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J. F. O'CONNOR.
RAILWAY DRAFT RIGGING FOR FENDERS, &c.

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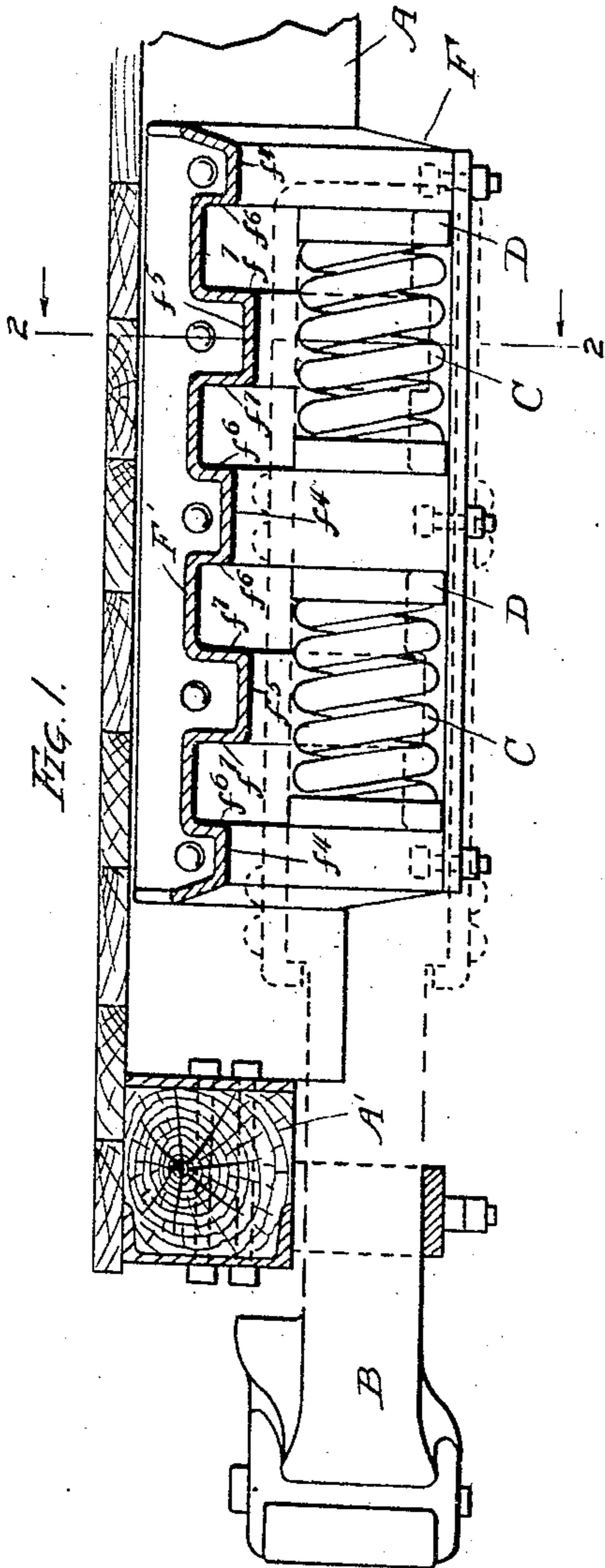


FIG. 1.

FIG. 3.

