No. 842,692. PATENTED JAN. 29, 1907.

D. PATTERSON.

CAR COUPLING.

APPLICATION FILED JULY 9, 1906.

2 SHEETS—SHEET 1.

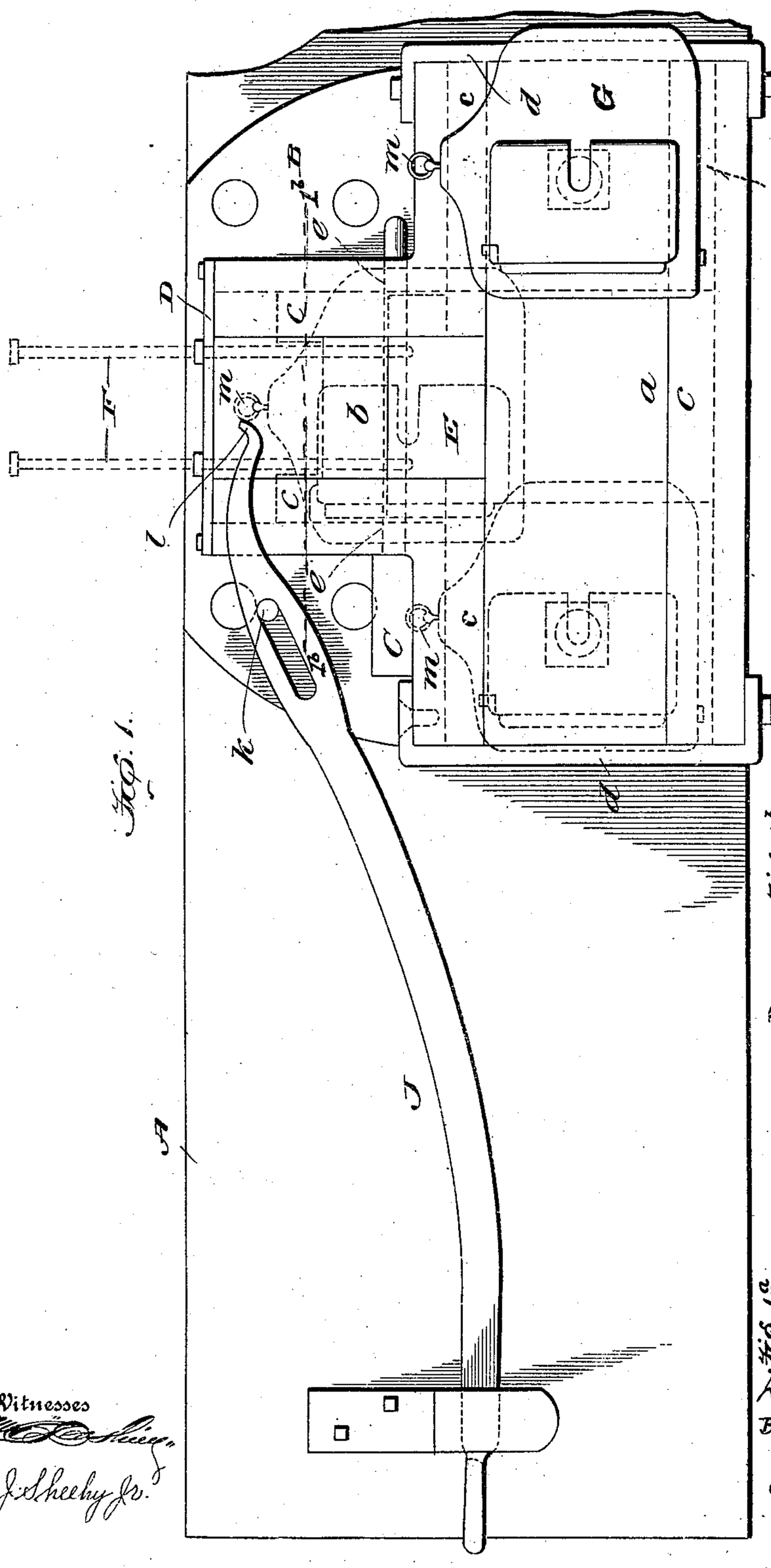


Fig. 1.

