

W. F. RICHARDS.
DRAW BAR ATTACHMENT.

(Application filed Nov. 20, 1901.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

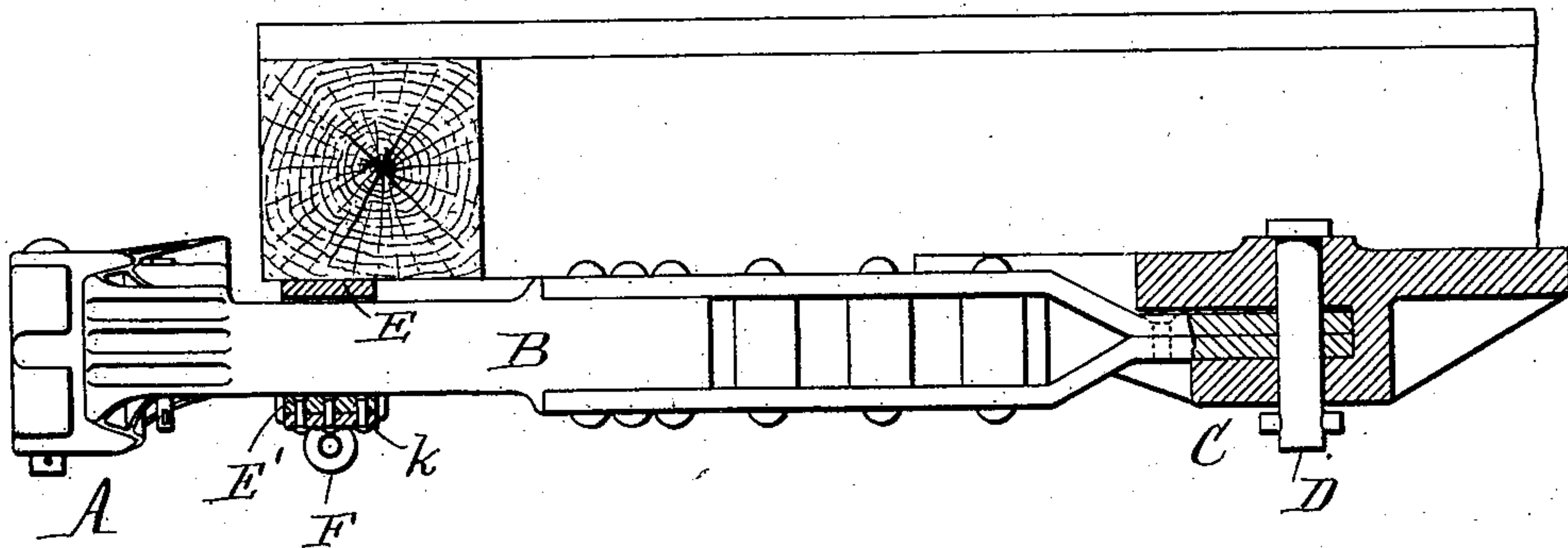


Fig. 2.

