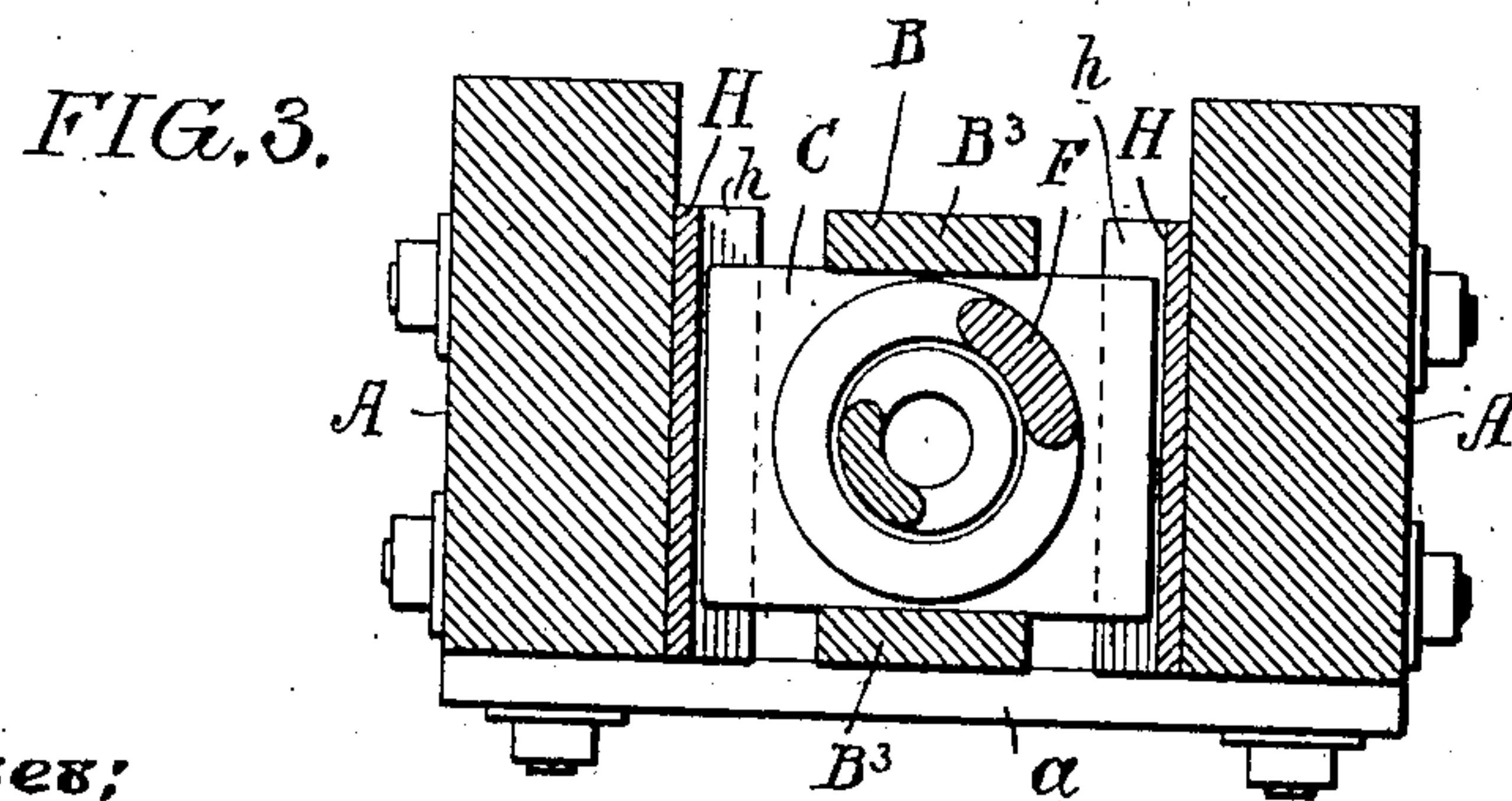
