

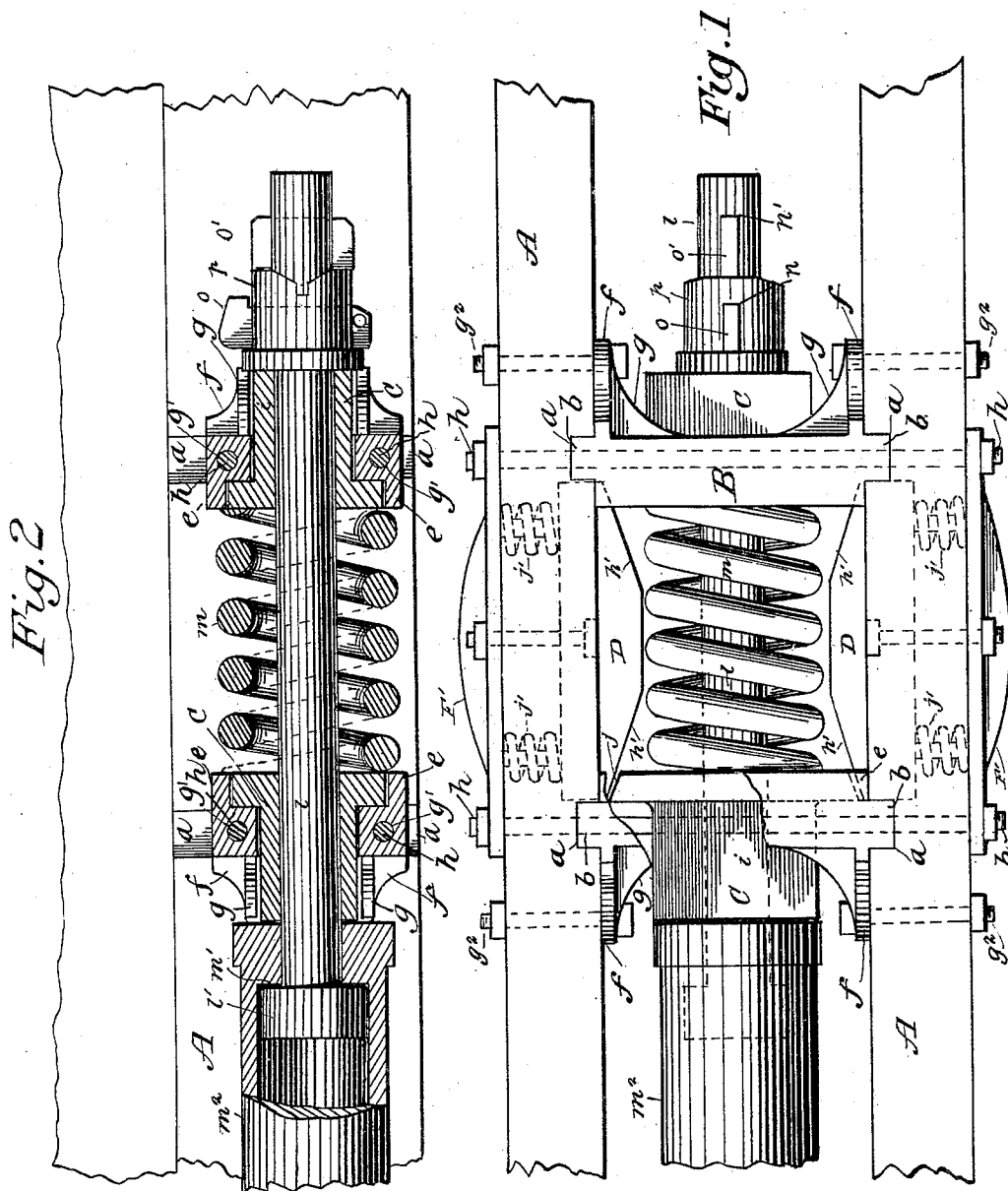
(No Model.)

3 Sheets—Sheet 1.

J. A. HINSON.
DRAW BAR AND SPRING.

No. 466,683.

Patented Jan. 5, 1892.



Witnesses
J. Steward Bonen
J. F. Beale

Inventor
James A. Hinson.
By his Attorney
W. A. Edmund.

