No. 758,677. PATENTED MAY 3, 1904.

W. H. MINER.

TANDEM SPRING DRAFT RIGGING FOR RAILWAY CARS.

APPLICATION FILED OCT. 12, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

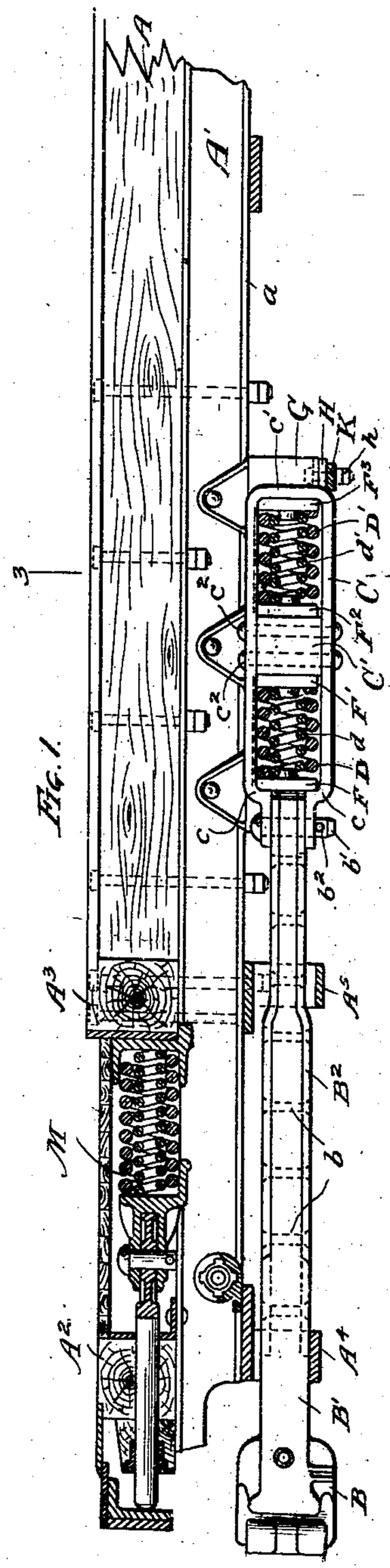

FIG. 1.