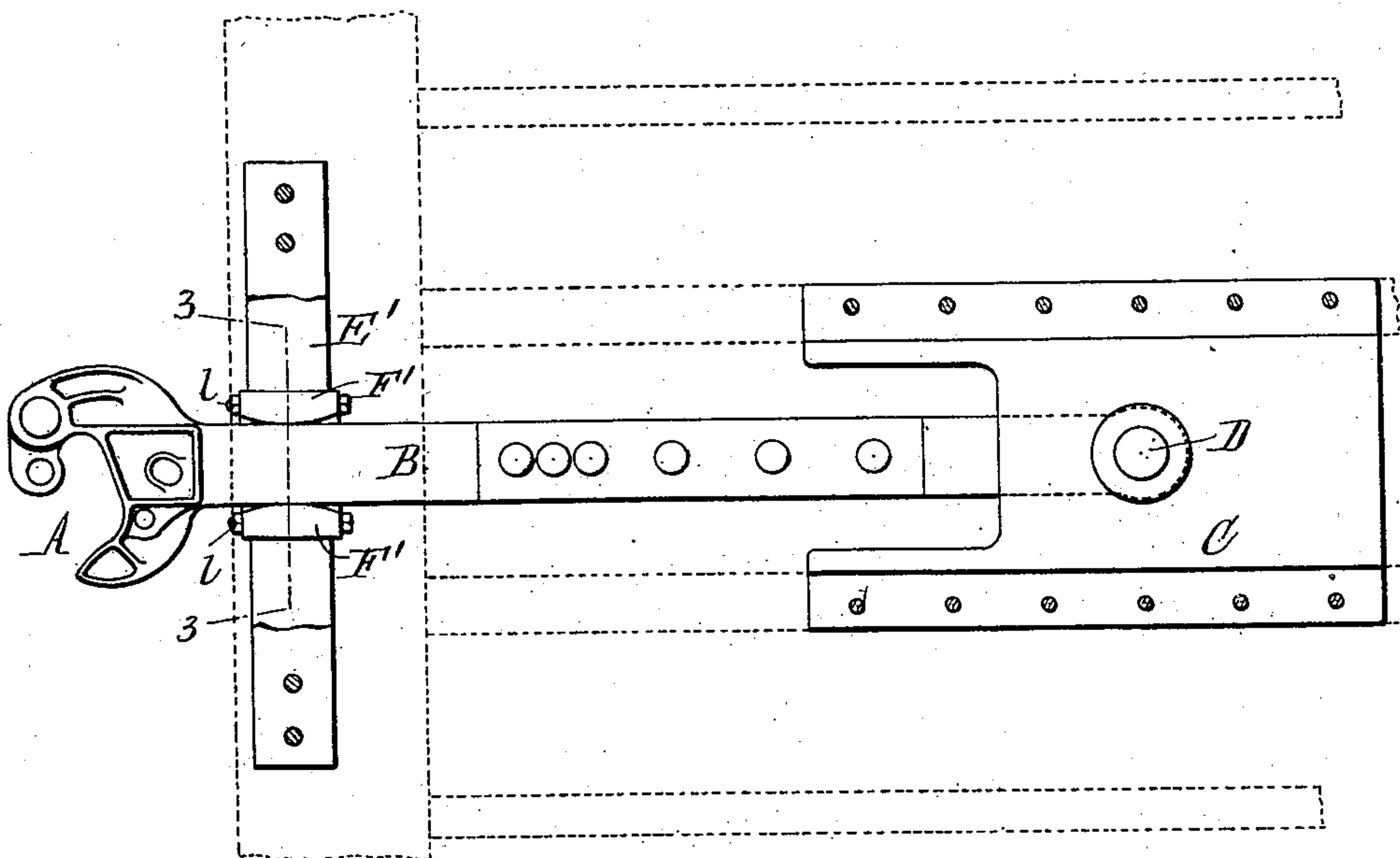


Fig. 3.