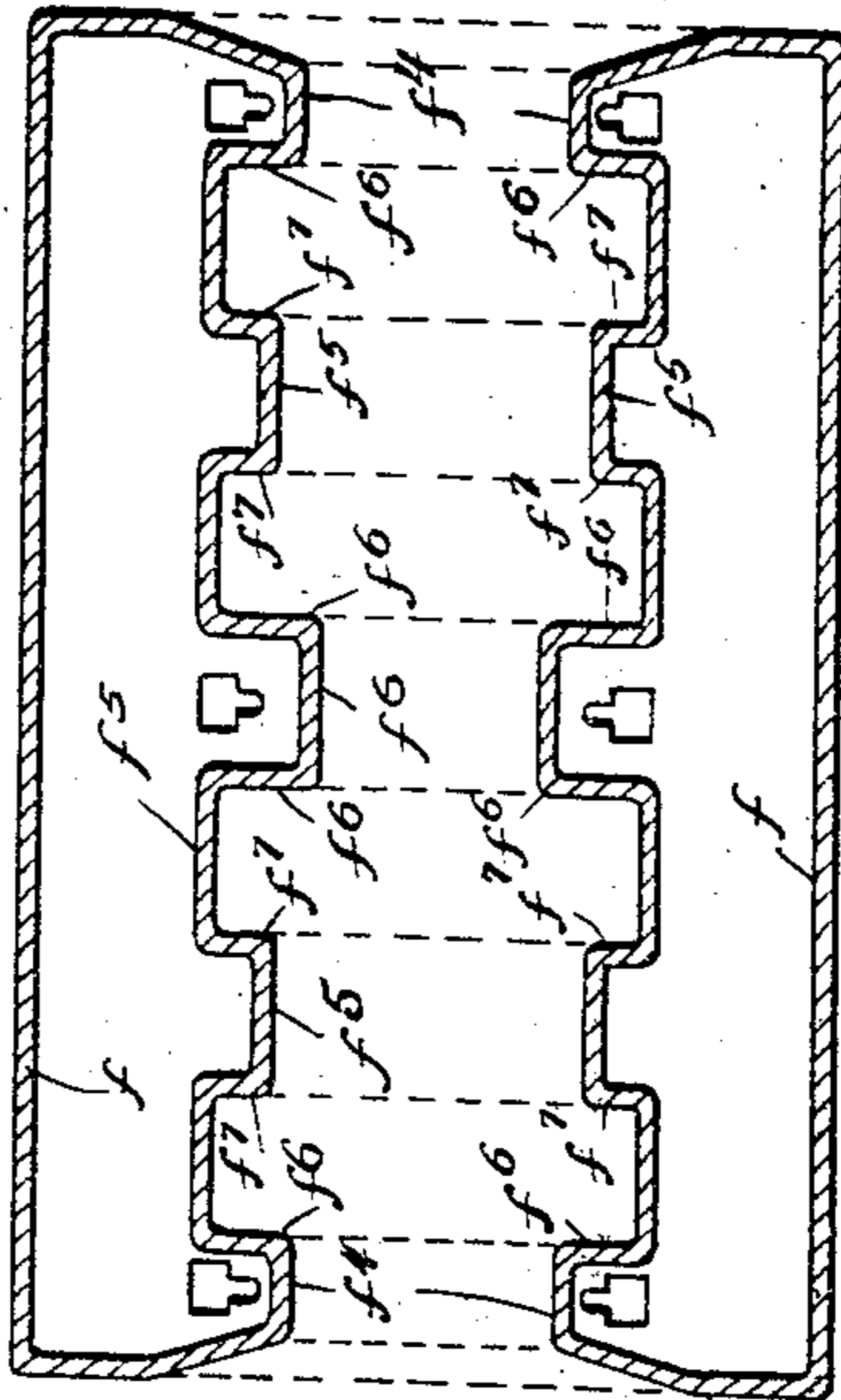
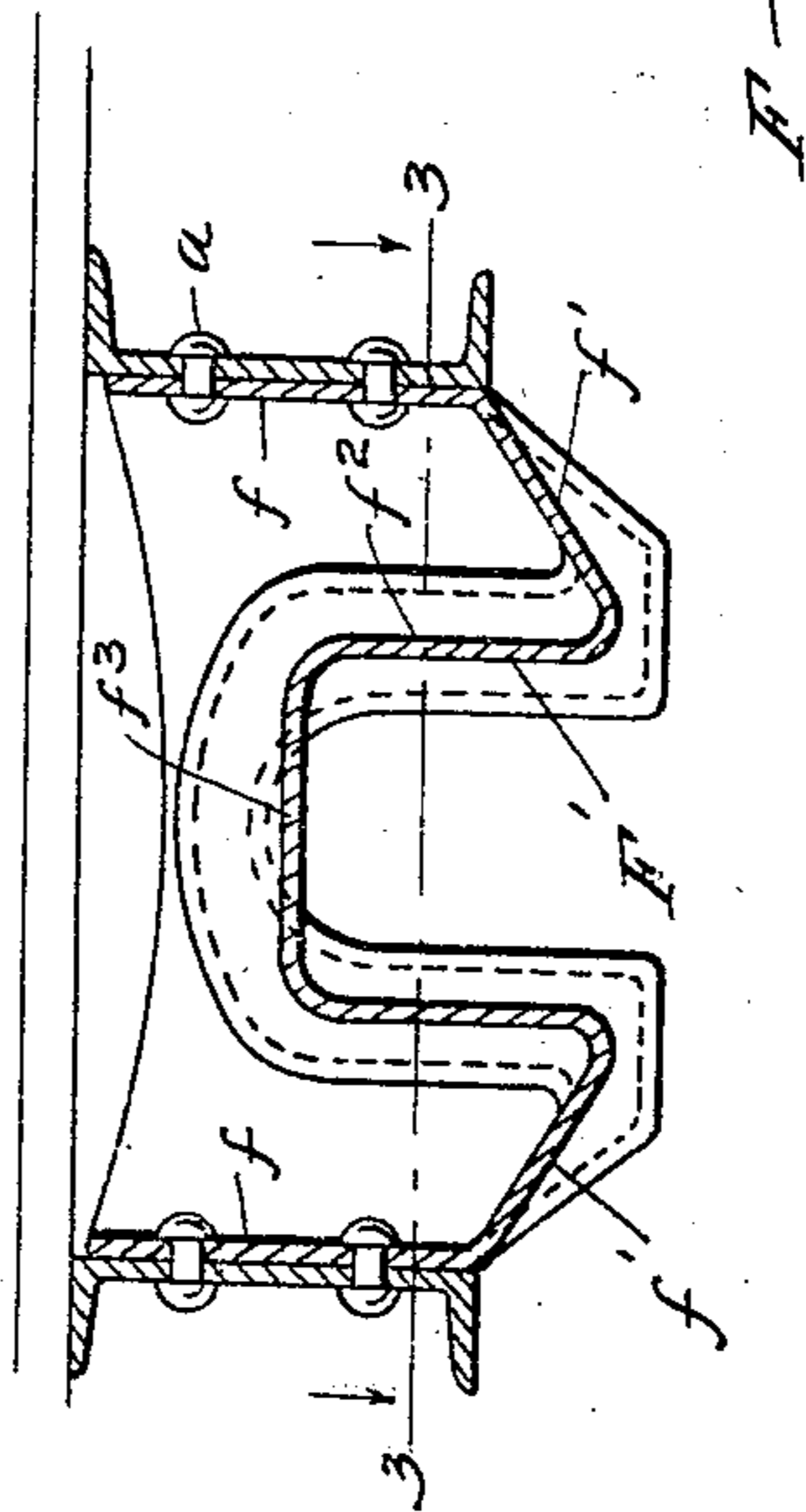


