

No. 681,896.

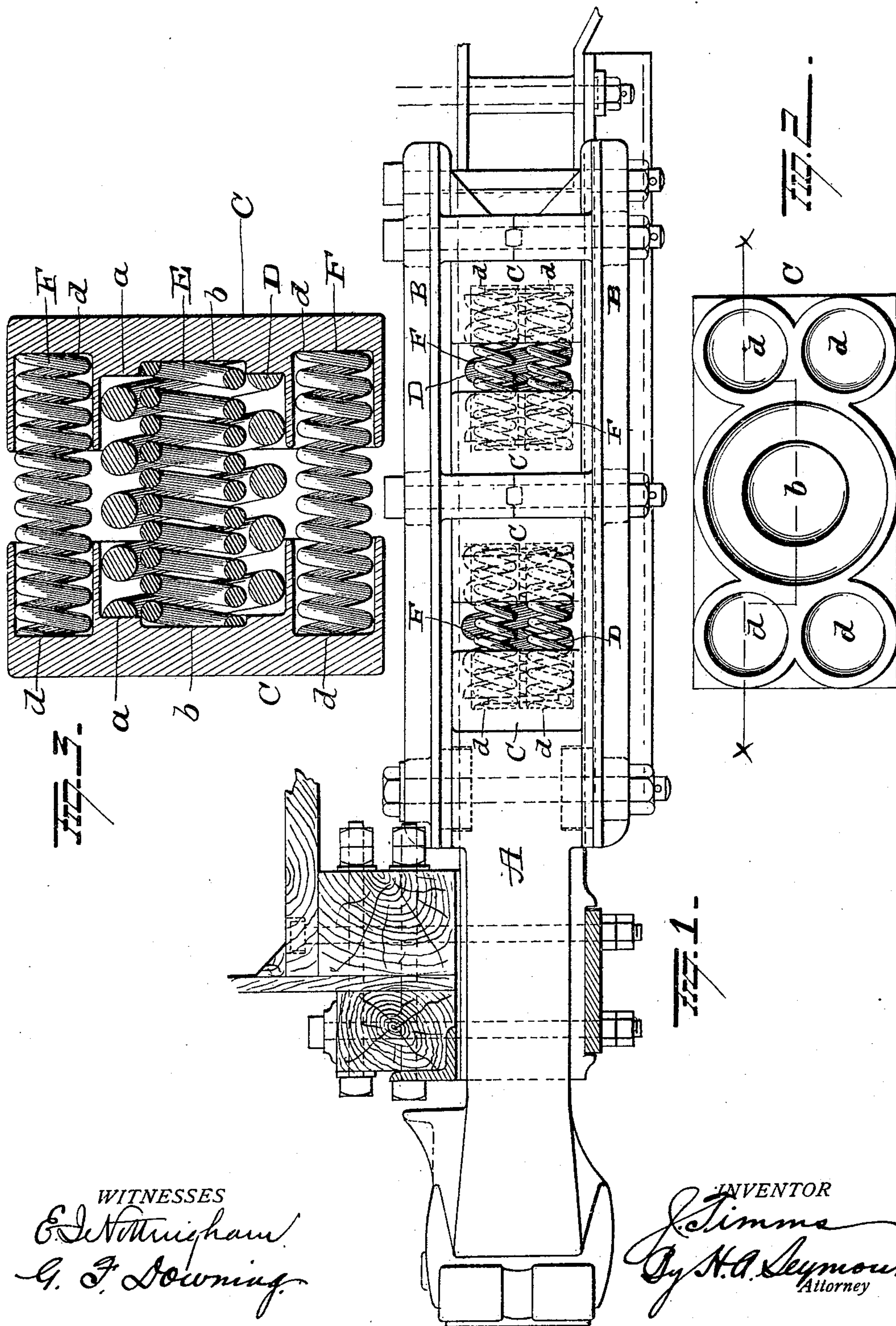
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J. TIMMS.

FOLLOWER PLATE FOR DRAFT GEARS OF CARS.

(Application filed July 26, 1901.)

(No Model.)