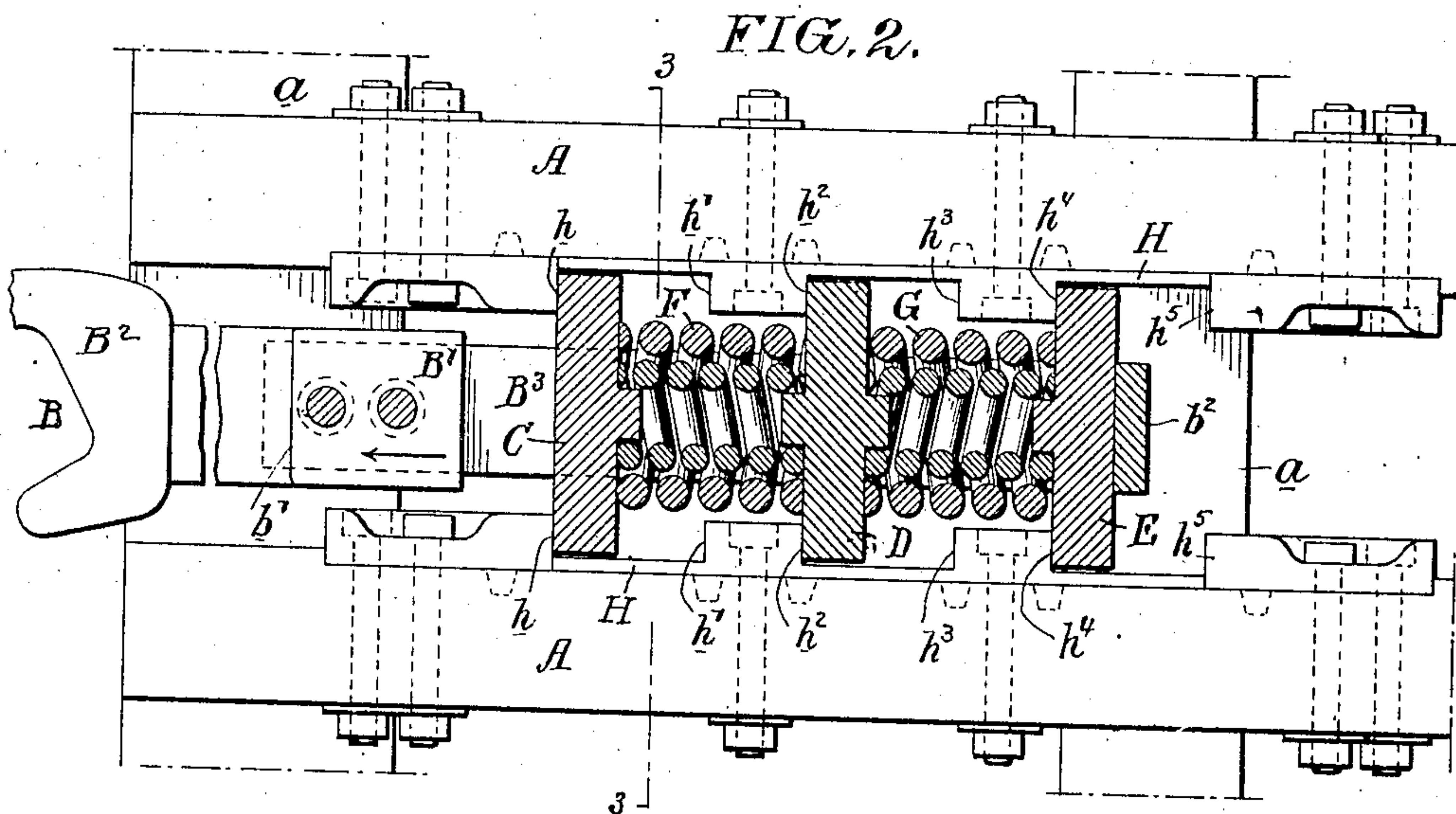