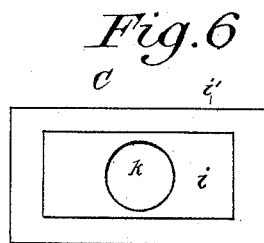
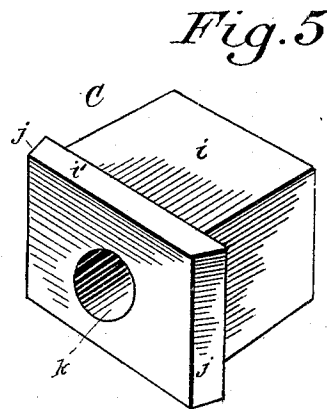
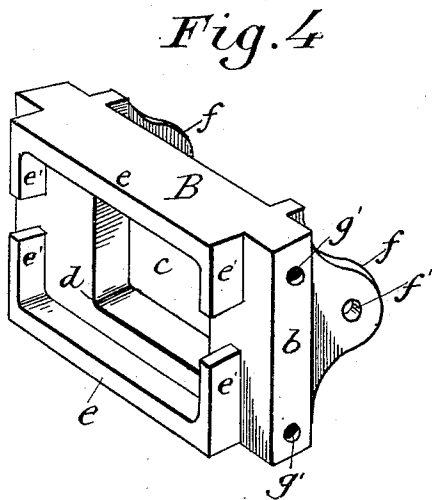
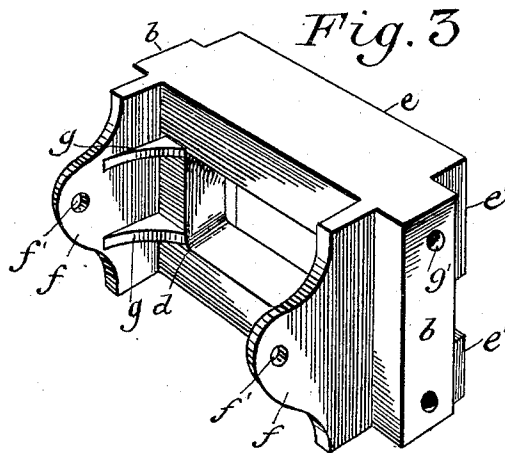
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3 Sheets—Sheet 3.

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Fig. 7

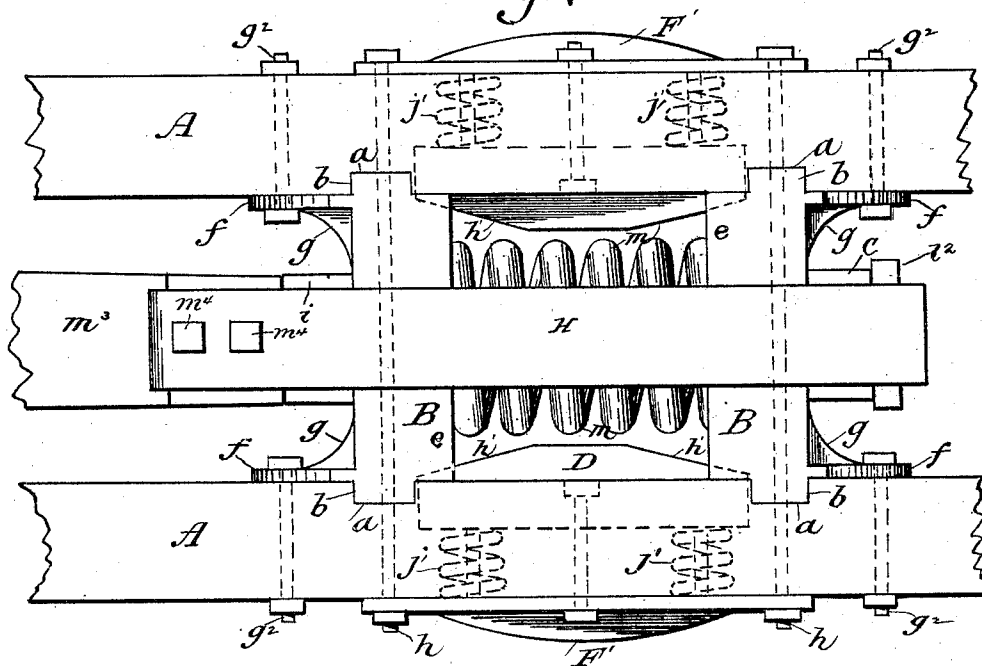
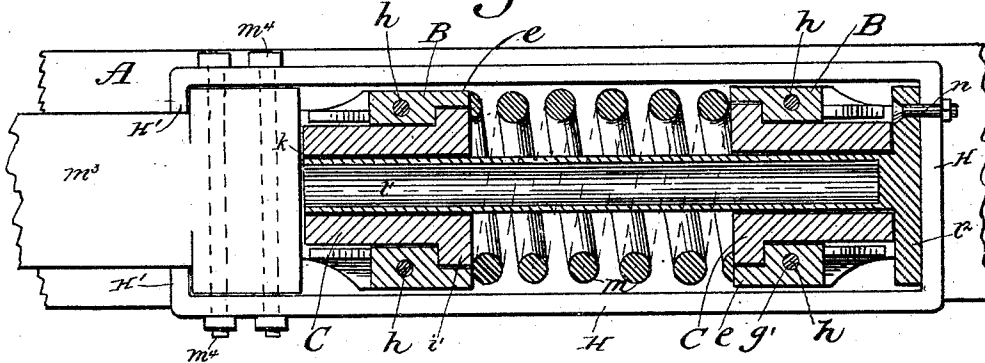


Fig. 8



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UNITED STATES PATENT OFFICE.