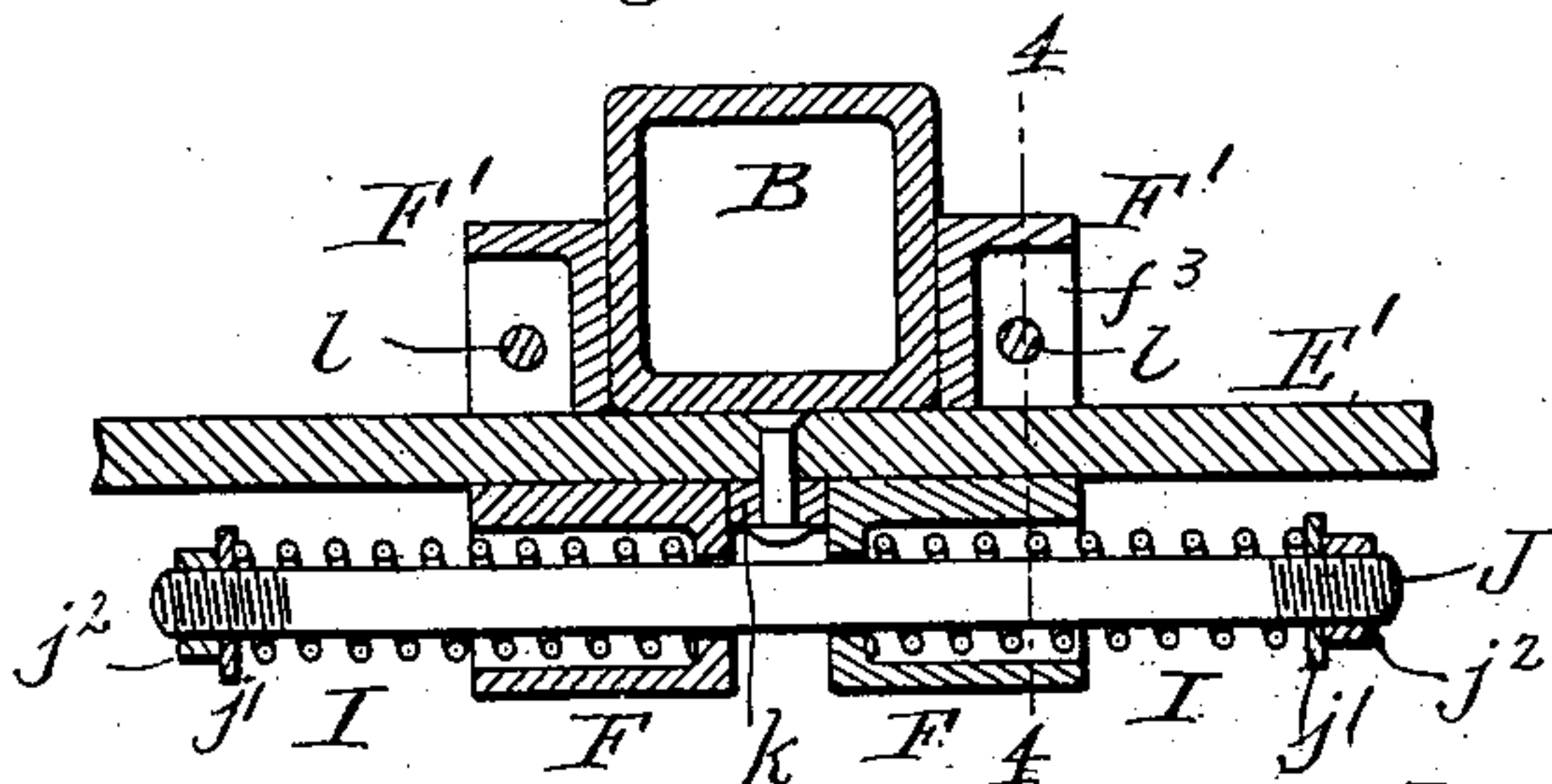