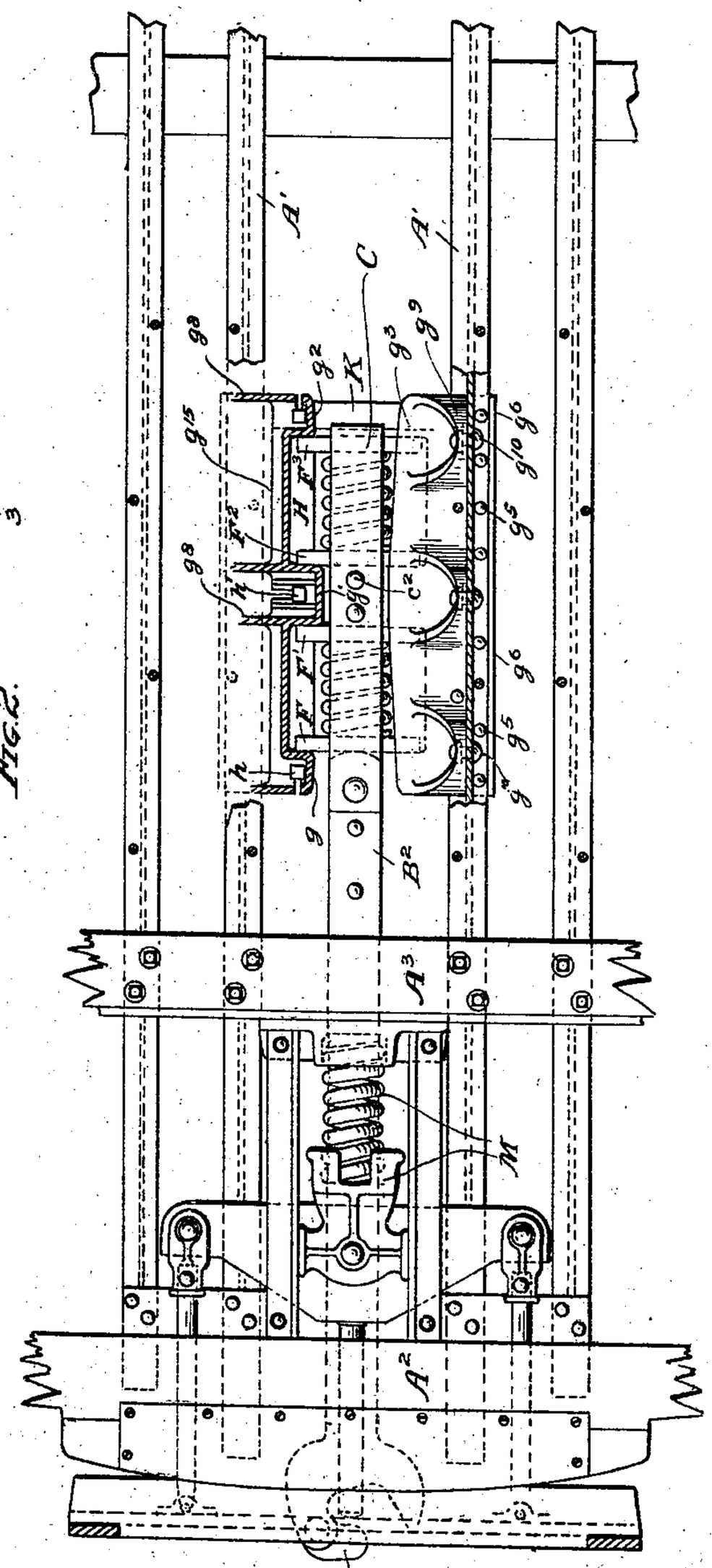

FIG. 2.

WITNESSES:
F. B. Townsend
H. M. Munday

INVENTOR.
William H. Miner
BY
Munday, Evarts & Adcock
ATTORNEYS

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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 6.

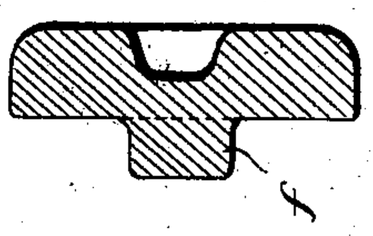
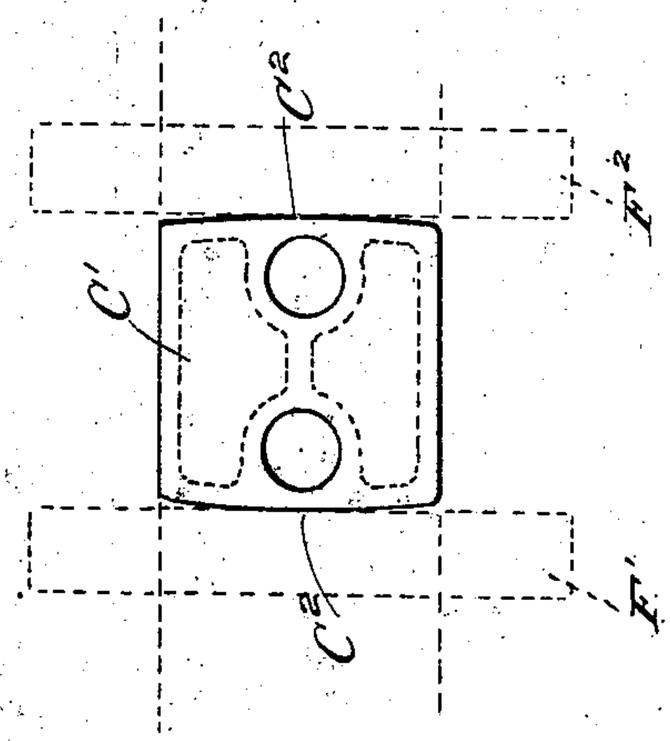


Fig. 5.