WITNESSES
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FOLLOWER-PLATE FOR DRAFT-GEARS OF CARS.

SPECIFICATION forming part of Letters Patent No. 681,896, dated September 3, 1901.

Application filed July 26, 1901. Serial No. 69,826. (No model.)

To all whom it may concern:

Be it known that I, JAMES TIMMS, of Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful
5 Improvements in Follower-Plates for the Draft-Gears of Cars; 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
10 to make and use the same.

My invention relates to an improvement in follower-plates for the draft-gears of cars.

In car construction the draft-gear is confined within the limited space between the
15 draft-timbers. Hence there is not room for the employment of an unlimited number of springs. Again, the springs employed must be so arranged and relatively proportioned as to permit of the necessary movement of the
20 follower-plates. There are several types of draft-gears, but one of the most popular and effective types comprises a main helical spring of standard size having a smaller helical spring of the same length therein,
25 two sets of said springs being arranged in tandem between two pairs of followers. Attempts have been made to increase the spring capacity by adding more springs at the sides of the main standard springs; but in all cases
30 auxiliary springs of the same length as the main standard springs have been employed, and as spring capacity is dependent upon length and diameter of bar from which the spring is made the capacity of the added
35 springs has thus been limited by the length of the main spring and a diameter of bar that will permit of equal compression with the main spring, as all must be actuated by and between the same followers.

40 The object of my invention is to materially increase the spring capacity of draft-gears of the class above described without limiting or restricting the movement of the follower-plates; and it consists in the details of construction as will be more fully described, and
45 pointed out in the claim.

In the accompanying drawings, Figure 1 is a view in side elevation of a draw-bar and draft-gear embodying my invention. Fig. 2
50 is a view in plan of one of the followers; and

Fig. 3 is a view in section on line *x x* of Fig. 2, showing two followers and their springs.

A represents the draw-head, provided with a rearwardly-extending yoke B, which latter embraces the follower-plates C. These fol- 55
lower-plates C are mounted in the draft-timbers in the usual manner, and in the present instance I have shown two sets of the springs arranged tandem, one set being between each pair of followers. Each follower-plate is pro- 60
vided with a seat *a* for the large spring D, which latter is of the Master Car-Builders' standard size and has a free compressive movement of from one and three-fourths to two inches. This spring D rests at its ends 65
against the face of the follower, while the inner springs E rest within recessed seats *b*, formed in the face of the follower. These inner springs to be of any material assistance to the main spring and at the same time per- 70
mit of the necessary movement of the follower must be made of certain-sized bar-steel and the coils brought closer together than the coils of the main spring. Hence if the two springs are of the same length it will 75
be seen that if the main spring is capable of two inches compression the coils of the inner springs will come together before the limit has been reached, thus limiting the movement of the followers. By recessing the followers, as 80
above described, I secure an increase in the length of the narrower spring, and thus provide for the additional compression necessary for the standard or full movement of the followers. To further increase the spring ca- 85
pacity of the gear, I provide each follower-plate with a recessed seat *d* at the corners thereof, thus utilizing space which would otherwise be lost. These seats *d* are deeper than the seat *b* and receive the springs F, 90
which being of less diameter than the inner springs E and made from smaller bar-steel their coils must, in order for the springs to be effective, be closer together than the coils of the inner springs E. By making the recesses 95
or seats *d* deeper than the recesses *b* I provide space for longer springs, which have a compressive capacity equal to that of the larger springs. By thus relatively proportioning the springs as to size I provide a set of springs 100

which materially increase the yielding capacity of the draw-head in both pulling and buffing and at the same time permit of the full movement of the follower-plates. These
5 springs thus described may be used singly, but are preferably arranged in tandem, as shown.

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

In a draft-gear for cars in which the resisting medium consists of a main helical spring and auxiliary smaller springs, the combina-

tion with followers having the auxiliary-springs seats in planes farther separated than : 5 the main-spring seats, the said springs being of normally different lengths, but all having the same, and a limited movement in compression.

In testimony whereof I have signed this 20 specification in the presence of two subscribing witnesses.

JAMES TIMMS.

Witnesses:

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