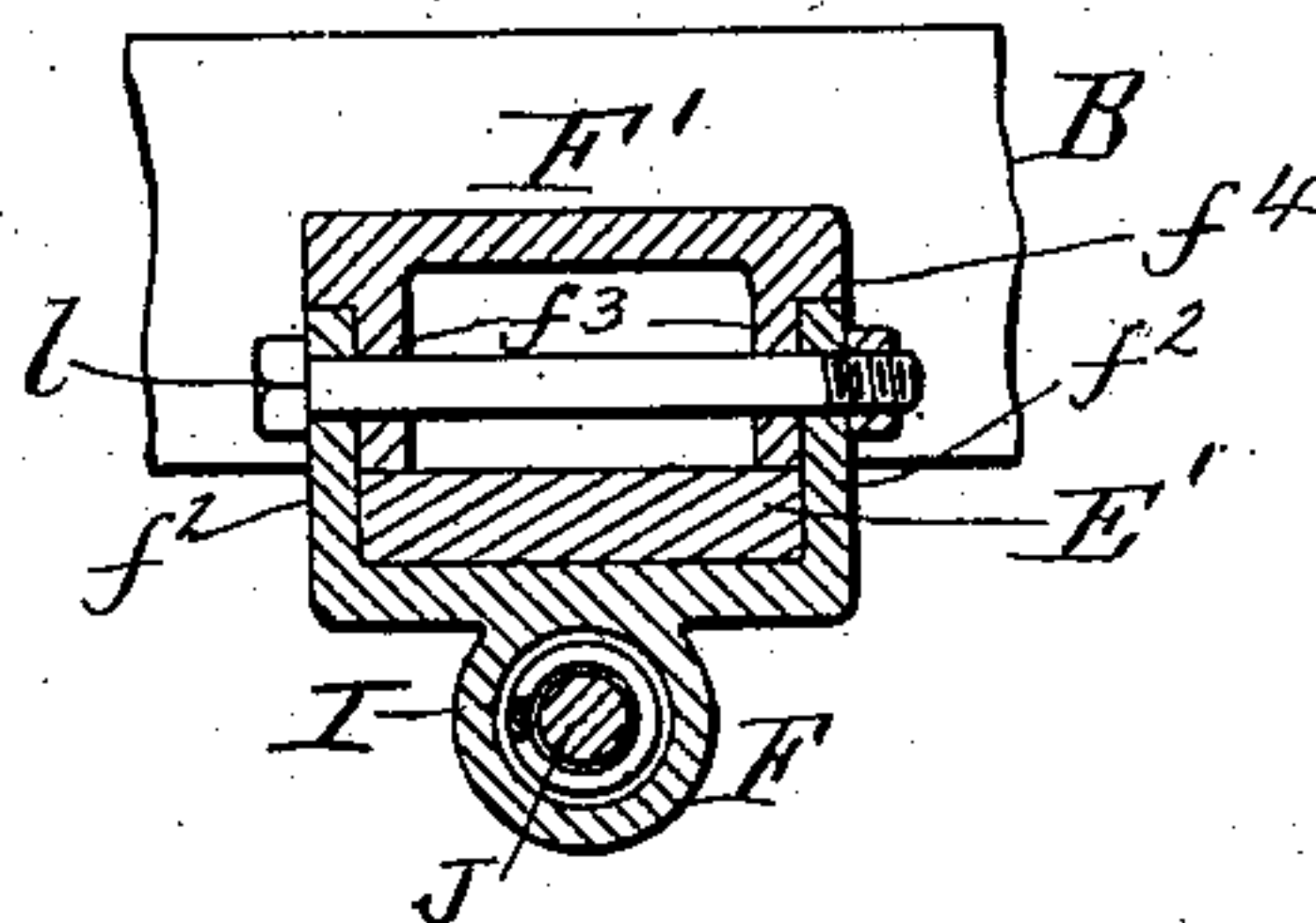