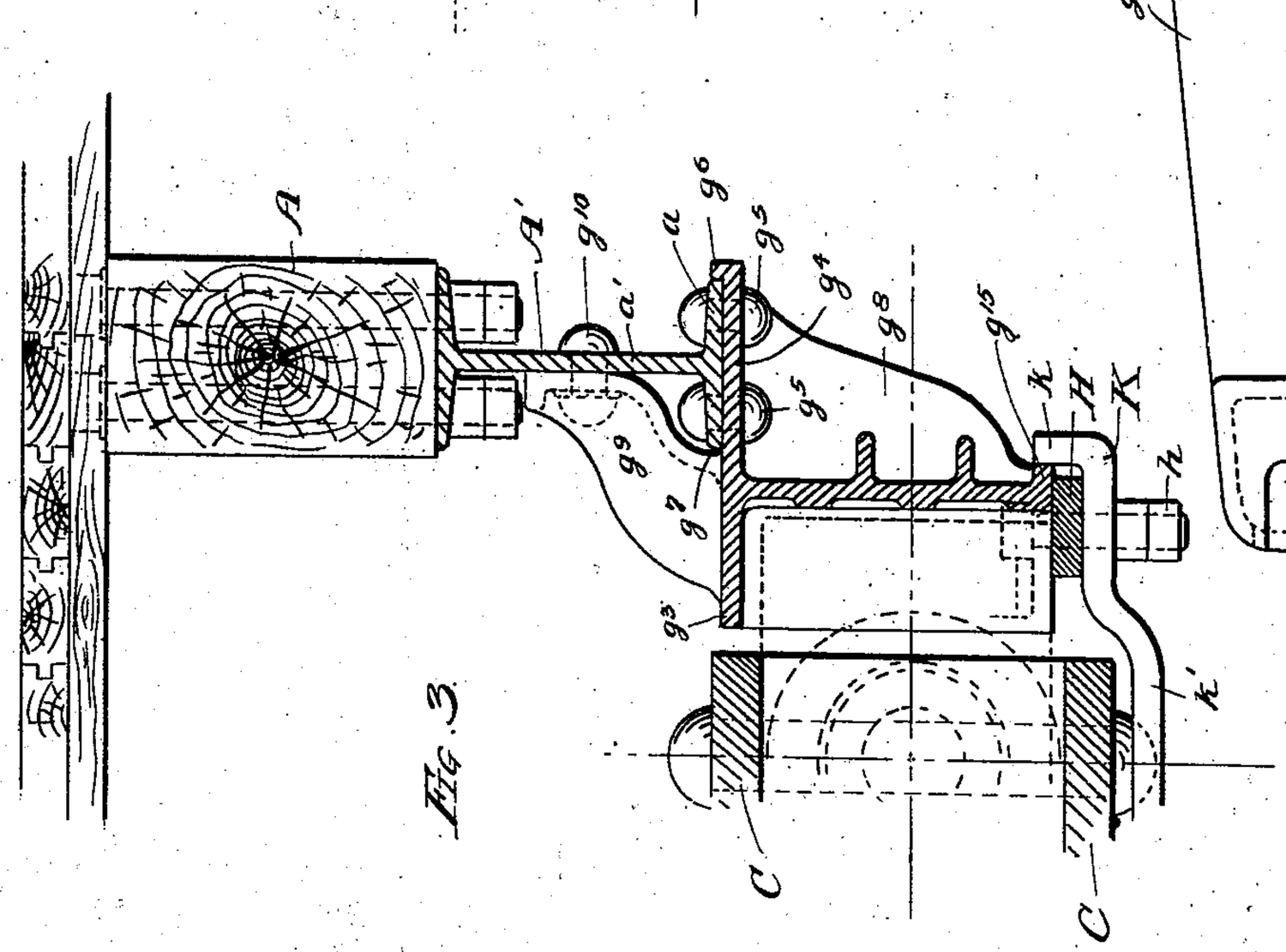


Fig. 3.

