(No Model.)

M. T. MILES.

CAR COUPLING.

No. 485,965. Patented Nov. 8, 1892.

Fig. 1

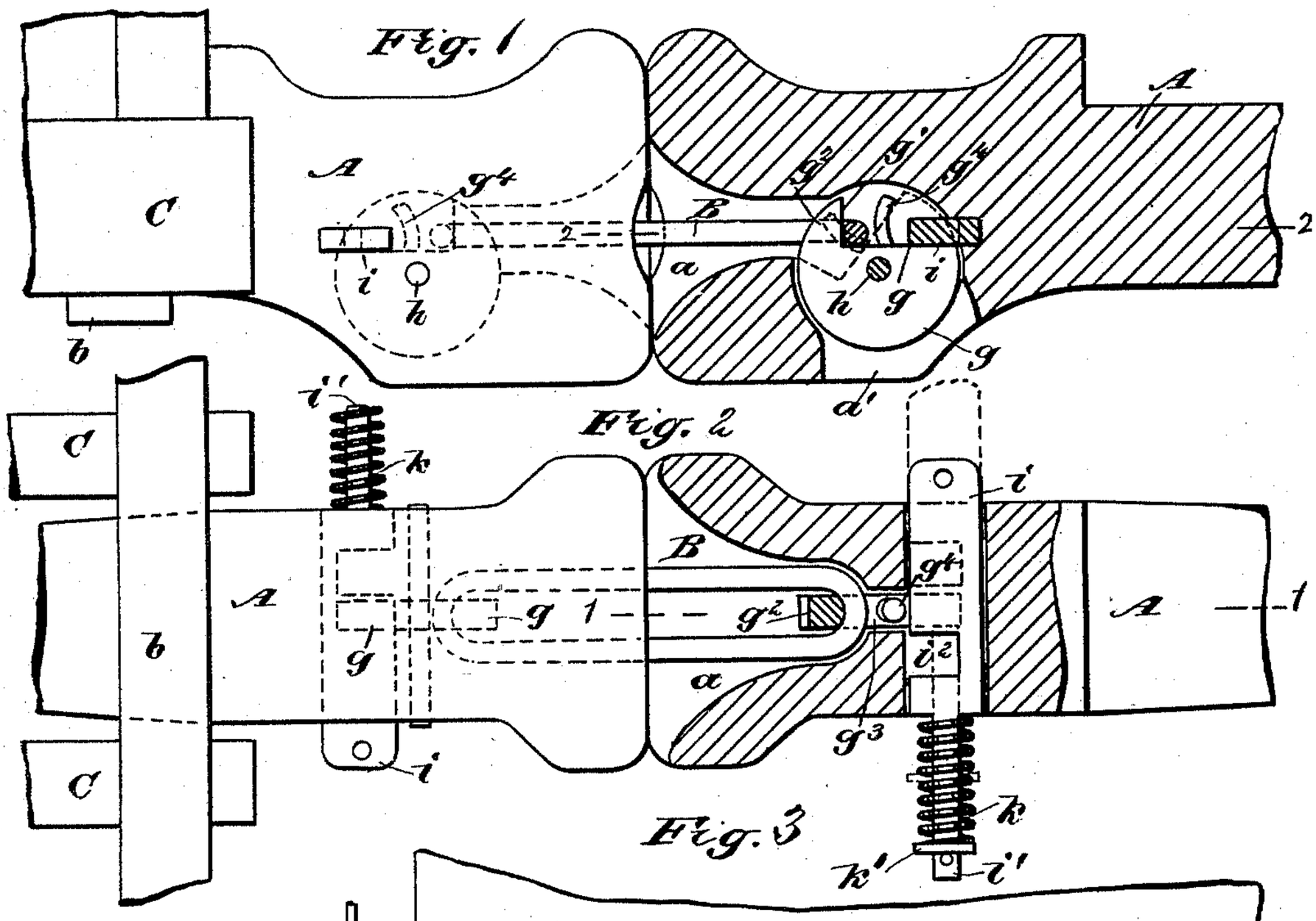

Fig. 2

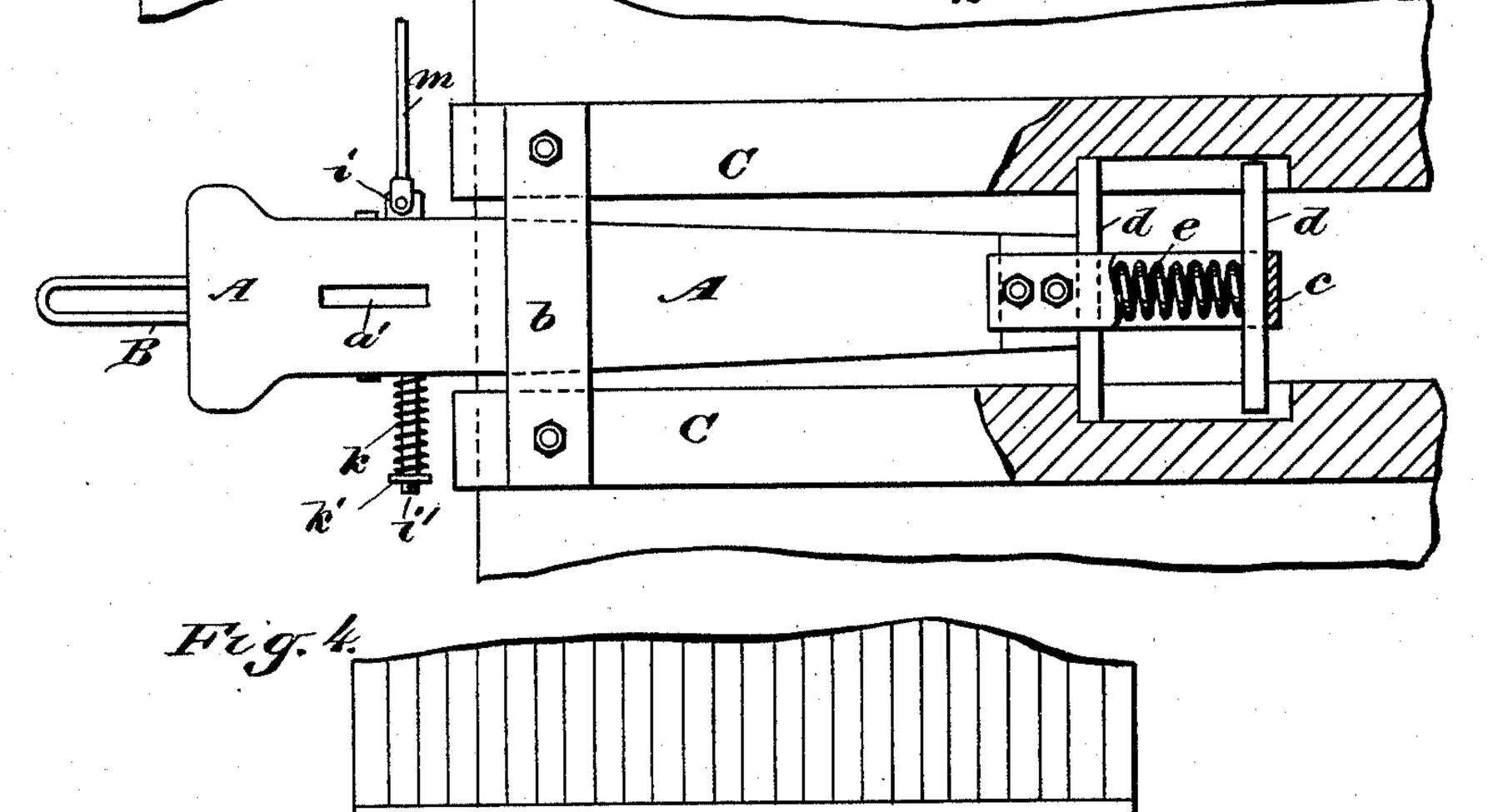

Fig. 3

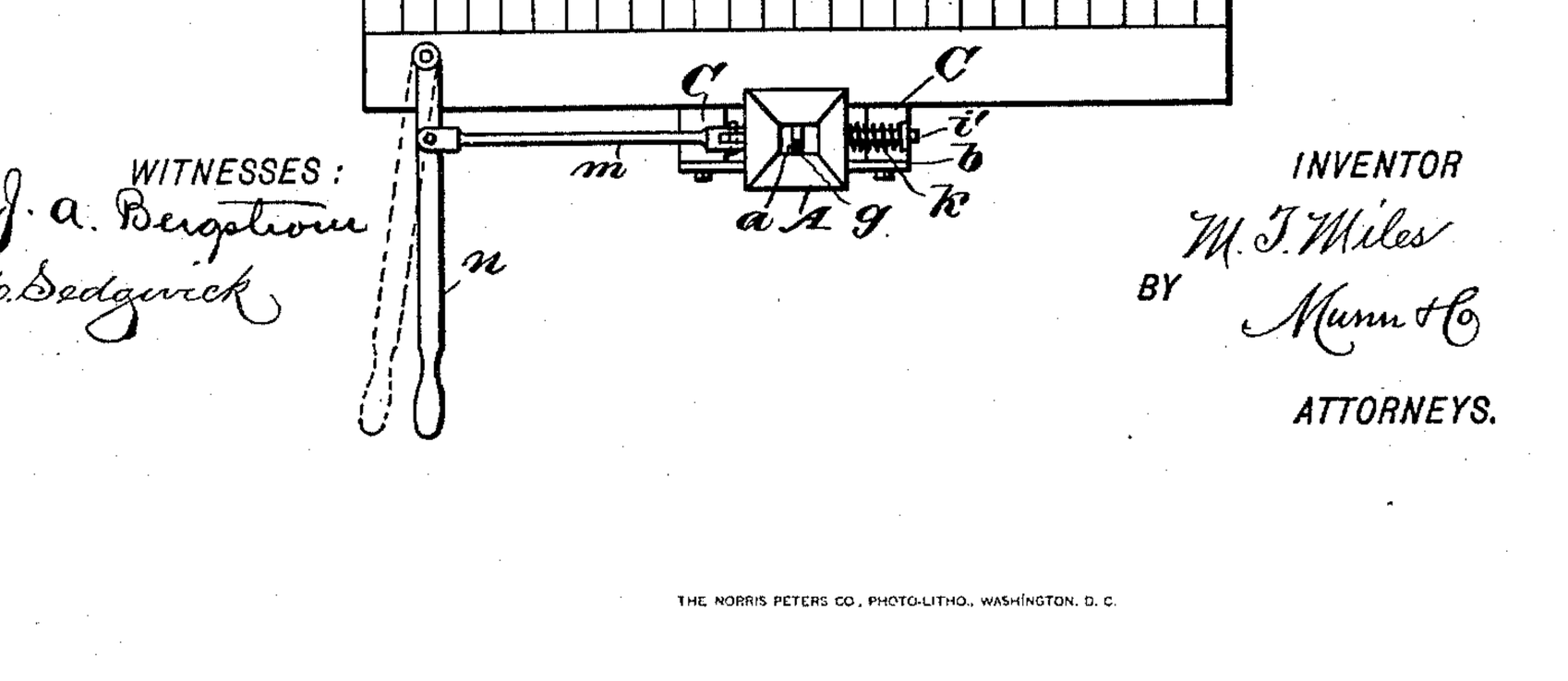

Fig. 4.

WITNESSES:
J. a. Bergstrom
C. Sedgwick

INVENTOR
M. T. Miles
BY Munn & Co
ATTORNEYS.

UNITED STATES PATENT OFFICE.

MELVIN T. MILES, OF LE MARS, IOWA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 485,965, dated November 8, 1892.

Application filed March 16, 1892. Serial No. 425,193. (No model.)

To all whom it may concern:

Be it known that I, MELVIN T. MILES, of Le Mars, in the county of Plymouth and State of Iowa, have invented a new and useful Car-Coupling, of which the following is a full, clear, and exact description.

The object of this invention is to produce a simple, strong, and practical automatic car-coupling, using an ordinary link to connect two of the improved couplings or couple the improved device with an ordinary bull-nose car-coupling of the link-and-pin type.

To this end my invention consists in the construction and combination of parts, as is hereinafter described and claimed.

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

Figure 1 is a side view of two couplings of the improved construction in coupled condition, one of said couplings being in section, taken on the line 1 1 in Fig. 2. Fig. 2 is a plan view of the couplings shown in Fig. 1, one coupling being broken away and in section on the line 2 2 in Fig. 1. Fig. 3 is a reverse plan view of the improved coupling on a car-frame shown in part, and Fig. 4 is a front view of the improvement in position upon a car broken away above.

