

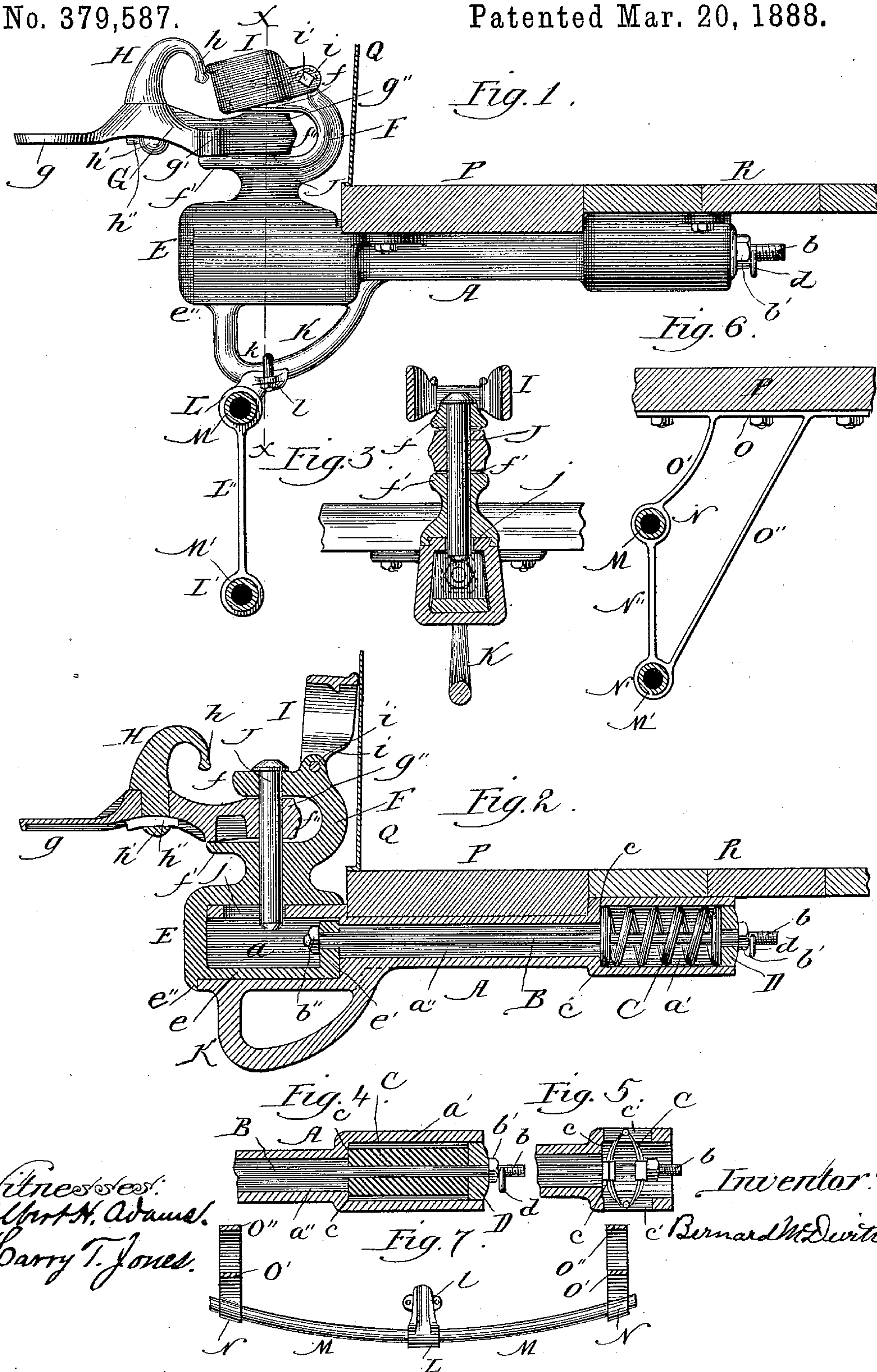
(No Model.)

B. McDEVITT.

DRAW GEAR FOR STREET CARS.

No. 379,587.

Patented Mar. 20, 1888.



Witnesses:
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UNITED STATES PATENT OFFICE.

