

No. 760,824.

PATENTED MAY 24, 1904.

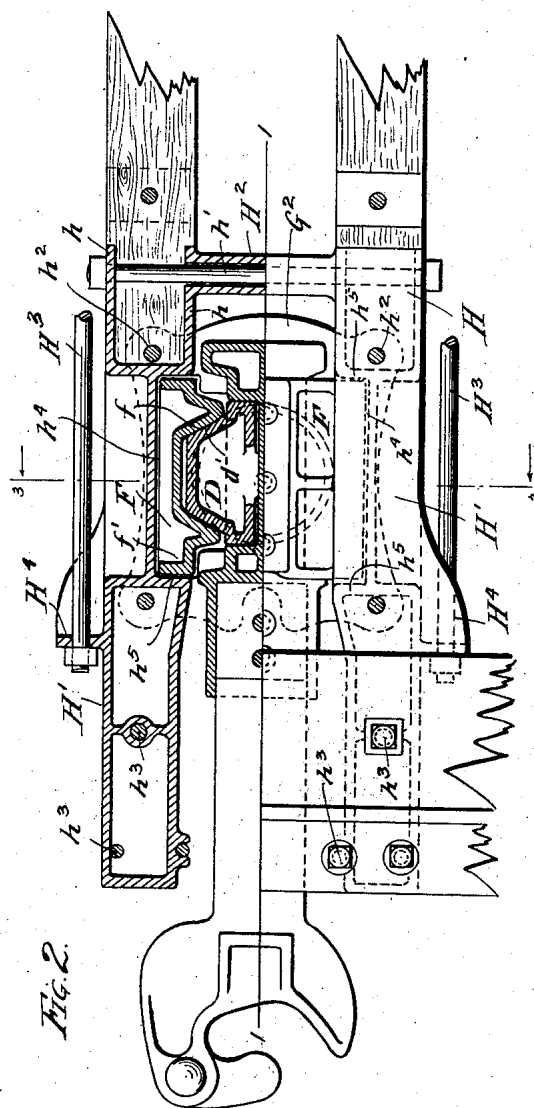
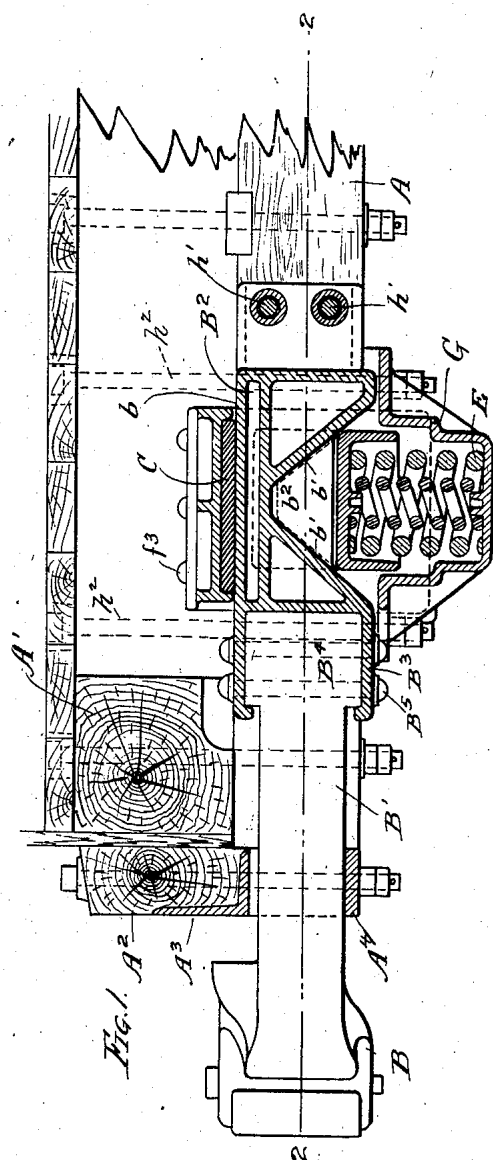
F. B. TOWNSEND.

FRICITION DRAFT RIGGING FOR RAILWAY CARS.

