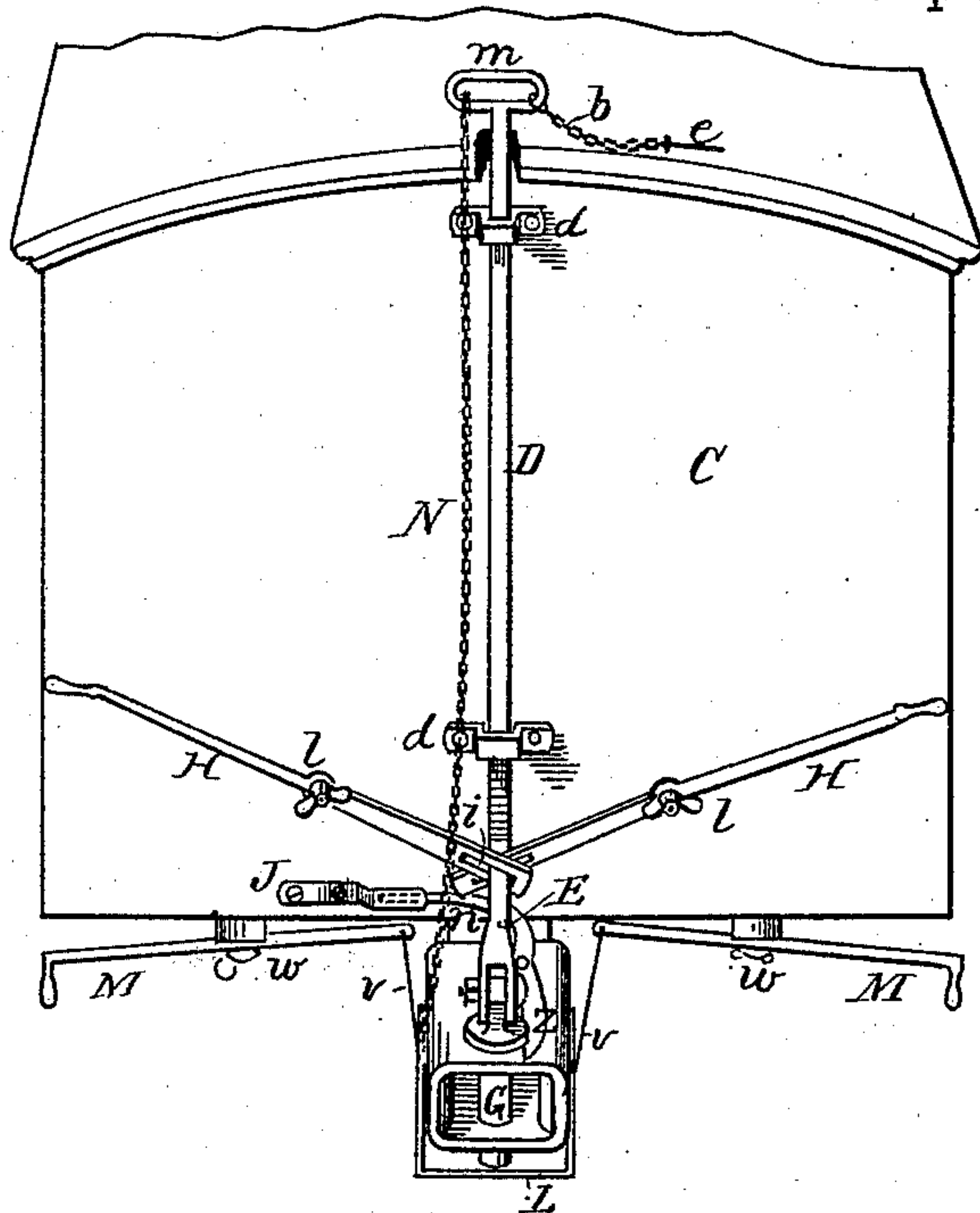


Fig. 1.