JAMES A. HINSON, OF DES MOINES, IOWA.

DRAW-BAR AND SPRING.

SPECIFICATION forming part of Letters Patent No. 466,683, dated January 5, 1892.

Application filed January 28, 1891. Serial No. 379,389. (No model.)

To all whom it may concern:

Be it known that I, JAMES A. HINSON, a citizen of the United States, residing at Des Moines, in the county of Polk and State of Iowa, have invented certain new and useful Improvements in Draft-Rigging for Draw-Bars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates, generally, to draft-rigging for car-couplers, and particularly to the stops and follower-plates therefor; and it has for its object to provide a strong, durable, and simple draft-rigging of few parts capable of withstanding the violent shocks to which this class of devices are specially subjected in use; and it consists in the parts and combinations of parts hereinafter described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a plan view of my invention arranged in place between the draft-timbers; Fig. 2, a longitudinal vertical section through Fig. 1; Fig. 3, a perspective view of one of the stops viewed from its outer side; Fig. 4, a like view of the same from the inner or opposite side; Fig. 5, a perspective view of one of the follower-plates looking at its head end; Fig. 6, an elevation of the opposite end; and Fig. 7 a plan view, and Fig. 8 a longitudinal vertical section through Fig. 7, of a modified arrangement. Similar letters refer to similar parts throughout the several views.

A represents the draft-timbers of a railway-car, on the adjacent sides of which are formed the vertical recesses *a*, said recesses being formed at a suitable distance apart, and being adapted to receive the ends *b* of my improved draw-bar stops B. The draw-bar stops are cast in a single metal plate having formed centrally therethrough an oblong opening *c*, the corners of which are preferably cast or formed slightly curving, as shown at *d* and having cast on one side—the inner—the laterally or outwardly projecting ribs *e*, extending from near the end of the stops across the same and having their upper surfaces flush with the upper and lower surfaces of the stops and having at each end the later-

ally-projecting ribs *e'*, extending at right angles to the ribs *e*, and each pair at each end extending toward each other but not meeting, as clearly shown in Figs. 3 and 4. On the opposite or outer sides of the stops are cast at each end the perforated lugs *f*, projecting laterally from the stops and diametrically opposite the ribs *e'*, said lugs being at their bases the full height of the stops and curving or tapering therefrom at their upper and lower sides toward their outer ends, and the perforation *f'* is formed therein at about on a line with the center or middle of the vertical height of the stops. In order to strengthen the lugs and stops, I cast therewith the inclined braces *g*, which connect the stops at each end above and below the opening *c* therein with the sides of the lugs, as best shown in Fig. 3. Through the body of the stops, near the top and bottom, I form bolt-openings *g'*, which extend through said stops from end to end, and through these openings I pass the bolts *h*, said bolts also passing through the timbers A, and being fastened or secured in place by nuts or otherwise, as desired. The stops are placed between the timbers, their ends *b* entering the recesses *a* therein, with their ribbed faces or sides adjacent each other and their end ribs *e'* and the lugs *f* resting squarely against the sides of the timbers A on opposite sides of the recesses therein, and the bolts *h* being passed through the perforations *g'*, and the timbers and short bolts *g*, being inserted through the perforated lugs and the timbers, rigidly secure the stops to the timbers.

By the construction of the stops described I not only greatly strengthen the same, and thus reduce to a minimum the liability of the stops breaking under the violent shocks they are subjected to when in use, but I also prevent the timbers splitting or breaking at the recesses therein, as the end ribs *e'* and the lugs *f* form bearings on each side of said recesses and materially strengthen the timber at these points.

C represents a follower-plate of peculiar construction adapted to operate in connection with the stops above described and the ordinary draw-bar buffer-spring, and also in connection with a friction-buffer, such as is described in my former patent, No. 439,748, dated November 4, 1890. This plate C is formed

with a square body portion *i*, adapted to fit and slide within the opening *c* of the stops *B* and a head or flange *i'*, having flat upper and lower edges or sides and inclined end flanges *j*, as best shown in Fig. 5, the body portion being formed square or rectangular for the purpose of preventing the same turning in the openings in the stops, while the flanges *i'* and *j* are adapted to fit within the ribs *e* and *e'* and rest against the body of the stops.