FIG. 2.



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RAILWAY DRAFT-RIGGING FOR TENDERS, &c.

No. 829,729.

Specification of Letters Patent.

Patented Aug. 28, 1906.

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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 Railway Draft-Rigging for Tenders or other Cars, of which the following is a specification.

My invention relates to improvements in draft-rigging for railway-tenders or other cars, and more particularly to the improvements in the construction of the stop-casting on the draft-rigging for railway-tenders or other cars in which the stop-casting is composed of a single piece extending between the sills or frame-pieces of the car, to which the draft-rigging is secured.

As is well known, the 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, and especially at the points where the stops or shoulders, against which the followers abut, join or unite with the main body of the casting. Heretofore railway stop-castings have usually varied very greatly in thickness at different parts of the casting, and especially at the intersection of the stops or shoulders with the main body of the casting, from which said stops or shoulders project. According to my observation the breakage most frequently occurs at such intersections where the casting is of a T-section and where an increased body of metal or increased thickness occurs. This difficulty or breakage I have discovered is very largely due to defects, blowholes, casting strains, or other weaknesses produced by reason of unequal cooling and contraction, owing to the unequal body of metal and unequal thickness in different parts of the casting.

The object of my invention is to provide a one-piece railway draft-rigging stop-casting suitable for use upon tenders and other cars which will obviate the difficulties heretofore experienced and which will be of a simple, strong, efficient, safe, and reliable construction and capable of successfully withstanding the great strains and blows to which the draft-rigging is subjected in actual practical use.