APPLIOATION FILED FEB. 18, 1904.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:

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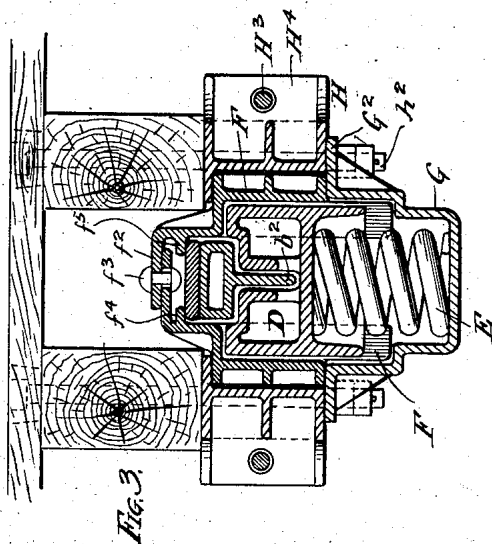
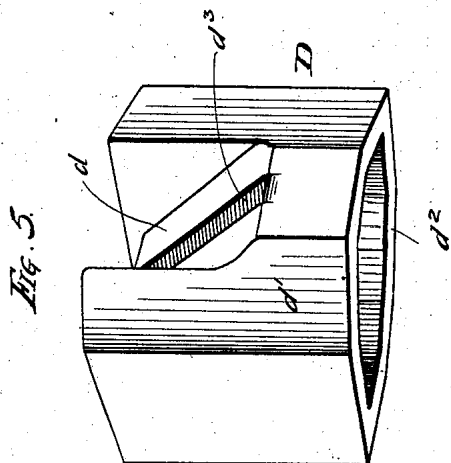
F. B. TOWNSEND.

FRICTION DRAFT RIGGING FOR RAILWAY CARS.

APPLICATION FILED FEB. 18, 1904.

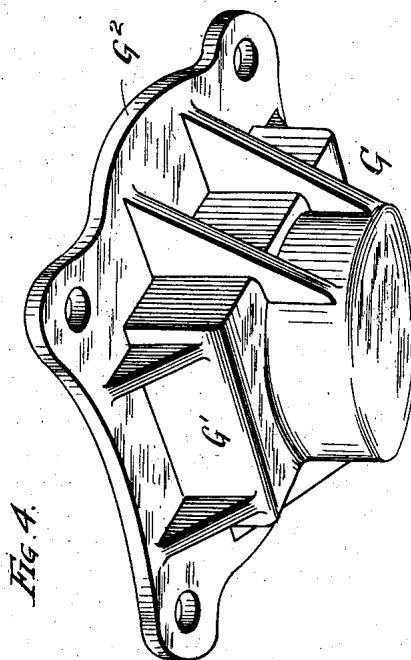
NO MODEL.

2 SHEETS—SHEET 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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FRICITION DRAFT-RIGGING FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 760,824, dated May 24, 1904.

Application filed February 18, 1904. Serial No. 194,209. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK B. TOWNSEND, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Friction Draft-Rigging for Railway-Cars, of which the following is a specification.

My invention relates to improvements in friction draft-rigging for railway-cars.

My invention consists, in connection with a draw-bar and draw-bar extension or draft-iron in line therewith, having a straight friction-face on one side and double-incline friction-faces oppositely disposed on its opposite or lower side, of a transversely or vertically movable friction-block having double-incline friction-faces engaging the double-incline friction-faces on the draft-iron, a transversely-arranged spring acting against said transversely-movable friction-block, a pair of guide-plates to receive and hold in position a friction-plate having a straight friction-face frictionally engaging the straight friction-surface of the draft-iron and furnished also with upright shoulders or guides to receive, guide, and hold longitudinally in position the transversely-movable friction-block, and a car-sill extension or housing having two integral limbs or members furnished with sockets to receive the ends of the car-sills and provided with shouldered recesses to receive and hold in position said guide-plates in which the transversely-movable friction-block works up and down, and a spring seat or cup having an integral horizontal plate rigidly connected to and supported by the two limbs or members of the sill extension or housing, which limbs or members said plate itself connects and braces.

My invention further consists in the novel construction of parts and devices and in the novel combinations of parts and devices herein shown or described.

In the accompanying drawings, forming a part of this specification, Figure 1 is a central vertical section of a friction draft-rigging embodying my invention, the section being taken on line 1 1 of Fig. 2. Fig. 2 is a plan view,

partly in horizontal section, taken on line 2 2 of Fig. 1. Fig. 3 is a cross-section on line 3 3 of Fig. 2. Fig. 4 is a perspective view of the spring seat or cup. Fig. 5 is a perspective view of the transversely or vertically movable friction-block.

In the drawings, A A represent longitudinal sills of the car; A', the cross-sill; A², the buffer-block; A³, the buffer-plate, and A⁴ the carry-iron.