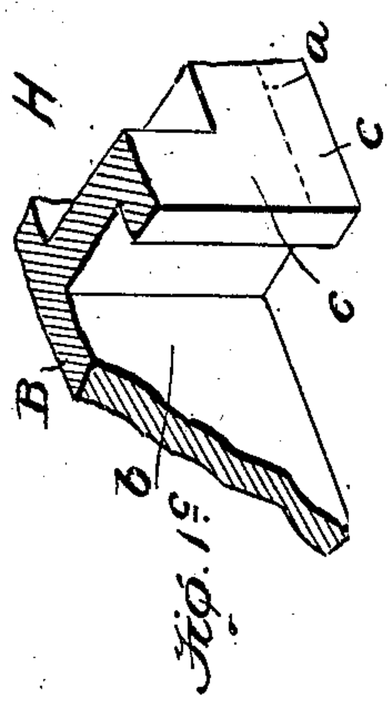


Fig. 1c.

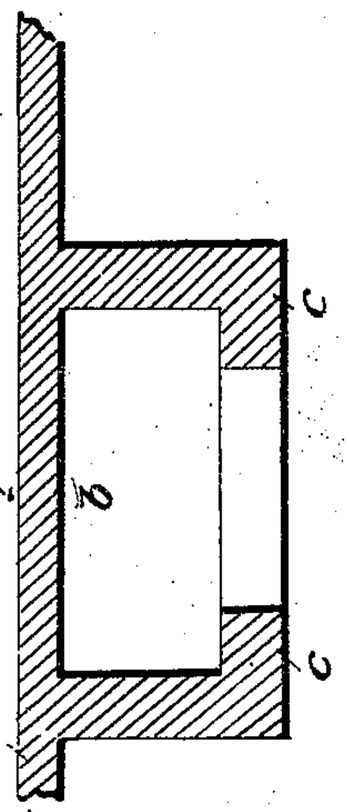


Fig. 1b.

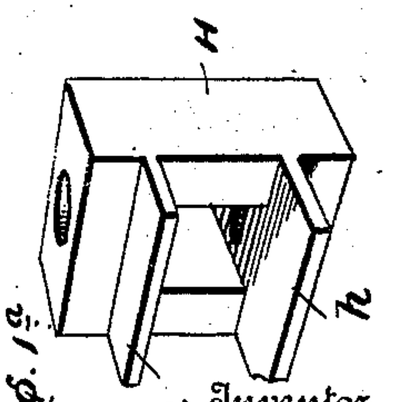


Fig. 1a.

Witnesses

J. J. Sheehy Jr.

Inventor

David Patterson.

BY James J. Sheehy

Attorney

No. 842,692. PATENTED JAN. 29, 1907.