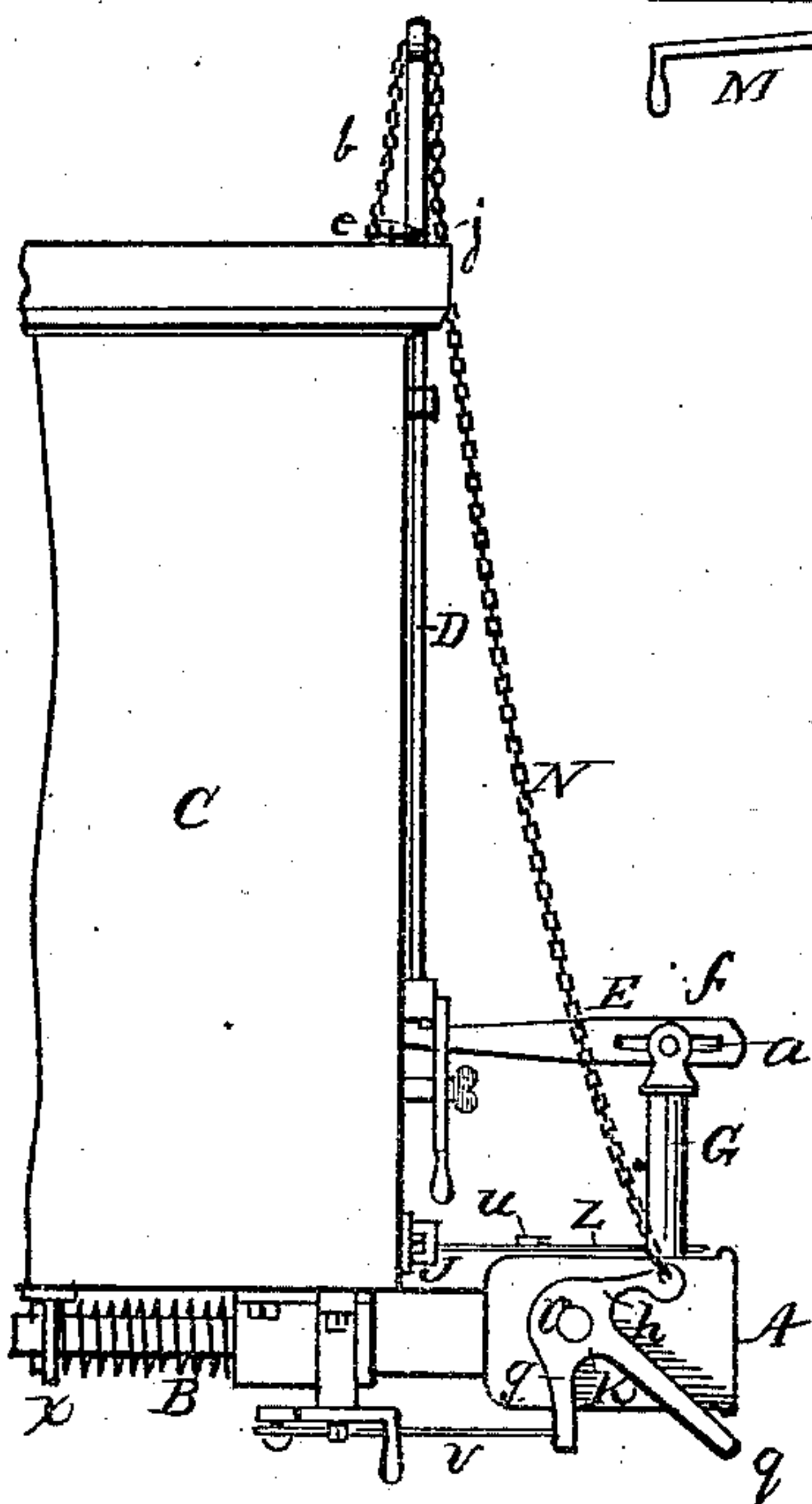


Fig. 2.