B is the coupler, B' the draw-bar, and B² the draw-bar extension or draft-iron, the same having a socket or shouldered end B³ to receive the head or shouldered end B⁴ of the draw-bar and to which it is secured by bolts or rivets B⁵. The extension or draft-iron B² has a straight friction-face *b* on one side, preferably its upper side, and double-incline oppositely-disposed friction-faces *b'* *b'* on its opposite or lower side. The straight friction-face *b* is in sliding frictional engagement with the stationary friction-plate C, and the double-incline friction-faces *b'* *b'* of the draft-iron are in sliding frictional engagement with the corresponding double-incline friction-faces *d* *d* of the transversely-movable friction-block D. The friction-block D has beveled corners or corner-faces *d'*, which engage the guide-shoulders or flanges *f* of the stationary guide-plates F F, which guide the transversely-movable friction-block and hold it from longitudinal movement with the draw-bar while permitting it to move transversely or vertically in respect thereto. The transversely-movable friction-block D is also furnished with a hollow extension rim or flange *d*² at its lower end to receive and guide and hold in place the upper end of the transversely arranged and acting spring E, which bears against the lower end of the friction-block. The transversely-movable friction-block D is also provided with a longitudinal slot *d*³ to receive the vertical web *b*², which bridges the inclined friction-faces *b'* *b'* and strengthens the draft-iron.

G is the spring seat or cup, against which the lower end of the spring bears, the same being also furnished with a guide portion G', which fits, receives, and guides the lower end

or portion of the side casting or guide-plate F. The spring seat or cup G has an integral horizontal plate G², which extends between the two limbs or members H' H' of the sill extension or housing H and is rigidly and firmly but removably connected thereto by bolts h².

The sill extension or housing H is furnished with integral sockets or flanges h h to receive and embrace the front ends of the longitudinal car-sills or frame-timbers A A and is firmly connected thereto by transverse bolts h', which extend through the housing and both sills A A, the housing H having an integral connecting thimble or sleeve H², through which the bolts extend. The sill-extension casting or housing H is further connected to the sills A A by vertical bolts h² and to the front sill A' and the buffer-block A² by vertical bolts h³. Longitudinal tie-rods H³ also additionally anchor the sill-extension casting or housing H to the car-framework, the housing H having integral shoulders or brackets H⁴ to receive the tie-rod H³. The sill-extension casting or housing H is provided with two recesses h⁴, each having shoulders h⁵ h⁵ to receive the upright flanges or shoulders f' of the guide-plates F, which are thus held rigidly and firmly in position. The guide-plates F have overlapping flanges f² at their meeting edges connected together by rivets f³. The guide-plates F F also have shoulders f⁴ f⁵ to form a seat for, embrace, and hold in position the stationary friction-plate C. The guide-plates F are held in place by the removable spring seat or cup G, upon the horizontal plate G² of which the guide-plates F F rest. It will thus be understood that by simply removing the spring seat or cup G the spring, transversely-movable friction-block, draw-bar, and the whole draft-rigging, including the guide-plates F F, may be removed when desired for repair or replacement, while at the same time the draft-rigging as a whole, by reason of its cooperative action with the sill-extension casting or housing and its anchorage thereto to the interposed guide-plates F F, is made extremely safe, strong, efficient, and durable.

In operation under either pulling or buffing strains the draft-iron moves longitudinally with the draw-bar to which it is attached and by reason of its inclines engaging the corresponding inclines on the transversely-movable friction-block causes the friction-block to move transversely and compress the transversely-acting spring, and thus cushion the draw-bar by the frictional resistance due to the movement of the friction-surface of the draw-bar in respect to the stationary friction-plate. The friction of the inclined surfaces on the draw-bar against the corresponding inclines on the transversely-movable friction-block also increases the resistance.

I claim—

65 1. In a friction draft-rigging the combina-

tion with a draw-bar, and draw-bar extension or draft-iron having a straight friction-face on one side and double-incline friction-faces on its opposite side, a stationary friction-plate in sliding frictional engagement with the straight friction-face of the draft-iron, a transversely-movable friction-block having double-incline friction-faces, a transversely-acting spring bearing against said friction-block, guide-plates having recesses to receive said stationary friction-plate and provided with guides or shoulders for said transversely-movable friction-block to slide against, a sill-extension casting or housing secured to the car-framework, and provided with shouldered recesses to receive said guide-plates, and a spring seat or cup for the spring to bear against, and provided with an integral horizontal plate connected to said sill-extension casting or housing and supporting the draft-iron, friction-block and side guides, substantially as specified.