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DRAW-GEAR FOR STREET-CARS.

SPECIFICATION forming part of Letters Patent No. 379,587, dated March 20, 1888.

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To all whom it may concern:

Be it known that I, BERNARD McDEVITT, residing at Chicago, in the county of Cook and State of Illinois, and a citizen of the United States, have invented a new and useful Improvement in Draw-Gears for Street-Cars, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation, with the platform and dash in section, the body of the car not being shown. Fig. 2 is a longitudinal section of Fig. 1. Fig. 3 is a cross-section on line *xx* of Fig. 1. Figs. 4 and 5 are details in section, showing modifications in the resisting-spring. Fig. 6 is a detail showing the end support for the guard. Fig. 7 is a detail showing the manner of supporting the guard.

The objects of this invention are to relieve the team from the strain in starting the car, at the same time giving a gradual start, by which any jerk will be prevented, and to furnish an effectual and reliable guard for preventing persons from being dragged beneath the car and under the wheels in case of falling from the platform or otherwise; and its nature consists in the several parts and combination of parts hereinafter described and claimed.

In the drawings, A represents the draw-head, having at its front end an enlargement with an opening or cavity, *a*, and at its rear end having an enlargement with an opening or cavity, *a'*, and with a longitudinal hole, *a''*, through its center portion connecting the openings *a* and *a'*. The forward enlargement or head is formed with a top, bottom, and side plate or wall, with its front end left open, and the head, as shown, is rectangular in cross-section. The rear enlargement or head is circular in cross-section, and its rear end is left open for access to the cavity *a'*.

B is a rod having its rear end, *b*, screw-threaded to receive a nut, *b'*, and provided at its front end with a head, *b''*.

C is a resisting-spring located within the opening or cavity *a'*, which spring may be a coiled one, as shown in Fig. 2, or a rubber one, as shown in Fig. 4, or an elliptical one, as shown in Fig. 5, or of such other form as will produce a resistance against the draw of the team.

The spring at its front end, as shown in Figs. 2 and 4, abuts against the shoulder or wall *c*, and, as shown in Fig. 5, openings *c'* are formed in the wall of the enlargement or head for the end of the spring, and the spring at its center has a cross-plate to abut against the wall or shoulder *c*.

D is a washer on the rod B within the opening *a'* and abutting against the outer end of the spring C, and against which the nut *b'* is screwed down, and, as shown in Figs. 2 and 4, the nut is held against unscrewing by a pin or loop, *d*, passing through the end *b* of the rod B.

E is a movable head or cap, having a bottom plate, *e*, to lie against the bottom plate of the front head of the draw-bar A, and this plate *e* has its end *e'* turned up and provided with a hole to receive the rod B, and, as shown, the bottom front edge of the movable head has a lip, *e''*, to strike the end of the front head of the draw-bar A, to limit the inward movement or slide of the head E.

F is a neck formed or cast with the head E to have an upper plate, *f*, and a lower plate, *f'*, between which is an opening, *f''*.

G is a supporting-plate for the doubletree, having its front end, *g*, widened to form a rest for the doubletree at its center, and, as shown, in line with the plate *f'*. The plate G has a wide portion, *g'*, to rest on the plate *f'*, and at its rear end the plate G has an eye, *g''*, which, when the parts are together, lies within the opening *f''*.

H is the draw-hook receiving the eye of the doubletree, which is passed over the hook end *h* against the body of the hook H, and, as shown, the draw-hook H is attached to the bar or plate G by a stem, *h'*, passing through the plate G and locked by a key, *h''*.

I is a guard for holding the eye of the doubletree against slipping off the hook H. This guard at its rear end has ears *i*, by means of which and a bolt or pivot, *i'*, the guard is pivotally connected to the upper end of the neck F, so that the guard can be swung up to remove the doubletree, as in Fig. 2, and swung down, as in Fig. 1, to lock the doubletree against removal.

J is the coupling-pin, passing through the plates *f* and *f'* of the neck F and through the top of the movable head E, its lower end entering

the slot *j* in the top plate of the front head of the draw-bar A, which slot permits the necessary end movement of the movable head in starting, and by passing the coupling-pin 5 through the parts, as shown, it will be seen that the pin will prevent the withdrawal of the head E in case the rod B should break or the nut *b'* become accidentally removed.