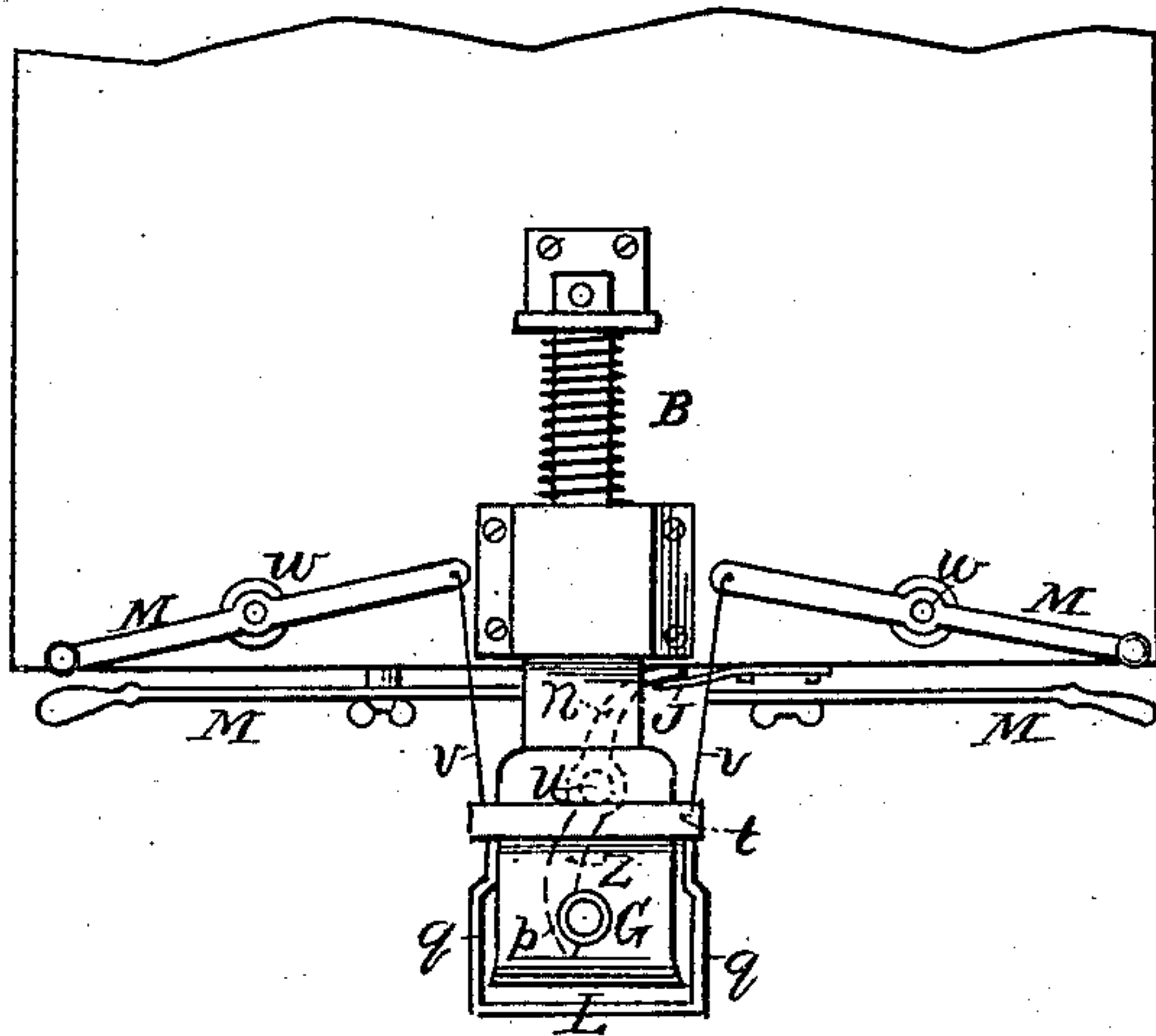


Fig. 3.

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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 285,419, dated September 25, 1883.

Application filed June 11, 1883. (No model.)

To all whom it may concern:

Be it known that we, FRANCIS H. LEONARD and STEPHEN D. SNOW, both of Boston, in the county of Suffolk, State of Massachusetts, have
5 invented a certain new and useful Improvement in Car-Couplers, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to
10 make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is an isometrical perspective view of our improved car-coupler; Fig. 2, a side
15 elevation, and Fig. 3 a bottom plan view.

Like letters of reference indicate corresponding parts in the different figures of the drawings.

Our invention relates to that class of car-couplers which are automatic or self-coupling; and it consists in a novel construction and arrangement of the parts, as hereinafter more
20 fully set forth and claimed, by which a more effective device of this character is produced than is now in ordinary use.

In the drawings, A represents the draw-bar head, which is provided in the usual manner with a spring, B, acting expansively to force the draw-bar forward into the position shown
30 in Figs. 2 and 3.

Fitted to slide vertically in brackets *d d*, disposed on the forward end of the car, there is a rod, D, provided at its upper end with the handle *m*, and at its lower end with the bifurcated horizontally-arranged arm E, the arm
35 being provided near its outer end with the elongated slots *a*.

A shackle-pin, G, fitted to work vertically in a hole in the draw-bar head in the usual manner, is attached to the arm E by means of a bolt, *f*, which passes horizontally through the slots *a*, the bolt being firmly secured in the head of the pin, but fitted to work loosely or
40 slide in said slots as the draw-bar head moves in or out.

Pivoted to the forward end of the car, at *l l*, there are two horizontally-arranged levers, H, provided at their inner ends with slots *i*, in which the arm E is fitted to work loosely as
50 the outer ends of the levers are raised or depressed.