2. In a friction draft-rigging the combination with a draw-bar, and draw-bar extension or draft-iron having a straight friction-face on one side and double-incline friction-faces on its opposite side, a stationary friction-plate in sliding frictional engagement with the straight friction-face of the draft-iron, a transversely-movable friction-block having double-incline friction-faces, a transversely-acting spring bearing against said friction-block, guide-plates having recesses to receive said stationary friction-plate and provided with guides or shoulders for said transversely-movable friction-block to slide against, a sill-extension casting or housing secured to the car-framework and provided with shouldered recesses to receive said guide-plates, and a spring seat or cup for the spring to bear against, and provided with an integral horizontal plate connected to said sill-extension casting or housing and supporting the draft-iron, friction-block and guide-plates, said spring seat or cup having also a guide portion to receive and guide the lower end or portion of said transversely-movable block, substantially as specified.

3. In a friction draft-rigging the combination with a draw-bar and draw-bar extension or draft-iron having a straight friction-face on one side and double-incline friction-faces on its opposite side, a stationary friction-plate in sliding frictional engagement with the straight friction-face of the draft-iron, a transversely-movable friction-block having double-incline friction-faces, a transversely-acting spring bearing against said friction-block, guide-plates having shouldered recesses to receive said stationary friction-plate and provided with guides or shoulders for said transversely-movable friction-block to slide against, a sill-extension casting or housing secured to the car-framework and having two integral limbs or members embracing between

them the draft-iron, and each provided with a shouldered recess to receive and anchor in position one of said guide-plates, substantially as specified.

5 4. In a friction draft-rigging the combination with a draw-bar and draw-bar extension or draft-iron having a straight friction-face on one side and double-incline friction-faces on its opposite side, a stationary friction-plate
10 in sliding frictional engagement with the straight friction-face of the draft-iron, a transversely-movable friction-block having double-incline friction-faces, a transversely-acting
15 spring bearing against said friction-block, guide-plates having shouldered recesses to receive said stationary friction-plate and provided with guides or shoulders for said transversely-movable friction-block to slide
20 against, a sill-extension casting or housing secured to the car-framework and having two integral limbs or members embracing between them the draft-iron, and each provided with a shouldered recess to receive and anchor in
25 position one of said guide-plates, and a spring seat or cup for the spring to bear against, having an integral horizontal plate connecting and bracing the two limbs or members of said sill-extension casting or housing, substantially as specified.

30 5. In a friction draft-rigging the combination with a draw-bar and draw-bar extension or draft-iron having a straight friction-face on one side and double-incline friction-faces on its opposite side, a stationary friction-plate
35 in sliding frictional engagement with the straight friction-face of the draft-iron, a transversely-movable friction-block having double-incline friction-faces, a transversely-acting spring bearing against said friction-
40 block, guide-plates having shouldered recesses to receive said stationary friction-plate, and provided with guides or shoulders for said transversely-movable friction-block to slide against, a sill-extension casting or housing se-

45 cured to the car-frame and having two integral limbs or members embracing between them the draft-iron, and each provided with a shouldered recess to receive and anchor in position one of said guide-plates, and a spring
50 seat or cup for the spring to bear against, having an integral horizontal plate connecting and bracing the two limbs or members of said sill-extension casting or housing, said guide-plates having overlapping flanges at their meeting edges secured together, substantially as specified.

6. In a friction draft-rigging the combination with a draw-bar and draw-bar extension or draft-iron having a straight friction-face on one side and double-incline friction-faces
60 on its opposite side, a stationary friction-plate in sliding frictional engagement with the straight friction-face of the draft-iron, a transversely-movable friction-block having double-incline friction-faces, a transversely-
65 acting spring bearing against said friction-block, guide-plates having shouldered recesses to receive said stationary friction-plate and provided with guides or shoulders for said transversely-movable friction-block to slide
70 against, a sill-extension casting or housing secured to the car-framework and having two integral limbs or members embracing between them the draft-iron, and each provided with a shouldered recess to receive and anchor in
75 position one of said guide-plates, and a spring seat or cup for the spring to bear against, having an integral horizontal plate connecting and bracing the two limbs or members of said sill-extension casting or housing, said
80 spring seat or cup having a guide portion to receive and guide the lower end or portion of said transversely-movable friction-block, substantially as specified.

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Witnesses:

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EDMUND ADCOCK.