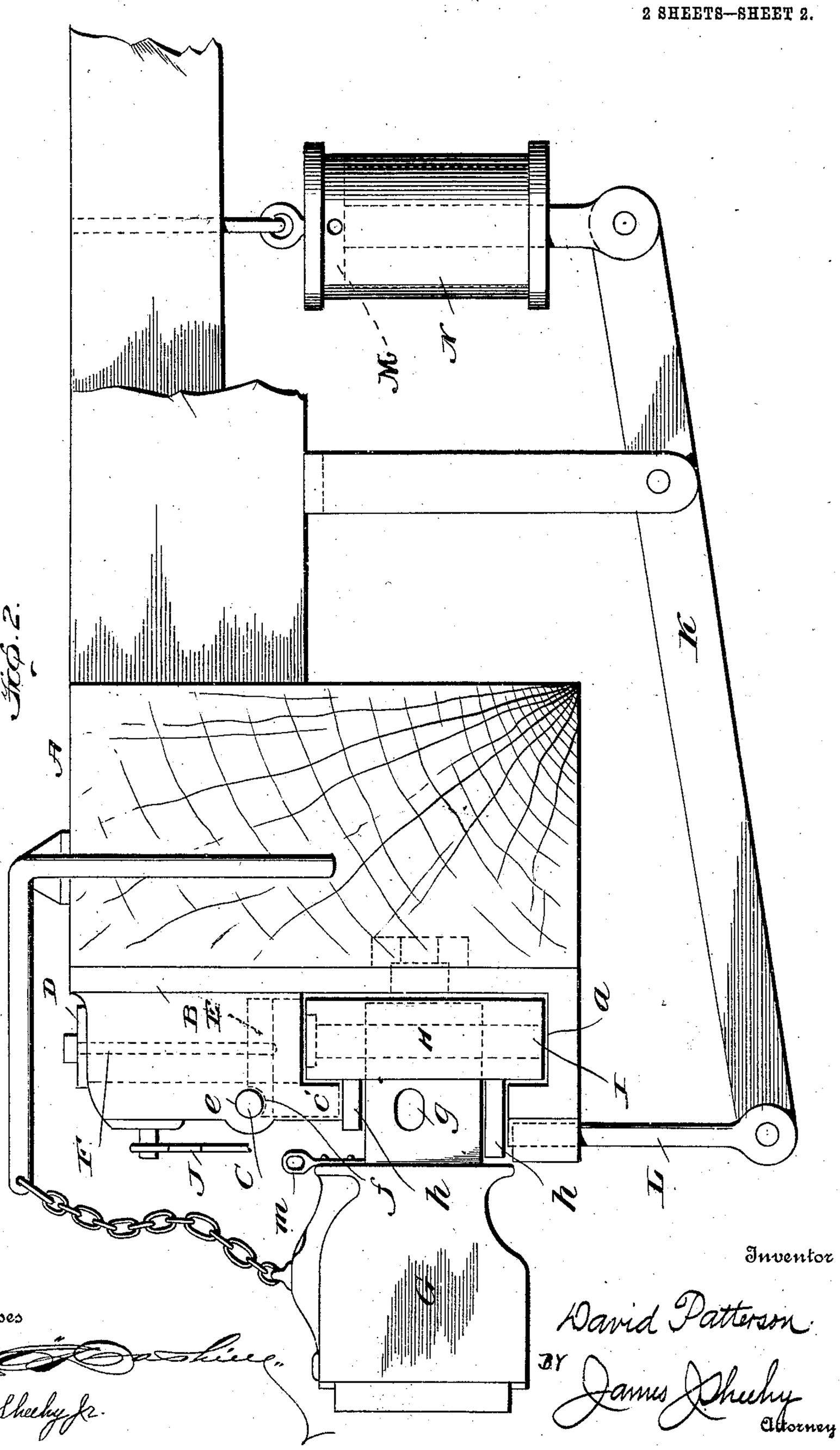
D. PATTERSON.

CAR COUPLING.

APPLICATION FILED JULY 9, 1906.

2 SHEETS—SHEET 2.

Fig. 2.



Witnesses

J. J. Sheehy Jr.

Inventor

David Patterson.

By James J. Sheehy

Attorney

UNITED STATES PATENT OFFICE.

DAVID PATTERSON, OF DENVER, COLORADO.

CAR-COUPLING.

No. 842,692. Specification of Letters Patent. Patented Jan. 29, 1907.

Application filed July 9, 1906. Serial No. 325,334.

To all whom it may concern:

Be it known that I, DAVID PATTERSON, a citizen of the United States, residing at Denver, in the county of Denver and State of Colorado, have invented new and useful Improvements in Car-Couplers, of which the following is a specification.

My invention pertains to car-couplers; and it contemplates the provision of a coupler constructed with a view of being used to advantage in handling mixed trains of broad-gage cars and narrow-gage cars, the term "cars" as herein employed being intended to comprehend locomotives as well as other cars.

The invention also contemplates the provision of improved means for utilizing fluid-pressure in raising the draw-bar of the coupler, especially when the coupler is employed on a locomotive-tender.

