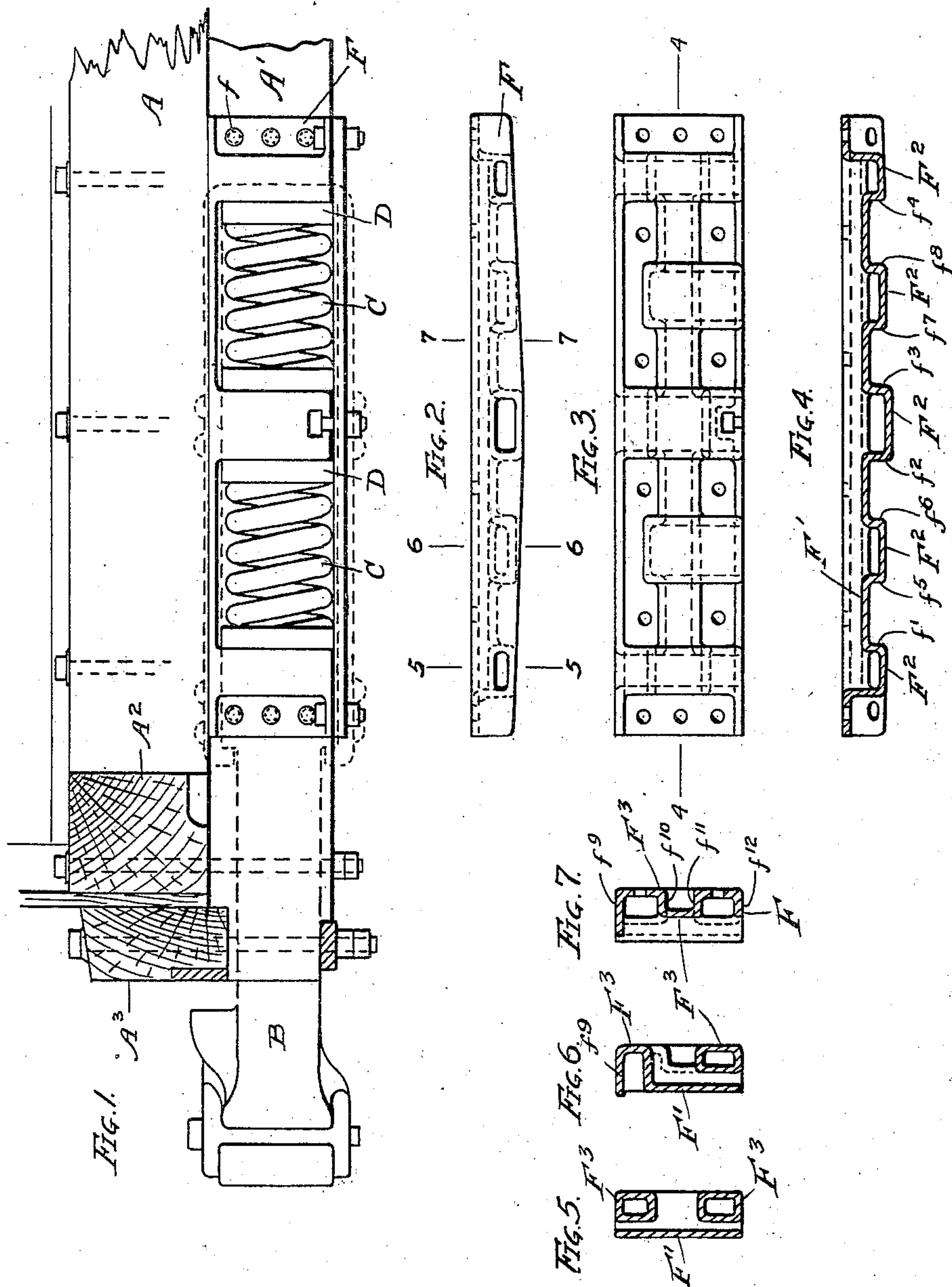


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PATENTED AUG. 28, 1906.

J. F. O'CONNOR.  
DRAFT RIGGING FOR RAILWAY CARS.  
APPLICATION FILED MAR. 29, 1906.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## DRAFT-RIGGING FOR RAILWAY-CARS.

No. 829,728.