There is a preferably cast-metal draw-head A provided, which is apertured at the front end to form a throat *a*, into which an elongated closed link B can be freely inserted a limited distance, the top and lower walls of the aperture being curved away from each other outwardly, so as to provide a sloping surface whereon the link end will slide when it is entered. The body of the draw-head A is supported to slide longitudinally upon a transverse plate *b*, which is affixed upon the string-pieces C of the car-frame, there being a loop *c* attached to the inner end of the draw-head, which embraces two buffer-plates *d*, between which a spring *e* is located, which is adapted to cushion the draft force and end-thrust sustained by the draw-head in service. There is a longitudinal slot *a'* formed in the draw-head at its transverse center and a proper distance from the front edge that intersects the throat-aperture *a*, said slot extending from the lower side, as shown in Fig. 1, the edge walls of the slot above being made circular to permit the insertion of a coupling-dog *g*, that is preferably given a circular contour, so as to loosely fit in the recess or slot *a'*. The dog *g* is centrally perforated to receive a pivot-bolt *h*, that passes through the draw-head also, whereby the dog is supported free to rock upon the bolt. There is a segment cut from the disk-shaped dog *g* by the removal of which two faces at right angles to each other are produced, the face *g'*, which is shortest, forming a locking-toe g^2 on the dog when the parts are assembled. A cross-slot is formed in the draw-head A at such a point rearward of the pivot-bolt *h* and above it as will allow a locking-bar *i* to slide upon the horizontal face g^3 of the dog *g* when the face *g'* is vertical, as shown in Fig. 1. Upon the projecting end portion *i'* of the bar *i* a spring *k* is placed, which presses upon the side wall of the draw-head and also on a washer *k'*, that is secured on the end of the bar, so that the latter will be drawn a proper distance laterally by the spring. On the other end of the bar *i*, which extends beyond the draw-head A, there is a link-rod *m*, loosely secured by one end, its opposite end being similarly connected with a lever *n*, that is pivoted to the car-frame, as shown in Fig. 4. Upon the face g^3 of the dog *g* a pin g^4 or similar abutment is projected therefrom at a proper distance from the shoulder or upright wall *g'* thereon to freely admit the coupling-link B between them. There is a notch i^2 cut in the bar *i* at such a distance from its ends as will locate the notch nearest the side of the draw-head that is pressed upon by the spring *k* when the bar is in normal condition, so that the solid portion of said bar will have contact with the horizontal face g^3 of the coupling-dog and prevent the toe g^2 from inclining from a vertical position.

In service if two of the improved couplings are to be connected by a link B the latter is inserted within one draw-head A until it strikes against the rear wall of the aperture *a*. This will cause the bow end of the inserted link to strike upon the curved front face of the pin g^4 and rock it rearwardly until it strikes upon the front edge of the cross-bar *i*. This rotatable movement of the coupling-dog *g* will elevate its toe g^2, so as to cause it to

enter the link B, whereby said link will be interlocked with the toe and securely coupled to the draw-head. The cars to be coupled are now made to approach each other until the link B, held in one draw-head, is entered into a similar draw-head on the other car, which will rock the coupling-dog therein in like manner as has been explained and interlock its toe g^2 with the other end of the link.

When cars having the improved coupling are to be detached from each other, this is effected by a vibration of the lever n outwardly, as indicated by dotted lines in Fig. 4. This will draw the notch i^2 of the bar i into alignment with the coupling-dog g, so that draft strain applied to the link B will rock the toe g^2 forwardly and release the link, as shown by dotted lines at the right in Fig. 1.

It will be seen that the improved coupling can be coupled with the usual form of link-and-pin coupling and that slight variations in height of cars will not prevent two of the improved couplings from being coupled automatically.

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

1. The combination, with a draw-head apertured in front and adapted to receive a coupling-dog at the rear of the aperture, of a pivoted coupling-dog having a toe formed on it to engage an inserted coupling-link and a transverse sliding notched bar which will hold the dog from rocking, substantially as described.

2. The combination, with a draw-head apertured in front and vertically slotted to receive a coupling-dog, of a disk-like coupling-dog having a toe and pivoted in the slot of the draw-head and a locking-bar having a notch that will clear it from contact with the coupling-dog when it is slid transversely in a cross-slot in the draw-head, substantially as described.

3. The combination, with a draw-head that is forwardly apertured and supported to slide on a car-frame and a buffer-spring therefor, of a disk-like pivoted coupling-dog having a toe formed by cutting away part of the disk, a pin thereon rearward of the toe, a notched cross-bar adapted to lock or release the dog by its sliding movement, and means to move the bar longitudinally, substantially as described.

4. The combination, with a draw-head apertured forwardly and having the top and bottom walls of the aperture divergently sloped and slotted from below to receive a circular coupling-dog, of a disk-like coupling-dog pivoted at its center in the slot of the draw-head, a toe on the disk, formed by cutting it away and adapted to engage a coupling-link, a pin on a flat face of the disk-like dog rearward of its toe, a notched cross-bar transversely located in a slot in the draw-head rearward of the pin on the dog, a spiral spring on one end of the cross-bar which draws the notch of the bar away from the dog, and a link and lever connected to the other end of the cross-bar, substantially as described.

MELVIN T. MILES.

Witnesses:
WINTHROP N. SPRING,
G. H. SPRING.