Fig. 4.



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Witnesses,

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No. 701,618.

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2 Sheets—Sheet 2.

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Fig. 5.

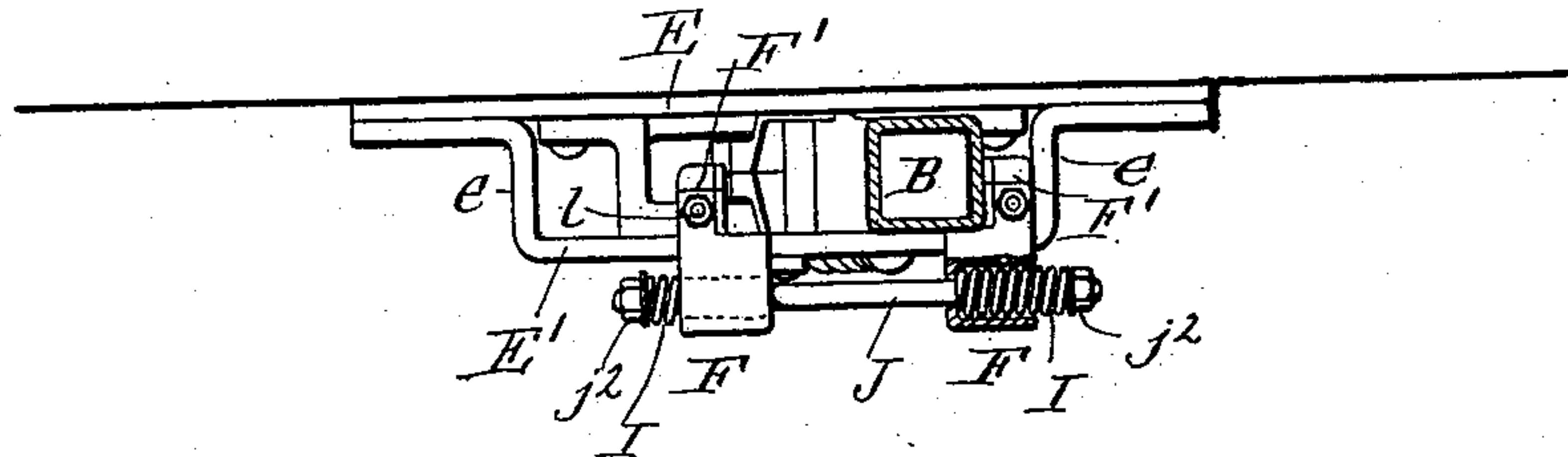
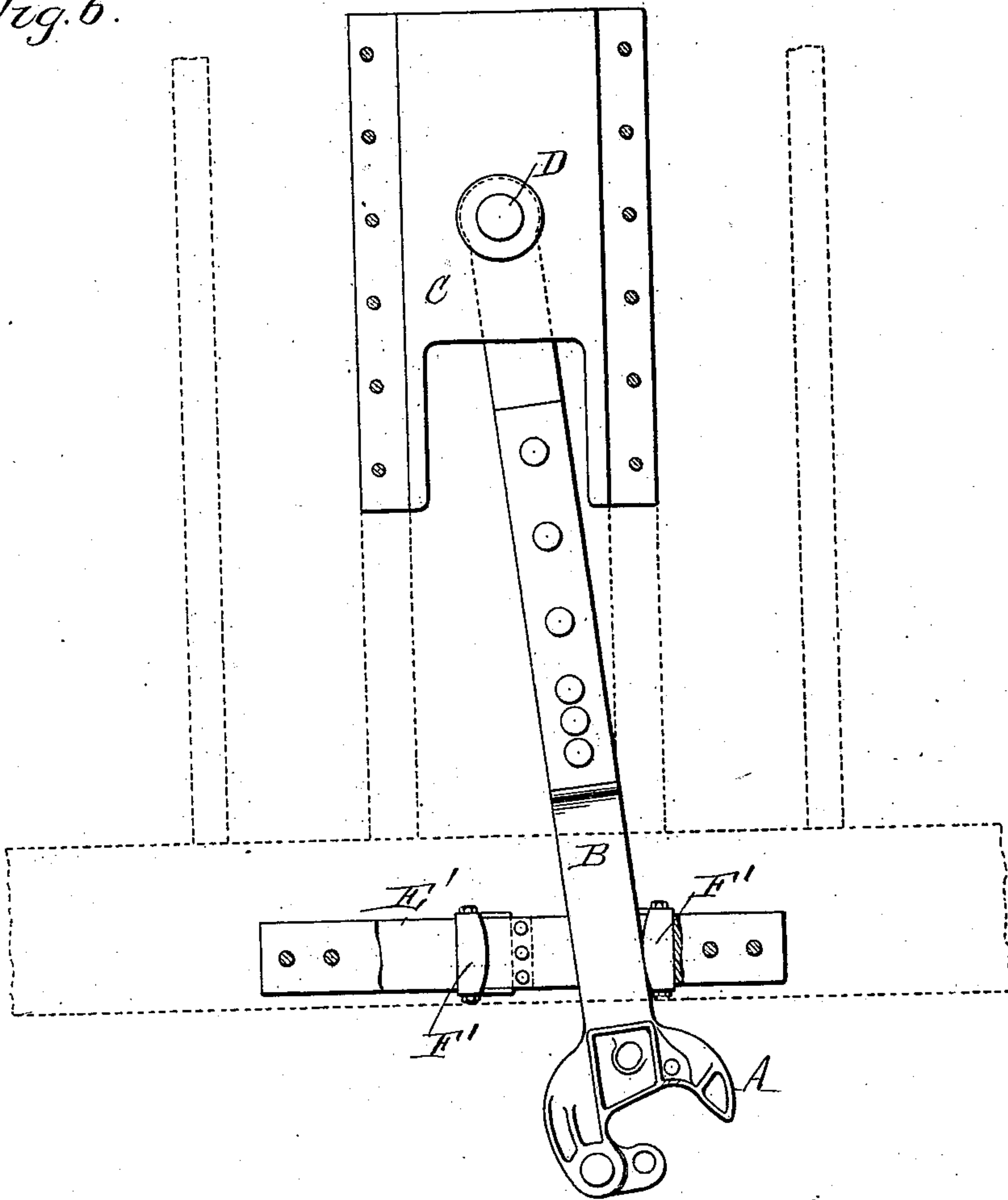


Fig. 6.