My invention consists in the means I em-

ploy to practically accomplish this object or result—that is to say, it consists, in connection with the draw-bar, springs, and followers of the draft-rigging, of a one-piece stop-casting, made as usual of malleable iron or other annealing metal and provided with a plurality of stops or shoulders for the followers to abut against, and which is composed throughout of a cast web of uniform thickness both at the stops or shoulders as well as elsewhere, so that the stop-casting as a whole will be of uniform thickness and entirely free from T-sections or other sections that 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 stop-castings of the old constructions, wherein the stops or shoulders form right angle or T sections with the main body of the casting, from which they project.

In practicing my invention the stop-shoulders are formed on the stop-casting by integral bends or convolutions in the main web of the casting, the convolutions being transverse to the length of the casting and the bends or convolutions being continuous and without producing any increased thickness in the main web of the casting at any point.

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 very heavy percentage of castings that in test have to be broken up and rejected as unfit for use.

In the accompanying drawings, forming a part of this specification, Figure 1 is a side elevation, partly in vertical longitudinal section, of a draft-rigging embodying my invention. Fig. 2 is a vertical cross-section on line 2 2 of Fig. 1, and Fig. 3 is a horizontal longitudinal section on line 3 3 of Fig. 2.

In the drawings, A represents the center

sills or frame-pieces of the tender or car to which the draft-rigging is to be secured; A', the end sill; B, the draw-bar; CC, the springs, and D the followers.

5 F is the stop-casting, the same having a main web F' of substantially uniform thickness throughout, the stop-casting fitting and extending between the sills A A, to which it is secured by bolts or rivets *a*. The main
10 web F' of the casting is of an inverted-U form in cross-section and comprises outer limbs *f* *f*, which fit against and are secured to the center sills A A, and an integral inverted-U portion or member comprising the inclined
15 limbs *f*', the upright limbs *f*², and the horizontal limb *f*³, all said parts *f*, *f*', *f*², and *f*³ being in one continuous web of substantially uniform thickness, as will be readily understood from Fig. 2 of the drawings. The main
20 web F' of the casting is also furnished with a plurality of transverse integral bends or convolutions *f*⁴ *f*⁵, forming integral stops or shoulders *f*⁶ *f*⁷ for the followers to abut against. The single-piece casting F thus has
25 a plurality of longitudinal bends, folds, or convolutions, which give its main web a general inverted-U form in cross-section, and also a plurality of transverse integral bends or convolutions, which form the stops or shoulders
30 for the followers to abut against, as well as the intermediate shoulders to limit the compression of the springs, while at the same time the main web F' of the casting is of substantially uniform thickness throughout its
35 entire extent, so that the casting may be readily, conveniently, and perfectly formed without danger of producing blowholes, defects, casting strains, or other weaknesses, and at the same time my improved stop-casting
40 is given an exceedingly strong and rigid form and construction, as will be readily understood from the drawings.

I claim—

1. In a draft-rigging, the combination with
45 the draw-bar, springs and followers, of a one

piece stop-casting comprising a main cast web of uniform thickness throughout free from T and other flange-like sections, and having a plurality of longitudinal convolutions and a plurality of transverse convolutions to form stops or shoulders for the followers to abut against, substantially as specified. 50

2. A one-piece stop-casting for railway draft-rigging, consisting in a continuous cast web of substantially uniform thickness free from T and other flange-like sections furnished with longitudinal convolutions, and with a plurality of transverse convolutions to form stops or shoulders for the followers to abut against, substantially as specified. 55

3. A one-piece stop-casting for railway draft-rigging, consisting in a continuous cast web of uniform thickness free from T and other flange-like sections provided with a plurality of transverse convolutions to form stops or shoulders for the followers to abut against, substantially as specified. 60

4. A one-piece stop-casting for railway draft-rigging, consisting in a continuous web of uniform thickness provided with a plurality of transverse convolutions to form stops or shoulders for the followers to abut against, and provided also with intermediate convolutions to limit the compression of the springs, substantially as specified. 65

5. A one-piece stop-casting consisting in a continuous single-piece web having upright outer limbs *f*, adapted to fit against and be secured to the car-frame sills or pieces, and integral inclined members *f*', integral upright members *f*², and integral horizontal members *f*³, said web being also provided with transverse convolutions to form stops or shoulders for the followers to abut against, substantially as specified. 70

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Witnesses:

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