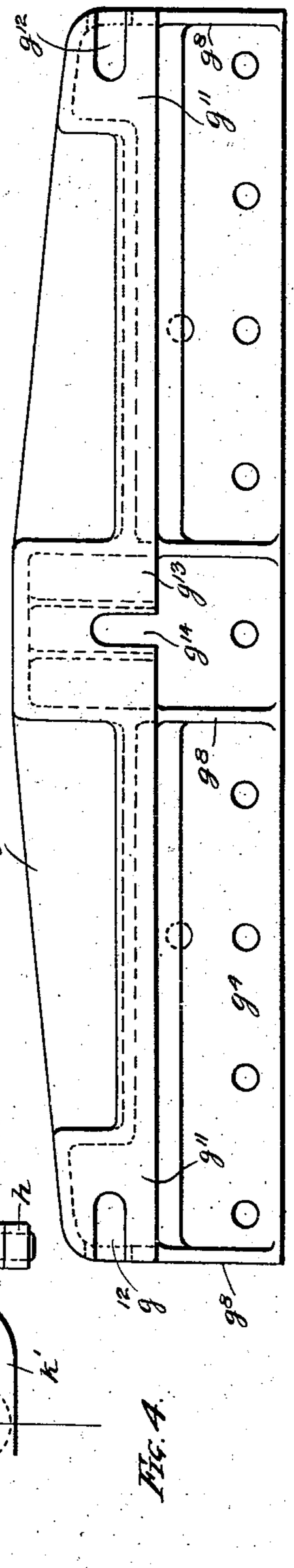


Fig. 4.

WITNESSES:
F. B. Townsend
A. M. Munday,

INVENTOR.
William H. Miner
BY
Munday, Evarts & Adcock.
ATTORNEYS

No. 758,677. Patented May 3, 1904.

UNITED STATES PATENT OFFICE.

WILLIAM H. MINER, OF CHICAGO, ILLINOIS, ASSIGNOR TO W. H. MINER COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

TANDEM-SPRING DRAFT-RIGGING FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 758,677, dated May 3, 1904.

Application filed October 12, 1903. Serial No. 176,628. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. MINER, 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 Tandem-Spring Draft-Rigging for Railway-Cars, of which the following is a specification.

My invention relates to tandem-spring draft-rigging for railway-cars.

My invention is an improved tandem-spring draft-rigging specially designed for use upon passenger-cars.

My invention consists in the novel construction of parts and devices and in the novel combinations of parts and devices herein shown and described, and specified in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a side elevation, partly in longitudinal vertical section, of a draft-rigging embodying my invention. Fig. 2 is a plan view partly in horizontal section. Fig. 3 is an enlarged cross-section on line 3 3 of Fig. 1. Fig. 4 is a detail bottom view of one of the side plates or stop-castings. Fig. 5 is a detail top view of the abutment-block between the two middle followers, and Fig. 6 is a central vertical sectional view of one of the followers.

In the drawings, A A represent longitudinal sills of a passenger-car; A′ A′, the metal draft-sills; A^2 A^3, cross-sills, and A^4 A^5 the front and rear carry-irons.

B is the coupler having the customary integral draw-bar B′ and extended draw-bar B^2, preferably formed of wrought-steel bars or plates stiffened and strengthened by rivets or studs *b*.

C is the draw-bar strap or yoke, pivotally connected at its front end to the rear end of the draw-bar extension B^2 by the pivot-pin *b*′, having the key or cotter b^2. The draw-bar strap or yoke C has bends or shoulders *c c* therein near its front end to engage the front follower F, and a bend or loop *c*′ at its rear end to engage the rear follower F^3, and a filler or abutment-block C′ near its middle to engage the two middle followers F′ F^2. The abutment-block C′ is secured to the pocket strap or yoke C by rivets c^2, extending through the yoke, the block being made thick enough longitudinally to accommodate two rivets, thus greatly adding to the strength and rigidity of the abutment-block.