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UNITED STATES PATENT OFFICE.

WILLARD F. RICHARDS, OF BUFFALO, NEW YORK, ASSIGNOR TO GOULD COUPLER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF WEST VIRGINIA.

DRAW-BAR ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 701,618, dated June 3, 1902.

Application filed November 20, 1901. Serial No. 83,019. (No model.)

To all whom it may concern:

Be it known that I, WILLARD F. RICHARDS, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Draw-Bar Attachments, of which the following is a specification.

This invention relates more particularly to a draw-bar attachment for railway-cars in which the draw-bar is pivoted to swing laterally and is provided with side springs which yieldingly retain the draw-bar in a central position and permit the same to swing to either side of said central position to accommodate itself to the position of the car and allow of couplings on curves. In such draw-bar attachments of which I am aware coil-springs are usually arranged at the opposite sides of the draw-bar, and the lateral movement of the draw-bar is determined by the length of the spring or springs at each side thereof, thus requiring long springs where a considerable lateral movement of the draw-bar is necessary or desired.

The object of the present invention is to provide a draw-bar attachment in which a great or extended lateral movement or swing of the draw-bar is possible without necessitating the employment of unduly long springs.

In the accompanying drawings, consisting of two sheets, Figure 1 is a longitudinal vertical sectional elevation of a draw-bar attachment, illustrating my invention. Fig. 2 is a plan view thereof, partly broken away. Fig. 3 is a transverse sectional view on the line 3 3, Fig. 2. Fig. 4 is a sectional view on the line 4 4, Fig. 3. Fig. 5 is an end elevation, partly in section, of the attachment, showing the draw-bar in its side position. Fig. 6 is a plan view, partly in section, with the draw-bar in the position shown in Fig. 5.

Like letters of reference refer to like parts in the several figures.

A indicates the coupler, and B the draw-bar or stem, which at its inner or rear end is pivoted in any suitable manner, so as to permit its forward end to swing laterally or horizontally. In the drawings the rear end of the stem is shown to be pivoted in a pocket or recess in the front side of a bracket C, secured

to the under side of the draft-sills by a vertical pivot-bolt D, passing through openings in the end of the stem and in the bracket. The forward end of the draw-bar is confined between an upper transverse guide bar or plate E, secured to the under side of the end sill, and a lower supporting bar or plate E', preferably in the form of the usual yoke, the opposite ends *e* of which are bent upwardly and provided with outwardly-bent portions secured to the under side of the upper bar or plate E.

F represents spring-pockets, which are mounted to slide upon the yoke-bar E' between the upright end portions *e* and which are provided with abutments F', which extend upwardly above the yoke E' on opposite sides of the draw-bar B. The lower or body portions of the spring-pockets preferably extend below the bar E', and each is provided in its outer side with a recess or socket, in which is seated the inner end of a coiled spring I.

J represents a transverse rod or bar which is arranged horizontally below the bar E' and passes through openings in the inner adjacent ends of the spring-pockets. The rod or bar J extends outwardly through the coiled springs I and is provided at its outer ends with stops or shoulders, against which the outer ends of the coiled springs bear. For this purpose the opposite ends of the rod or bar are preferably screw-threaded and provided with collars *j'* and retaining-nuts *j''*, screwed onto the screw-threaded ends of the rod or bar J. The springs I encircle the rod or bar and are confined between the collars *j'* at the outer ends thereof and the inner ends of the sockets in the spring-pockets.

k represents a stop-bar secured to the under side of the bar E' between the inner ends of the spring-pockets and forming stop-shoulders, against which the inner ends of the spring-pockets are adapted to bear and are normally held by the action of the springs I.