Other advantageous characteristics peculiar to my invention will be fully understood from the following description and claims when the same are read in connection with the accompanying drawings, forming part of this specification, in which—

Figure 1 is a face view of a coupler constructed in accordance with my invention and equipped with a hand-lever for raising the draw-bar. Fig. 1[a] is a perspective view of the draw-bar carrier removed. Fig. 1[b] is a detail horizontal section taken through the plate or frame of the coupler in the plane indicated by line 1[b] 1[b] of Fig. 1. Fig. 1[c] is a detail sectional perspective view of said plate or frame, showing one of the vertical lips *c* merging into a horizontal lip *c*. Fig. 2 is a side elevation of the coupler with the closure-bar at one end of the horizontal guideway in the bed-plate removed and illustrating the coupler as provided with fluid-pressure means in addition to the hand-lever for raising the draw-bar.

Similar letters designate corresponding parts in all of the views of the drawings, referring to which—

A is a beam, which may be the pilot-beam or the back tender-sill of a locomotive or the end sill of a car, and B is the plate or frame of the coupler constituting the present and preferred embodiment of my invention. The said plate or frame is bolted to or otherwise fixed on the beam A and is provided with a horizontal guideway *a* and an upright guideway *b*, the latter communicating with and extending upward from the middle of the former, as best shown in Fig. 1. These guideways *a* and *b* have lips or flanges *c*, and it will be noted that the upper lips or flanges of the horizontal guideway merge into the lips or flanges of the upright guideway. It will also be noted that the ends of the horizontal guideway *a* are closed by bars *d*, bolted or otherwise fixedly connected to the bed-plate B.

In the portions of the bed-plate B at opposite sides of the lower part of the upright guideway *b* are formed alined horizontal apertures *e*, which receive a removable horizontal pin C, designed to serve a purpose presently pointed out.

D is a cap-plate connected to the upper edge of bed-plate B and arranged to close the upper end of the upright guideway *b*. E is a block movable vertically in the upright guideway *b* and behind the lips *c* thereof, and F F are headed pins connected to the block E and extending through the cap-plate D and designed to suspend the block E when the latter is in its lowermost position. The block E has a lip *c'*, which when the block moves downward assumes a position between the upper lips *c* of the horizontal guideway *a*, and from this it follows that the block makes continuous the lower guideway *a* as well as the upper lip thereof. Said block E also has a groove *f* in its upper portion, which is designed when the block is in its lower position to seat the pin C, Fig. 2, whereby it will be seen that said pin is enabled to hold the block against casual upward movement.

G is a draw-bar which is movable vertically and horizontally in the guideways of bed-plate B and is provided with a transverse aperture *g*, designed when the draw-bar is raised to receive the pin C, and H is the draw-bar carrier to which the draw-bar is connected, preferably through the medium of a pivot-pin I. (Shown by dotted lines in Fig. 2.) The said carrier H is movable in the guideways *a* and *b* back of the lips *c* thereof and is preferably provided with forward extensions *h*, disposed above and below the draw-bar G, as best shown in Fig. 2.

As shown by dotted lines in Fig. 1 and by full lines in Fig. 1[a], the carrier H is square in front elevation and is of a size to snugly fit and slide in the horizontal guideway *a* and upright *b* of the plate or frame A.

J is a hand-lever fulcrumed at *k* on bed-

plate B and having a hook *l* at its inner end designed to be engaged with an eye *m* on draw-bar G. This lever J is designed more particularly for use in raising the draw-bar G and the carrier H when the draft attachment is applied to a car.

K, Fig. 2, is a lever designed more particularly for use in lifting the draw-bar G and carrier H when the draft attachment is applied to a locomotive or the tender thereof. The said lever K is provided on one arm with a rod L, which extends up through an aperture in the bed-plate B and is disposed below the lower extension *h* of carrier H. The other arm of lever K is connected to a piston M, arranged in a cylinder N, designed to be connected with a source of fluid-pressure supply, and hence it will be apparent that when fluid-pressure is let into the cylinder N above the piston M the draw-bar G and its carrier H will be raised, while when fluid-pressure is exhausted from the upper portion of cylinder N the draw-bar G and its carrier H will gravitate to their lowermost position.