D *d* and D′ *d*′ are the tandem springs, one set of springs being between each pair of followers F F′ and F^2 F^3, so that both tandem springs will be compressed under either pulling or buffing strains.

G G are the side plates or stop-castings. Each of these stop-castings is furnished with three stops *g* *g*′ g^2 for the followers to abut against under either pulling or buffing strains. Each of the stop-castings G is provided with a horizontal flange or web g^3 to inclose or fit over the upper edges of the followers and form guides for the draw-bar pocket strap or yoke C, which fits between the two stop-castings G G. Each of the stop-castings G is also furnished with a horizontally-projecting flange or web g^4, which fits under the lower flange *a* of the metal draft beam or sill A′ and is rigidly secured thereto by the rivets g^5. The stop-casting flange g^4 also has an upturned shoulder g^6, forming, in connection with the shoulder g^7, a seat to receive the draft-beam flange *a*, and thus more securely unite the stop-casting G to the metal draft beam or sill A′. Each of the stop-castings G is also provided with upright braces g^8 to strengthen the horizontal flanges or webs g^4. Each of the stop-castings G is further provided with upwardly-projecting lugs g^9, which fit against and are secured to the upright web *a*′ of the metal draft beam or sill A′ by the rivets g^{10}. The stop-casting G is thus secured to the metal draft beam or sill by rivets extending horizontally through its upright web and vertically through its horizontal lower flange, thus affording a very strong and secure attachment by reason of the stop-casting flange g^4, which projects under and fits against the bottom flange *a* of the metal draft-beam, and the lugs g^9, which fit against the inner side of the metal draft-beam.

H H are the follower-supporting plates or removable guides, upon which the followers rest and which are removably secured by bolts

h to the stop-castings G. The stop-castings G have at each end lower horizontally-projecting flanges g^{11}, furnished with longitudinal slots g^{12} to receive the bolt h for securing the follower-plate H to the stop-castings and also a lower flange g^{13} at its middle portion having a transverse slot g^{14} to receive the connecting-bolt h'. By this means the bolts h h and h' may be made comparatively short, and thus readily removed when it is desired to remove the follower-plate H.

K is a transverse connecting-plate having a depressed middle portion k' and upturned flange k at its ends fitting against the shoulders g^{15} on the stop-castings. The transverse plate K connects the two stop-castings and increases the strength and rigidity of the draft-rigging.

The abutment-block C′ is furnished with slightly-curved bearing-faces C^2 to cause the same to bear centrally against the abutting followers at all times. The followers F preferably have integral central studs f to serve as guides or supports for the springs.

M represents the customary spring-buffer mechanism above the draw-bar and coupler.

I claim—

1. In a tandem-spring draft-rigging for passenger-cars, the combination with the draft-sills, of a draw-bar and draw-bar extension, a pocket strap or yoke pivotally connected at its front end to the rear end of the draw-bar extension, and provided with front and rear shoulders to engage the front and rear followers, and with a middle abutment to engage the middle followers, tandem springs, followers at the ends of the springs, and a pair of stop-castings each having stops for the followers to abut against, and provided with horizontal flanges fitting under and secured to the horizontal flange of the draft-sill, and with inclined upwardly and outwardly projecting brackets fitting against and secured to the upright web of the draft-sill, substantially as specified.

2. In a tandem-spring draft-rigging for passenger-cars, the combination with the draft-sills, of a draw-bar and draw-bar extension, a pocket strap or yoke pivotally connected at its front end to the rear end of the draw-bar extension, and provided with front and rear shoulders to engage the front and rear followers, and with a middle abutment to engage the middle followers, tandem springs, followers at the ends of the springs, and a pair of stop-castings each having stops for the followers to abut against, and provided with horizontal flanges fitting under and secured to the horizontal flange of the draft-sill, and with inclined upwardly and outwardly projecting brackets fitting against and secured to the upright web of the draft-sill, and follower-supporting plates or guides removably secured to the stop-castings, substantially as specified.