Each spring-pocket is preferably formed of an upper and a lower member, the lower member having upwardly-projecting front and rear arms *f''*, which straddle the bar E', and the upper member having depending lugs *f'''*,

which extend downwardly between the upwardly-projecting arms f^2 on the lower member to the upper face of the bar E' and provide bearing parts for the spring-pockets.

5 The outer ends of the arms f^3 are preferably provided with downwardly-facing shoulders f^4 , against which the upper ends of the arms f^2 abut. The members of the pockets are connected by means of a bolt l , which passes

10 through openings in the overlapping arms f^2 and f^3 . This construction of the spring-pocket especially adapts the attachment for use in connection with a freight or passenger car or locomotive-tender, in which the yoke or

15 bar E' usually employed is made of wrought-iron, bent into the form shown in the drawings, inasmuch as the divided pockets can be applied to the bars E' after they have been bent and secured to the sill.

20 When the draw-bar is swung to one side of its central position—for instance, to the right, as shown in Figs. 5 and 6—it engages the abutment of the right-hand spring-pocket and moves the latter and its spring along the sup-

25 porting-bar E' . The other spring-pocket is held from movement to the right by reason of its engagement with the stop k , but the rod or bar J is forced by the right-hand spring to the right, together with the pocket, and as

30 this movement of the rod is opposed by the left-hand spring both springs are compressed to their limit before the movement of the right-hand spring-pocket and the draw-bar is arrested. It will thus be seen that the draw-

35 bar can move from the central position a distance substantially twice as great as would be permitted if the springs were mounted in a fixed position. The draw-bar can of course move to the other side of the central position

40 an equal distance, as will be obvious.

I claim as my invention—

1. The combination with a movable draw-bar, of movably-mounted springs adapted to be moved bodily by the draw-bar, means for

45 limiting the movement of said springs in opposite directions, and a movable device connected to said springs whereby both of said springs are strained when the draw-bar is moved in either direction, substantially as set

50 forth.

2. The combination with a laterally-movable draw-bar, of movably-mounted springs adapted to be moved bodily by the draw-bar, means for limiting the inward movement of

55 said springs, and a device movable with said

draw-bar and connected to said springs whereby both of said springs are compressed when the draw-bar is moved to either side of a central position, substantially as set forth.

3. The combination with a laterally-movable draw-bar, of movable spring-pockets adapted to be moved by the draw-bar, a stop adapted to limit the inward movement of said spring-pockets, a coiled spring movable with each pocket, and a movable bar connecting

65 the outer ends of said springs, whereby both of said springs are compressed, when the draw-bar is moved to either side of a central position, substantially as set forth.

4. The combination with a laterally-swinging draw-bar, and means for guiding the same, of oppositely-arranged spring-pockets having portions engaged by the draw-bar and adapted to be moved thereby, a stop arranged between said spring-pockets for limiting the

75 inward movement thereof, a coiled spring carried by each pocket, a movable rod passing through said coiled springs and through openings in said pockets, and stops on said rod and engaging the outer ends of said coiled

80 springs, substantially as set forth.

5. The combination with a draw-bar mounted to swing laterally, and a guide-yoke for said draw-bar, of oppositely-arranged spring-pockets mounted on said yoke to slide lat-

85 erally and having portions engaged by said draw-bar, a stop on said yoke between said spring-pockets, a coiled spring seated in a socket in each spring-pocket, a rod or bar passing through openings in said spring-pock-

90 ets and through said coiled springs, and stops secured to the opposite ends of said rod or bar and engaging the outer ends of said coiled springs, substantially as set forth.

6. The combination with a draw-bar, and a

95 guide-bar or the like therefor, of a spring-pocket member on one side of said guide-bar and having arms straddling said guide-bar, and a second pocket member bearing against the other side of said guide-bar and secured

100 to said arms, said second member constituting an abutment for said draw-bar, substantially as set forth.

Witness my hand this 30th day of October, 1901.

WILLARD F. RICHARDS.

Witnesses:

JNO. J. BONNER,

CLAUDIA M. BENTLEY.