In practice when the draw-bar G and its carrier H are raised to the upper portion of the upright guideway *b* in bed-plate B and are locked by the pin C the said draw-bar G is in position to handle broad-gage cars and equipment. When, however, it is desired to handle narrow-gage cars and equipment, the draw-bar and its carrier are dropped to the bottom of the horizontal guideway *a*, where they may be freely moved toward the right or toward the left as may be necessary because of the narrow-gage or third rail being on the right or left side of the broad-gage track. It will also be understood that when in the lower position the draw-bar and its carrier will move automatically from right to left or left to right when the narrow-gage or third rail passes from one side to the other of the broad-gage track.

It will be gathered from the foregoing that the block E follows the draw-bar G and carrier H on the down movement thereof and is raised by said draw-bar and carrier when the same are moved upward.

When my novel draft attachment as a whole is inverted and applied in such position to a narrow-gage locomotive or car, it is adapted for coupling same to a broad-gage car or locomotive, the horizontal guideway being in this case used for broad-gage cars and the upright guideway for narrow-gage cars.

I have entered into a detailed description of the construction and relative arrangement of the parts embraced in the present and preferred embodiment of my invention in order to impart a full, clear, and exact understanding of the said embodiment. I do not desire, however, to be understood as confining myself to the said specific construction and relative arrangement of parts, as such changes or modifications may be made in practice as fairly fall within the scope of my invention as claimed.

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

1. In a car-coupler, the combination of a bed plate or frame, and a draw-bar; the said bed-plate and draw-bar being provided with coöperating means whereby the draw-bar may be moved to and fro horizontally in the bed-plate or may be supported in a horizontal plane in the bed-plate different from that in which it moves to and fro.

2. In a car-coupler, the combination of a bed plate or frame having communicating guideways disposed at an angle to each other, a draw-bar, and a draw-bar carrier movable to and fro in one guideway of the bed plate or frame and adapted to be moved into the other guideway thereof.

3. In a car-coupler, the combination of a bed plate or frame having a horizontal guideway and an upright guideway extending from the horizontal guideway, a draw-bar, and a draw-bar carrier movable to and fro in the horizontal guideway of the bed plate or frame and adapted to be moved into the upright guideway thereof.

4. In a car-coupler, the combination of a bed plate or frame having communicating guideways disposed at an angle to each other, a draw-bar, a draw-bar carrier movable to and fro in one guideway and adapted to be moved into the other guideway, and means for securing the draw-bar and its carrier in the latter guideway.

5. In a car-coupler, the combination of a bed plate or frame having a horizontal guideway and an upright guideway extending from the horizontal guideway, a draw-bar, a draw-bar carrier movable to and fro in the horizontal guideway and adapted to be moved into the upright guideway, and means for securing the draw-bar and its carrier in the latter guideway.

6. In a car-coupler, the combination of a bed plate or frame having a horizontal guideway, and an upright guideway extending up from the middle of the horizontal guideway, a draw-bar, a draw-bar carrier movable to and fro in the horizontal guideway and adapted to be moved into the upright guideway, and means for securing the draw-bar and its carrier in the latter guideway.

7. In a car-coupler, the combination of a bed plate or frame having a horizontal guideway and an upright guideway extending from the horizontal guideway, a draw-bar, a draw-bar carrier movable to and fro in the horizontal guideway and adapted to be moved into the upright guideway, and a block movable in the upright guideway at the

opposite side of the carrier, with reference to the horizontal guideway.

8. In a car-coupler, the combination of a bed plate or frame having a horizontal guideway and an upright guideway extending from the horizontal guideway, a draw-bar, a draw-bar carrier movable to and fro in the horizontal guideway and adapted to be moved into the upright guideway, a block movable in the upright guideway at the opposite side of the carrier with reference to the horizontal guideway, and means for holding said block in a position adjacent to the horizontal guideway.