In the plates *C* are formed circular or other shaped openings *k*, through which the draw-bar stem or pin *l* passes, the spring *m* surrounding said stem and having its ends pressing against the heads or flanges of the plates *C*, as clearly shown in Figs. 1 and 2. The draw-bar stem *l* is formed with the usual enlarged head *l'*, adapted to engage the interior flange *m'*, cast at the end of the draw-bar *m*², and acts to hold said draw-bar in place when in use, and at its other end is formed with slots *n n'* at a short distance apart, adapted to receive the keys *o o'* to secure the thimble *p* on said stem or pin, as described in my former patent, No. 427,990, dated May 13, 1890, against which thimble the end of the follower-plate *C* presses when the draw-bar is drawn forward, as in moving a train of cars.

In Figs. 7 and 8 I show my improved follower-plates arranged in connection with what is termed a "spring-pocket," which consists of a strap of flat iron *H*, bent at its center so as to form a rectangular outline, and having its forward ends *H'* bent inwardly to embrace the flange of the draw-bar *m*³, and rigidly secured thereto by bolts *m*⁴, passing through said strap and draw-bar. This strap surrounds or passes over the stops and springs *m*—that is, above and below the same—and takes the place of the spindle or stem *l*, and a pin *l'*, having an elongated cross-head *l*² formed at one end thereof, is passed through the opening *k* of the follower-plates from the rear for the purpose of holding the spring *m* in position, said head being attached to the rear or bent end of the strap *H* by a screw or bolt *n*, and said cross-head filling the space between the sides of the strap at this end prevents the same bending or breaking when in use, which it would be liable to do if it pressed or rested against the small end of the follower-plate, which would not fill the space between the sides.

With a draft-rigging as described above, the operation is as follows: When the cars are driven together in coupling or in pushing a train, the forward follower-plate receives the impact or shock from the end of the draw-bar, which is held thereagainst by the stem *l* or strap *H*, whichever may be used, and the plate is thus forced backwardly against the spring *m*, which is thus compressed against the rear plate, the latter transmitting the shock, which is greatly taken up by the spring, to the rear stop *B*, which is sustained by the timbers *A*, while in pulling or drawing the

cars the rear plate *C* is moved forward against the spring by the thimble *p*, or the cross-head *l*², if the latter is used, thus transmitting all shocks and jerks to the spring *m* and rendering the shaft easy and obviating the transmittal to the car of all violent shocks and collisions.

In Figs. 2 and 7 I have shown my improved stops and follower-plates as applied to a friction-buffer such as I described in my former patent, No. 439,748, in which figure *D* represents friction buffer-blocks having double-inclined faces *h'*, against which the inclined ends *j* of the follower-plates work, said blocks being inserted in openings formed through the timbers and being supported in position by spiral springs *j'*, (shown in dotted lines,) which are held in place by metal plates or bars *F'*, secured to the outer sides of said timbers over the openings therein. With this construction of draft-rigging the follower-plates, when driven back or moved forward, come against and slide on the inclined faces of the buffer-blocks and move or force said blocks outwardly against the springs *j'*, thus taking up the violent shocks resulting from collisions which might, if not thus taken up, break the main buffer-spring *m*. By this means I equalize the pressure on all the springs and obviate all liability of the main buffer-spring breaking from sudden and violent shocks.

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

1. In a draft-rigging for car-couplings, a draw-bar stop connecting the adjacent timbers and having laterally-projecting ribs on one side and perforated lugs on its opposite side, substantially as described.

2. In a draft-rigging for car-couplers, a draw-bar stop connecting the adjacent timber and having laterally-projecting ribs on one side, perforated lugs on the other side, and inclined braces connecting said lugs and the stops, substantially as described.

3. In a draft-rigging for car-couplers, a draw-bar stop connecting the adjacent timbers and having projecting ends adapted to enter recesses in said timbers, laterally-projecting ribs on one side thereof, perforated lugs on the opposite side, and braces connecting said lugs and stops, substantially as described.

4. The combination, with a draw-bar stop adapted to connect the draw-timbers and having an oblong opening therein, of a follower-plate having a square body portion formed with a perforation therethrough and a flange at one end, substantially as described.

5. The combination, with a draw-bar stop adapted to connect the draft-timbers and having an oblong opening therein, of a follower-plate having a square body portion, an enlarged head or flange, the ends of which are beveled or inclined, and friction-blocks

having double inclined faces, substantially as described.

secured at its other end to the draw-bar, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES A. HINSON.

Witnesses:

JAMES C. MCSHANE,
DAVID SECOR.

6. The combination, in a draft-rigging for car-couplers, of a stop having an opening therein, a follower-plate having a square or rectangular body portion, a spring, a pin having an elongated cross-head, and a bent strap resting at one end against said cross-head and