Specification of Letters Patent.

Patented Aug. 28, 1906.

Application filed March 29, 1906. Serial No. 308,651.

*To all whom it may concern:*

Be it known that I, JOHN F. O'CONNOR, 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 Draft-Rigging for Railway-Cars, of which the following is a specification.

My invention relates to improvements in draft-rigging for railway-cars, and more particularly to improvements in the construction of the side plates or stop-castings of railway draft-rigging.

As is well known, the side plates or stop-castings of railway draft-rigging are subjected in practical use to enormous blows, shocks, or strains, and heretofore great difficulty has been experienced from the draft-rigging breaking or giving away at the side plates or stop-castings or at the shoulders thereon against which the followers abut. Heretofore draft-rigging side plates or stop-castings have always been made of plates or webs of unequal thickness at different points and especially at the intersection of the stop-shoulders with the main plate or web of the stop-casting, and I have observed that the breakage is most apt to occur apparently at these intersections or points where the metal is thicker.

The object of my invention is to provide a railway draft-rigging side plate or stop-casting of a simple, strong, efficient, safe, and reliable construction and capable of successfully withstanding the enormous shocks or blows to which the draft-rigging is subjected in actual and practical use.

My invention consists in the means I employ to practically accomplish this object or result—that is to say, it consists of a railway draft-rigging side plate or stop-casting made, as usual, of malleable iron or other annealed metal and provided with the customary stops or shoulders for the followers to abut against and which is composed throughout of a web of uniform thickness both at the stops or shoulders as well as elsewhere, so that the stop-casting as a whole will be entirely free from T or other sections which would result in giving the casting a greater thickness or body of metal at some points than others, with the consequent imperfections, casting

strains, and defects which have heretofore been incident to the making of side plates or stop-castings of the old constructions, wherein the stops or shoulders form right angle or T sections with the main plate or web of the casting. In practicing my invention the stop-shoulders are formed on the side plate or stop-casting by integral convolutions in the main web of the side plate or stop-casting, the convolutions or bends forming the stop-shoulders being upright and the web of the casting being of substantially uniform thickness at these stop convolutions or bends as well as elsewhere, and in practicing my invention the horizontal or longitudinally-extending strengthening ribs or flanges likewise consist of integral bends or convolutions in the main web of the casting without producing any T-sections or thickened parts therein to produce defects and strains or other weaknesses in the casting operation.

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

By my invention I am enabled to produce not only a much safer and stronger stop-casting and draft-rigging than those heretofore in use, but I am also enabled to manufacture the stop-castings very much cheaper, as by my invention scarcely any defective castings are produced, whereas in making the stop-castings heretofore in use there has always been a heavy percentage of castings that on test have to be rejected and broken up as unfit for use.

In the accompanying drawings, forming a part of this specification, Figure 1 is a side elevation, partly in longitudinal vertical section, of a draft-rigging embodying my invention; Fig. 2, a detail top or plan view of one of the side plates or stop-castings; Fig. 3, a side elevation thereof; Fig. 4, a longitudinal horizontal section on line 4 4 of Fig. 3; and Figs. 5, 6, and 7 detail vertical sections on lines 5 5, 6 6, and 7 7, respectively, of Fig. 2.

In the drawings, A represents the center sills, A' the draft-timber, A<sup>2</sup> the cross-sill, A<sup>3</sup> the buffer-block, B the draw-bar, C C the springs, and D D followers, of a railway draft-rigging, these parts being of any ordi-



nary or suitable construction known to those skilled in the art.