K is a goose-neck formed with or suitably 10 secured to the under side of the draw-bar A.

L is a socket having an extension, *l*, with ears on each side and fitting the under side of the neck K, so that by means of the stirrup *k* and suitable nuts the socket L can be firmly 15 secured to the goose-neck K, and, as shown, a second socket, *L'*, is connected with the socket L by a bar, *L''*.

M is a guard-bar formed of gas-pipe or other suitable material, and curved to conform to or 20 approximately to the platform end, and M' is a second guard-bar.

N is a socket, one for each side of the car, and receiving the end of the guard-bar M, the center of the guard-bar being supported in the 25 socket L, and, as shown, a second socket, *N'*, is connected with the socket N by a bar, *N''*, to support the end of the bar M'. This construction is used where two guard-bars are provided for each end of the car. For a single 30 guard the socket L is to be hung lower and the sockets N arranged in line therewith to support the guard-bar M at a point lower than that shown in Figs. 1 and 6.

O is a plate, one for each side of the platform, and from which brace-bars O' O'' run to 35 the sockets N N', by which the sockets are suspended.

P is the platform-sill, to which are secured by bolts or otherwise the plates O.

40 Q is the dash, of the usual construction.

R is the platform-flooring, and, as shown, the draw-bar A is attached to the sill P and flooring R by passing bolts through ears on 45 each side of the draw-bar and into the sill and flooring.

The parts are assembled by inserting the rod B into the hole therefor in the turned-up end *e'* and then slipping the head E onto the front head of the draw-bar A, and, as shown, 50 the connection between the top plate of the head and the top plate of the front head is by a dovetail groove on the under side of the top plate of the head E and a dovetail tongue on the top plate of the front head, which connection holds the head against side movement at 55 the top. The spring C is slipped into the opening *a'* and the washer D slipped into place, and the parts are held together by screwing down the nut *b'*. The draw-plate G is 60 slipped into the opening *f''* of the neck F, so that the coupling-pin J can be passed through,

as shown in Fig. 2, and in use the doubletree is attached to the draw-hook H and locked against withdrawal by dropping the guard I into the position shown in Fig. 1, and when 65 the car is to be started the starting of the team will advance the head E, drawing against the resisting spring C through the connecting-rod B, giving the car an easy start and preventing any sudden jerk. 70

The guard-bars, when two are used, are attached to either platform at the end by means of the sockets L L' and N N', and the lower bar, M', lies close to the track and the upper bar just below the platform, and when a single 75 guard is used the bar M is supported in sockets L N, which depend somewhat lower than the position shown for these sockets where two guards are used. These guards, lying in front and just below the sill of the 80 platform, will effectually prevent an object or person from being carried under the car, and will form an effectual means for preventing the car from being thrown off the track by large stones or other obstacles, as well as prevent 85 any injury to any person falling in front of the car.

What I claim as new, and desire to secure by Letters Patent, is—

1. The draw-bar A, having the opening *a* 90 at its front end and opening *a'* at its rear end, in combination with the sliding rod B, spring C, washer D, and sliding head E, carrying a hitch for the doubletree for relieving the strain in starting, substantially as specified. 95

2. The draw-bar A, constructed as described, sliding rod B, spring C, washer D, and sliding head E, in combination with the neck F, plate G, draw-hook H, and coupling-pin J, substantially as and for the purpose specified. 100

3. The draw-bar A, having the slot *j*, sliding head E, and a yielding connection between the head and bar, in combination with the neck F, carrying the plate G, and coupling-pin J, for holding the parts together in case 105 of breaking, substantially as specified.

4. The draw-bar A, sliding rod B, spring C, washer D, and sliding head E, in combination with the neck F, supporting-plate G, draw-neck H, guard I, and coupling-pin J, substantially as and for the purpose specified. 110

5. A guard for the end of a street-car, consisting of a curved bar, M, and supporting-sockets L and N, substantially as specified.

6. A guard for the end of a street-car, consisting of the bars M M' and sockets L L' N N', 115 constructed and applied substantially as specified.

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Witnesses:

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