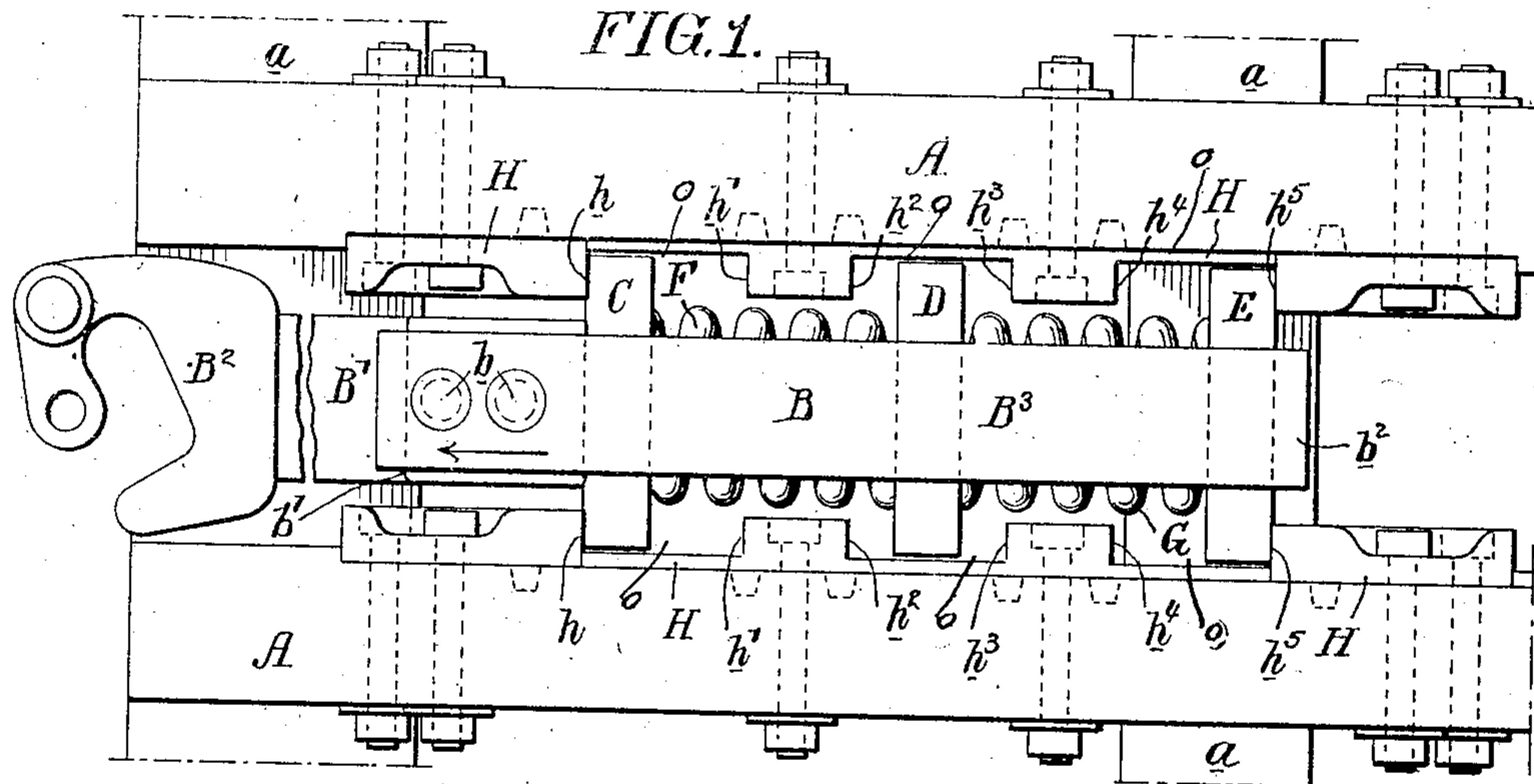