9. In a car-coupler, the combination of a bed plate or frame having a horizontal guideway and an upright guideway extending from the horizontal guideway, a draw-bar, a draw-bar carrier movable to and fro in the horizontal guideway and adapted to be moved into the upright guideway, a block movable in the upright guideway at the opposite side of the carrier, with reference to the horizontal guideway, and means adapted in one position of the draw-bar and its carrier to secure the block in a position adjacent to the horizontal guideway and in another position of the draw-bar and carrier to secure the same in the upright guideway.

10. In a car-coupler, the combination of a bed plate or frame having communicating guideways disposed at an angle to each other, a draw-bar carrier movable to and fro in one guideway of the bed plate or frame and adapted to be moved into the other guideway thereof, and a block movable in such other guideway at the opposite side of the carrier, with reference to the first-mentioned guideway.

11. In a car-coupler, the combination of a bed plate or frame having communicating guideways disposed at an angle to each other, a draw-bar carrier movable to and fro in one guideway of the bed plate or frame and adapted to be moved into the other guideway thereof, a block movable in such other guideway at the opposite side of the carrier, with reference to the first-mentioned guideway, and means for holding the block in a position adjacent to the first-mentioned guideway.

12. In a car-coupler, the combination of a bed plate or frame having communicating guideways disposed at an angle to each other, a draw-bar, a draw-bar carrier movable to and fro in one guideway and adapted to be moved into other guideway thereof, and means for raising the draw-bar and draw-bar carrier.

13. In a car-coupler, the combination of a bed plate or frame having communicating guideways disposed at an angle to each other, a draw-bar, a draw-bar carrier movable to and fro in one guideway and adapted to be moved into the other guideway thereof, and fluid-pressure means for raising the draw-bar and draw-bar carrier.

14. In a car-coupler, the combination of a bed plate or frame having a horizontal guideway and an upright guideway extending from the horizontal guideway, a draw-bar, a draw-bar carrier movable to and fro in the horizontal guideway of the bed plate or frame and adapted to be moved into the upright guideway thereof, and means for raising the draw-bar and its carrier.

15. In a car-coupler, the combination of a bed plate or frame having a horizontal guideway and an upright guideway extending from the horizontal guideway, a draw-bar, a draw-bar carrier movable to and fro in the horizontal guideway of the bed plate or frame and adapted to be moved into the upright guideway thereof, and fluid-pressure means for raising the draw-bar and its carrier.

16. In a car-coupler, the combination of a bed plate or frame, a vertically-movable draw-bar, a lever fulcrumed at an intermediate point of its length, a rod on one arm of said lever, disposed below the draw-bar, and fluid-pressure means for depressing the other arm of the lever.

17. In a car-coupler, the combination of a bed plate or frame having a horizontal guideway and an upright guideway extending up from the horizontal guideway, a draw-bar, a draw-bar carrier movable to and fro in the horizontal guideway and adapted to be raised into the upright guideway, a block movable in the upright guideway at the opposite side of the carrier, with reference to the horizontal guideway, and a pin mounted in the bed plate or frame and adapted to hold the draw-bar and carrier in the upright guideway and also adapted to hold the block in a position adjacent to the horizontal guideway.

18. In a car-coupler, the combination of a bed plate or frame having a horizontal guideway and an upright guideway extending up from the horizontal guideway, a draw-bar, a draw-bar carrier movable to and fro in the horizontal guideway and adapted to be raised into the upright guideway, a cap closing the upper end of the upright guideway, a block connected by slide-rods with said cap and movable in the upright guideway at the opposite side of the carrier, with reference to the horizontal guideway, and a pin mounted in the bed plate or frame and adapted to hold the draw-bar and carrier in the upright guideway and also adapted to hold the block in a position adjacent to the horizontal guideway.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

DAVID PATTERSON.

Witnesses:
H. C. Van Buskirk,
E. E. Whitted.