3. In a tandem-spring draft-rigging for passenger-cars, the combination with the draft-sills, of a draw-bar and draw-bar extension, a pocket strap or yoke pivotally connected at its front end to the rear end of the draw-bar extension, and provided with front and rear shoulders to engage the front and rear followers, and with a middle abutment to engage the middle followers, tandem springs, followers at the ends of the springs, and a pair of stop-castings each having stops for the followers to abut against, and provided with horizontal flanges fitting under and secured to the horizontal flange of the draft-sill, and with upwardly-projecting brackets fitting against and secured to the upright web of the draft-sill, and follower-supporting plates or guides removably secured to the stop-castings, said stop-castings being provided with horizontally-projecting lower flanges at the ends thereof, and short connecting-bolts passing through said end flanges and said removable spring-supporting plate, substantially as specified.

4. In a tandem-spring draft-rigging for passenger-cars, the combination with the draft-sills, of a draw-bar and draw-bar extension, a pocket strap or yoke pivotally connected at its front end to the rear end of the draw-bar extension, and provided with front and rear shoulders to engage the front and rear followers, and with a middle abutment to engage the middle followers, tandem springs, followers at the ends of the springs, and a pair of stop-castings each having stops for the followers to abut against, and provided with horizontal flanges fitting under and secured to the horizontal flange of the draft-sill, and with upwardly-projecting brackets fitting against and secured to the upright web of the draft-sill, and follower-supporting plates or guides removably secured to the stop-castings, said stop-castings being provided with horizontally-projecting lower flanges at the ends thereof, and short connecting-bolts passing through said end flanges and said removable follower-supporting plate, said lower flanges at the ends of the stop-castings having longitudinal slots to receive said connecting-bolts, substantially as specified.

5. In a tandem-spring draft-rigging, the combination with followers, springs and draft-sills, of a pair of stop-castings each having a lower removable follower-supporting plate or guide, an upper horizontal inwardly-projecting flange or guide for the followers, and an upper horizontal outwardly-projecting flange fitting under the draft-sill, and provided each with inclined upwardly and outwardly projecting lugs or brackets fitting against the side of the draft-sill for securing the stop-casting thereto, substantially as specified.

6. In a tandem-spring draft-rigging, the combination with followers, springs and draft-sills, of a pair of stop-castings each having a horizontal flange fitting under the draft-sill and an inclined outwardly and upwardly projecting lug or bracket fitting against the side

of the draft-sill for securing the stop-casting thereto, said horizontal flange having shoulders to embrace between them the bottom of the draft-sill, substantially as specified.

7. In a tandem-spring draft-rigging, the combination with followers, springs and draft-sills, of a pair of stop-castings each having an upper inwardly-projecting horizontal flange serving as a guide for the followers, and an upper outwardly-projecting horizontal flange fitting under the draft-sill and an inclined outwardly and upwardly projecting lug or bracket fitting against the side of the draft-sill for securing the stop-casting thereto, and removable follower-supporting plates, said stop-castings having lower flanges at the ends thereof and bolts extending through the same and said spring-supporting plates for connecting the latter thereto, substantially as specified.

8. In a tandem-spring draft-rigging, the combination with followers, springs and draft-sills, of a pair of stop-castings each having a horizontal flange fittting under the draft-sill and inclined outwardly and upwardly projecting lugs or brackets fitting against the side of the draft-sill for securing the stop-casting thereto, and removable follower-supporting plates, said stop-castings having lower flanges at the ends thereof and bolts extending through the same and said follower-supporting plates for connecting the latter thereto, said lower flanges having longitudinal slots to receive said bolts, substantially as specified.