906,643.

Patented Dec. 15, 1908.



Witnesses:  
Gilbert T. Fox  
F. L. Wright.

Inventor:  
Alonzo C. Mather  
By his Attorney  
F. D. Witt Goodwin.



# UNITED STATES PATENT OFFICE.

ALONZO C. MATHER, OF CHICAGO, ILLINOIS.

## DRAFT-RIGGING.

No. 906,643.

Specification of Letters Patent.

Patented Dec. 15, 1908.

Application filed August 24, 1904. Serial No. 221,914.

*To all whom it may concern:*

Be it known that I, ALONZO C. MATHER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Draft-Rigging, of which the following is a specification.

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

10 The invention consists in the construction and arrangement of parts, as will be hereinafter described and particularly pointed out in the claim.

In the drawings: Figure 1. is a plan view of a portion of the car, showing my improved draft-rigging; Fig. 2. is a view similar to Fig. 1. showing the parts in section, and in a different position; Fig. 3. is a transverse sectional view as on line 3—3 Fig. 2.

20 Referring to the drawings A represents the longitudinal sills which form part of the car, between said sills is supported the draw-bar B, by cross-pieces *a*. The draw-bar B consists of the bar *B'*, carrying the coupling *B*<sup>2</sup> at one end, and a yoke *B*<sup>3</sup> secured to the inner end of the bar *B'* by means of bolts or pins *b* and the shoulder *b'*. The said yoke forms a stirrup which embraces the follower-plates C, D and E, having springs F and G located between them. Each follower-plate is provided with projecting lugs formed in the center of the same to support the springs and hold them in their proper positions. The said lugs are formed integrally with said 35 follower-plates so as to prevent them from shearing off by the action of the springs. The follower-plates are free to move in said stirrup, the springs tend to hold the follower-plate C against the end of the bar *B'*, and the 40 follower-plate E against the end *b*<sup>2</sup> of the yoke *B*<sup>3</sup>, the follower-plate D is held in a midway position between the follower-plates C and E by the action of the springs F and G upon either side of the same.

45 On the inner face of the sills A are bolted the sectional housings H, having projecting portions or shoulders *h*, *h'*, *h*<sup>2</sup>, *h*<sup>3</sup>, *h*<sup>4</sup> and *h*<sup>5</sup> between which the follower-plates project and by which the movement of the follower-plates is limited.

50 The cross pieces *a* are in the form of straight flat bars, which have their upper faces in a plane with the lower edges of the sills A, and are adapted to support the draw bar and its attachments by having the lower member of the yoke *B*<sup>3</sup> rest directly thereon

at its ends, thereby avoiding the necessity of providing the lower edges of the housings with flanges or other means for supporting the draw bar, or providing its inner face with 60 strengthening ribs. It also permits of all of the followers being of the same length and playing freely between their respective shoulders or abutments, and it permits of the parts being assembled or placed in position 65 more easily than where the ends of the followers must be placed between flanges on the housings. This is accomplished by making the inner faces of the housings flat and smooth except for the vertical shoulders that 70 extend substantially from one edge to the other. By constructing the parts in this manner when it is desired to remove the draw bar for any purpose all that is necessary is to remove the two plates *a* and permit the 75 bar and its attachments to drop out, and it can be replaced as easily by simply placing it between the housings and securing the plates to the bottom of the sills.

The operation of my invention is as follows: 80 The parts are in their normal position in Fig. 1. and when a strain is placed upon the draw-bar, in the direction of the arrow the springs will be contracted. When an unusual strain is placed upon the draw-bar 85 the parts will assume the position shown in Fig. 2, the follower-plate C will remain fixed against the shoulders *h*, the follower-plate D will be held by the shoulders *h*<sup>2</sup> and the follower-plate E will be held by the shoulders 90 *h*<sup>4</sup> so that the movement of the springs will be limited and not be crushed. It will be seen that as the follower-plate D when in its normal position as shown in Fig. 1. is midway between the shoulders *h*<sup>2</sup> and *h*<sup>3</sup> and 95 that its movement is only one-half that of the follower-plate E, or assuming that the draw-bar and follower-plate E have a movement of say three inches the follower-plate D will only have a movement of one-and-one-half 100 inches, and each spring will be contracted one-and-one half inches instead of three inches. When the strain is in the direction opposite to the arrow the parts will assume the reverse position from that shown, the 105 follower-plate C will move towards the shoulders *h'*, the follower-plate D will move towards the shoulders *h*<sup>3</sup>, and the follower-plate E will remain in a fixed position against the shoulders *h*<sup>5</sup>. 110

By having the follower-plate D located between the springs, short heavy springs



having great powers of resistance may be used, and the pressure of the two springs equalized by the follower-plate D and when under an unusual strain said follower-plate will contact with the shoulders and take the strain, so that one spring will not bear against the other spring.

Having thus described my invention I claim and desire to secure by Letters Patent:  
10 The combination of a car body with longitudinal sills having housings bolted to the adjacent faces thereof, said housings provided with shoulders having recesses therebetween, said sills being also provided with  
15 transverse cross pieces secured thereto and arranged at suitable distances apart thereon, a draft rigging comprising a draw-bar with a coupling, follower plates having springs

mounted therebetween, the central follower plate having play in both directions, a yoke 20 slidably mounted over the upper and lower surfaces of the plates and springs with its inner end contacting with the rear plate, the forward ends of the yoke being lapped over and secured to the draw-bar, and said plates, 25 said springs, and said draw-bar being secured together by said yoke, said parts resting solely upon the transverse cross pieces, and said plates moving in said recesses of the housings, substantially as specified. 30

In testimony whereof I affix my signature in presence of two witnesses.

ALONZO C. MATHER.

Witnesses:

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F. L. WRIGHT.