A lever, Z, is pivoted at *u* to the upper side of the draw-bar head at the rear of the pin G, this lever being curved at its inner end to form the tail-piece *n*, and provided with a spring, J, adapted to press on said tail-piece and push
55 the forward end, *p*, of the lever forcibly against the pin G.

Pivoted at *r* to the sides of the draw-bar head are two levers, K, provided with the arms
60 *g h g*, the arms *g* being connected at their outer or forward ends by the cross-bar L, as shown in Fig. 1, and the arms *g*, at their lower ends, by the cross-bar *t*, beneath the draw-bar head, as shown in Fig. 3.

Jointed to each of the arms *g* there is a horizontally-arranged rod, *v*, these rods being connected, respectively, to the inner ends of two horizontally-arranged levers, M, pivoted to the lower forward end of the car at *w*, and at-
65 tached to the outer end of the lever *h* there is a chain, N, extending to the top of the car and attached to the upper end of the rod D, or to any other convenient fastening.

A short chain, *b*, provided at its outer end
75 with a pin, *e*, is attached to the handle *m*, or to a staple in the top of the car, the pin being adapted to fit a hole, *j*, in the rod D, for securing the rod in the position shown in Fig. 2, whenever desired.

In the use of our improvement, the draw-bar head A being forced forward to its fullest extent by the spring B, the pin G is first elevated by depressing either of the levers H, or by drawing up the rod D, being held in an elevated position by the lever Z, which is pressed
80 forcibly against it by the spring J. The cars are then backed in the usual manner for coupling, the protruding link in the opposite draw-bar head (not shown) being guided into the draw-bar head A by means of the cross-bar L, which is raised or depressed for that purpose, as the case may be, from the side of the track by means of the levers M, or from the top of the car by means of the chain N, acting upon
95 the pivoted levers K. The pin G and rod D being elevated, as shown in Fig. 2, when the draw-bar heads come into contact and the coupling-link has entered the head A, the spring B will be compressed and the draw-bar
100 head forced inwardly, thus causing the lever Z to be moved back or toward the car C, and its

curved tail-piece *n* to come into contact with the end of the car, causing its forward end, *p*, to swing outwardly on the pivot *u*, thereby releasing the pin *G*, and permitting it to fall through the link in the draw-bar head and couple the cars, in a manner which will be readily understood without a more explicit description.

It will be obvious that the pin *G* may be raised and the cars uncoupled by the levers *H* or rod *D*, and that the coupling-link may be raised or lowered and guided into the draw-bar head by means of the levers *M* without the necessity of going between the cars.

In the drawings but one draw-bar head is shown; but it will be understood that in a complete coupler two draw-bar heads are necessary, or that the cars are provided at either end with draw-bar heads and mechanism substantially such as shown and described; also, that a car provided with our coupler is adapted to be coupled to a car which is unprovided with the improvement.

Having thus explained our invention, what we claim is—

1. The combination, with a spring-pressed draw-bar, of a horizontally-movable lever, *Z*, pivoted to the draw-bar head, a spring, *J*, adapted to press the forward end of said lever against the coupling-pin for holding the same in raised position, the tail end of said lever being adapted for contact with the end of the car when the draw-bar is pressed inward, whereby said lever is swung outward to release the pin when the cars bump together, substantially as described.

2. The combination of a vertically-movable rod attached to the end of the car, a horizontal

slotted arm attached thereto, the coupling-pin pivoted in the slot of said arm, means for lifting said arm for raising said coupling-pin, a lever pivoted to the draw-bar head, and a spring for pressing one end of said lever in contact with said coupling-pin for holding the same in raised position, the rear end of said lever being adapted for contact with the end of the car for releasing the pin when the cars bump together, substantially as described.

3. The combination of a spring-pressed draw-bar, a vertically-movable rod, *D*, attached to the end of the car, the horizontal slotted arm *E*, attached to said rod, and the coupling-pin pivoted and movable in the slot of said arm horizontally, substantially as described.

4. The combination of a spring-pressed draw-bar, a vertically-movable rod, *D*, attached to the side of the car, the horizontal slotted arm *E*, attached to said rod, the coupling-pin pivoted and movable in the slot of said arm horizontally, and the laterally-extending levers *H H*, pivoted to the end of the car and connected with said arm for raising the same, substantially as described.

5. The combination of the draw-head, the vertically-movable rod *D*, attached to the end of the car, the slotted arm *E*, attached to said rod, the coupling-pin pivoted to the slot of said arm horizontally, and a fastening device at the top of the car for holding said rod in raised position, substantially as described.

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