9. In a tandem-spring draft-rigging, the combination with followers, springs and draft-sills, of a pair of stop-castings each having a horizontal flange fitting under the draft-sill and an upwardly-projecting lug or bracket fitting against the side of the draft-sill for securing the stop-casting thereto, and removable follower-supporting plates, said stop-castings having lower flanges at the ends thereof and bolts extending through the same and said follower-supporting plates for connecting the latter thereto, said stop-castings having each a lower flange at its middle portion furnished with a transverse slot to receive a connecting-bolt, substantially as specified.

10. In a tandem-spring draft-rigging, the combination with followers, springs and draft-sills, of a pair of stop-castings each having an upper inwardly-projecting horizontal flange serving as a guide for the followers, and an upper outwardly-projecting horizontal flange fitting under the draft-sill and an inclined outwardly and upwardly projecting lug or bracket fitting against the side of the draft-sill for securing the stop-casting thereto, and removable follower-supporting plates, said stop-castings having lower flanges at the ends thereof and bolts extending through the same and said follower-supporting plates for connecting the latter thereto, said lower flanges having longitudinal slots to receive said bolts, and said stop-castings having each a lower flange at its middle portion furnished with a transverse slot to receive a connecting-bolt, substantially as specified.

11. In a tandem-spring draft-rigging, the combination with a draft yoke or strap, of tandem springs and followers, said draft-yoke having a middle abutment-block secured thereto and provided with integral front and rear curved or rounded faces to engage the followers, substantially as specified.

12. The combination in a draft-rigging of metal draft-beam A′, horizontal lower flange a and vertical web a', of a stop-casting G having horizontal flange g^4 fitting under and against said draft-sill flange a and secured thereto, and furnished with upwardly-projecting lugs or brackets g^9 fitting against said upright web a' of the draft-sill and secured thereto, substantially as specified.

13. The combination in a draft-rigging of metal draft-beam A′, horizontal lower flanges a and vertical web a', of a stop-casting G having horizontal flange g^4 fitting under and against said draft-sill flange a and secured thereto, and furnished with upwardly-projecting lugs or brackets g^9 fitting against said upright web a' of the draft-sill and secured thereto, said stop-casting having also upright brace-brackets g^8, substantially as specified.

14. The combination in a draft-rigging of metal draft-beam A′, horizontal lower flange a and vertical web a', of a stop-casting G having horizontal flange g^4 fitting under and against said draft-sill flange a and secured thereto, and furnished with upwardly-projecting lugs or brackets g^9 fitting against said upright web a' of the draft-sill and secured thereto, said stop-casting having also a lower flange g^{11}, furnished with a slot g^{12}, and a follower-supporting plate H bolted to said slotted flange g^{11}, substantially as specified.

15. The combination in a draft-rigging of metal beam A′, horizontal lower flange a and vertical web a', of a stop-casting G having horizontal flange g^4 fitting under and against said draft-sill flange a and secured thereto, and furnished with upwardly-projecting lugs or brackets g^9 fitting against said upright web a' of the draft-sill and secured thereto, and said stop-casting having at its middle portion a lower flange g^{13} furnished with a transverse slot g^{14}, substantially as specified.

16. In a draft-rigging, the combination with a pair of stop-castings G G having each slotted lower flanges g^{11} at the ends thereof, of a pair of removable follower-supporting plates H H, connecting-bolts $h\,h$ and transverse connecting-plate K having upturned ends or shoulders k engaging shoulders g^{15} on the stop-castings, substantially as specified.

17. In a draft-rigging, the combination with a stop-casting having a lower flanged portion furnished with open slots to receive connecting-bolts, of a removable follower-supporting plate and short connecting-bolts securing the

same to the stop-casting, substantially as specified.

18. In a draft-rigging, the combination with a stop-casting having at its middle portion a lower flange provided with a transverse slot to receive a connecting-bolt, of a removable follower-supporting plate and short connecting-bolts securing the same to the stop-castings, substantially as specified.

WILLIAM H. MINER.

Witnesses:
H. M. MUNDAY,
PEARL ABRAMS.