The side plate or stop-casting F, there being one secured to each draft-timber by suitable bolts  $f$ , is furnished with a plurality of stops or shoulders for the followers to abut against, each side plate or stop-casting having preferably four stops or shoulders  $f^1$ ,  $f^2$ ,  $f^3$ , and  $f^4$  and also four intermediate stops or shoulders  $f^5$ ,  $f^6$  and  $f^7$ ,  $f^8$ , the intermediate stops serving to limit the compression of the springs. The main web  $F'$  of the side plate or stop-casting is of substantially uniform thickness throughout, and the several stop-shoulders are formed by integral bends or convolutions  $F^2$  in the web  $F'$ , the integral bends or convolutions  $F^2$  being upright and forming the several stop-shoulders  $f^1$ ,  $f^2$ ,  $f^3$ ,  $f^4$ ,  $f^5$ ,  $f^6$ ,  $f^7$ ,  $f^8$  without producing any increased body of metal or increased thickness at any part of the casting, and the horizontal or longitudinal strengthening ribs or flanges  $f^9$ ,  $f^{10}$ ,  $f^{11}$ , and  $f^{12}$  are likewise produced by horizontal bends or convolutions  $F^3$  in the main web  $F'$  of the side plate or stop-casting without producing any increased body of metal or increased thickness of the casting at the point where these horizontal ribs or flanges join with the main web. The bend or convolution  $F^3$ , which forms the intermediate longitudinal ribs or flanges  $f^{10}$ ,  $f^{11}$  is preferably centrally located. At the points where the upright bends or convolutions in the main web  $F'$  would intersect with the horizontal bends or convolutions the horizontal bends or convolutions are omitted, as will be readily understood from Figs. 2, 3, 4, 5, and 7, so that no increased body of metal or increased thickness of the casting is, in fact, produced at such intersections.

My improved side plate or stop-casting is thus composed of a web of substantial uniform thickness throughout, while at the same time having the necessary upright stop-shoulders and also the necessary or desired horizontal or longitudinal strengthening ribs or flanges.

I claim—

1. In a draft-rigging for railway-cars, the combination with the draw-bar, springs and followers, of side plates or stop-castings each consisting of a cast web of substantially uniform thickness throughout, free from T and other flange-like sections, and having integral upright convolutions therein forming upright stop-shoulders, and having also horizontal convolutions therein forming longitudinal strengthening ribs or flanges, substantially as specified.

2. A railway draft-rigging side plate or stop-casting, consisting of a cast web of substantially uniform thickness, free from T and other flange-like sections, and having up-

right convolutions therein forming stops or shoulders for the followers to abut against, substantially as specified.

3. A railway draft-rigging side plate or stop-casting, consisting of a cast web of substantially uniform thickness throughout, free from T and other flange-like sections, and furnished with a series of upright convolutions therein forming stops or shoulders for the followers to abut against, and furnished with horizontal or longitudinal convolutions therein forming longitudinal strengthening ribs or flanges, substantially as specified.

4. A railway draft-rigging side plate or stop-casting, comprising a cast-metal web of substantially uniform thickness throughout, free from T and other flange-like sections, and having a plurality of upright convolutions therein forming stops or shoulders for the followers to abut against, and provided with further upright convolutions therein forming intermediate stops or shoulders for the followers to abut against to limit the compression of the springs, substantially as specified.

5. In a draft-rigging for railway-cars, the combination with the draw-bar, springs and followers, of side plates or stop-castings each consisting of a cast web of substantially uniform thickness throughout, having integral upright bends or convolutions therein forming upright stop-shoulders, and having also horizontal convolutions therein forming longitudinal strengthening ribs or flanges, said horizontal convolutions extending between but not across said upright convolutions, substantially as specified.

6. In a railway draft-rigging side plate or stop-casting, consisting of a cast web of substantially uniform thickness throughout, furnished with a series of upright convolutions therein forming stops or shoulders for the followers to abut against, and furnished with horizontal or longitudinal convolutions therein forming longitudinal strengthening ribs or flanges, said horizontal convolutions extending between but not across said upright convolutions, substantially as specified.

7. A railway draft-rigging side plate or stop-casting, comprising a cast-metal web of substantially uniform thickness throughout, and having a plurality of upright convolutions therein forming stops or shoulders for the followers to abut against, and provided with further upright convolutions therein forming intermediate stops or shoulders for the followers to abut against to limit the compression of the springs, said main web having also horizontal or longitudinal convolutions therein, substantially as specified.

8. A railway draft-rigging side plate or stop-casting, comprising a cast-metal web of substantially uniform thickness throughout,



and having a plurality of upright convolutions therein forming stops or shoulders for the followers to abut against, and provided with further upright convolutions therein  
5 forming intermediate stops or shoulders for the followers to abut against to limit the compression of the springs, said main web having also horizontal or longitudinal convo-

lutions therein extending between but not across said upright convolutions, substantially as specified.

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Witnesses:

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