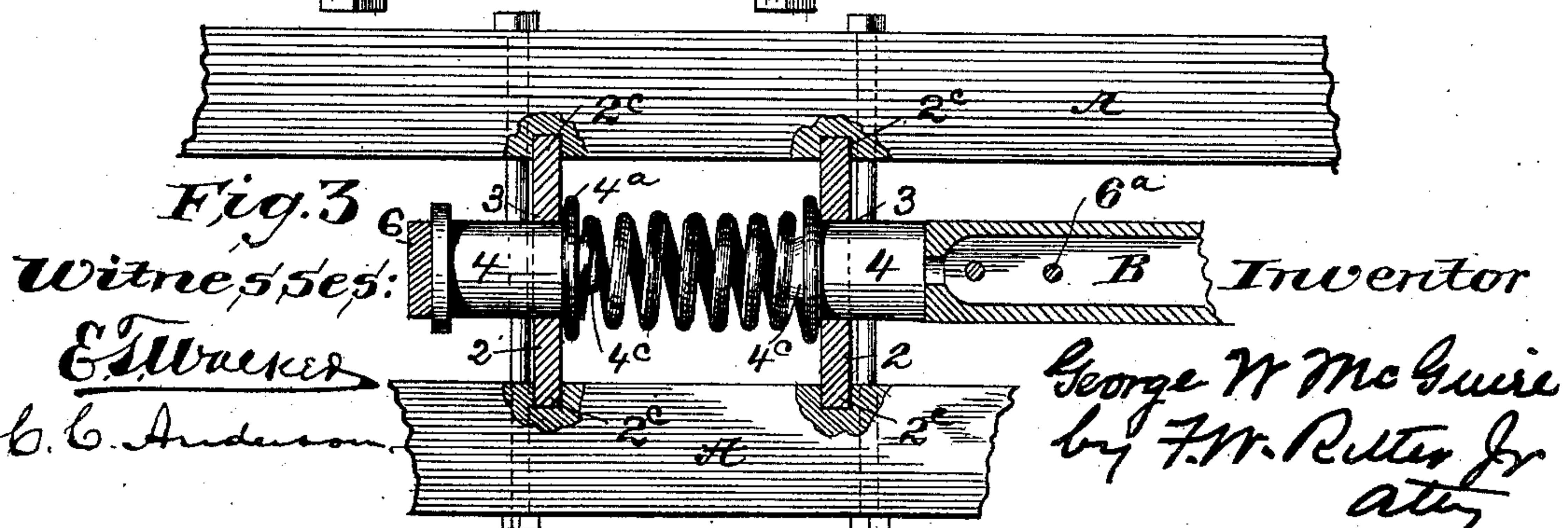
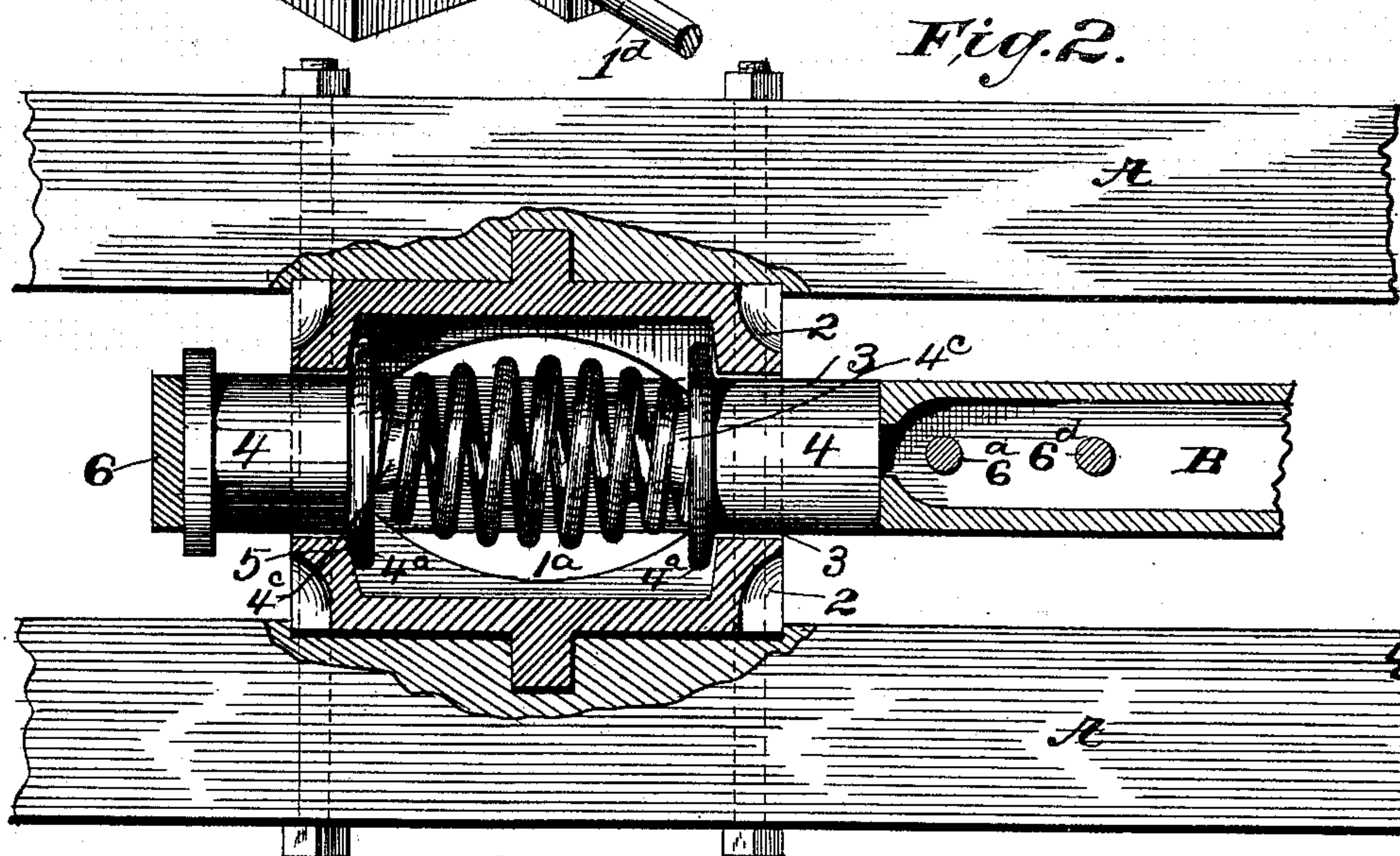
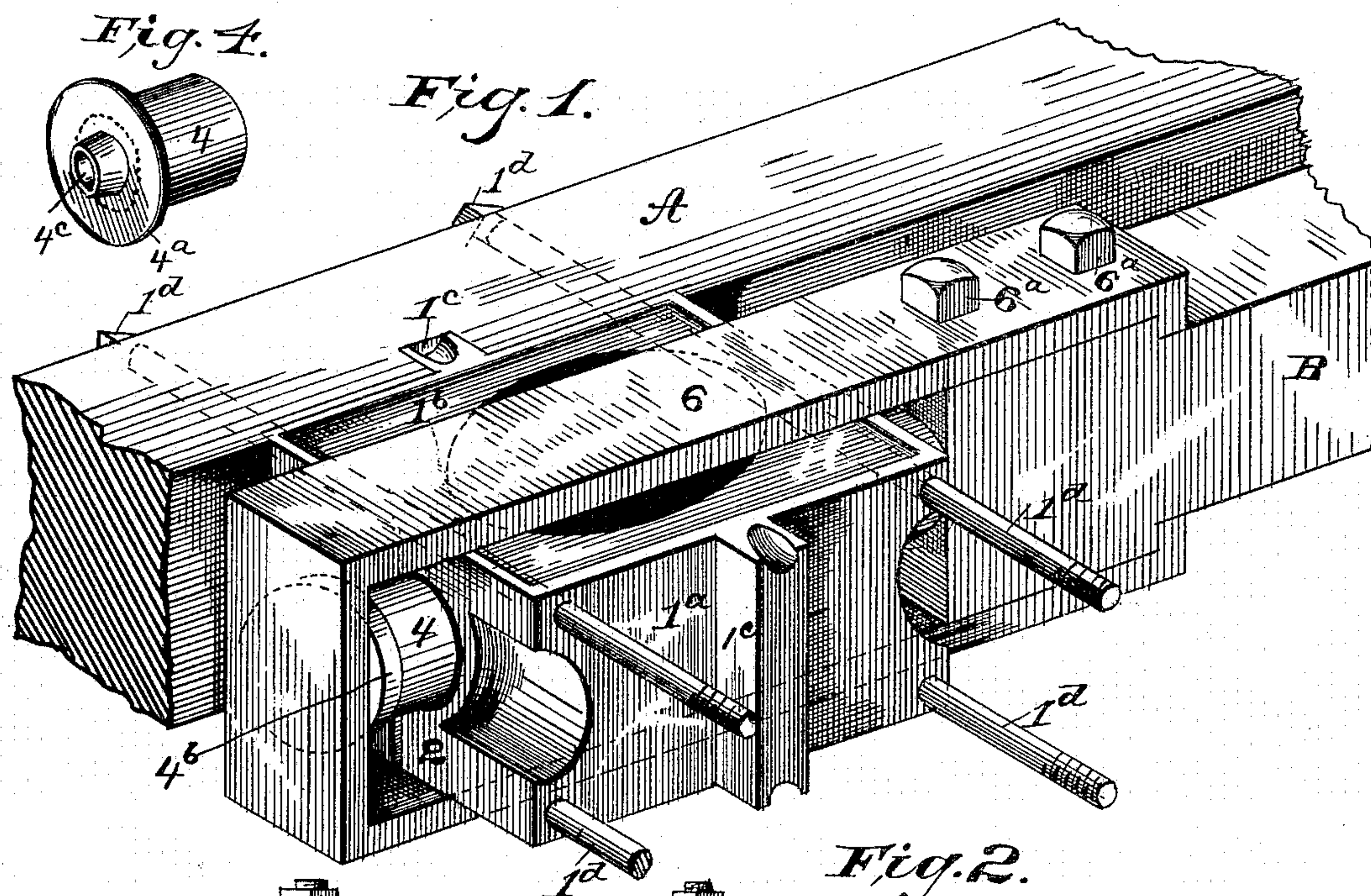


(No Model.)

G. W. McGUIRE.
DRAW BAR FOR RAILWAY CARS.

No. 437,227.

Patented Sept. 30, 1890.



UNITED STATES PATENT OFFICE.

GEORGE W. MCGUIRE, OF CLEVELAND, OHIO.

DRAW-BAR FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 437,227, dated September 30, 1890.

Application filed July 9, 1890. Serial No. 358,139. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. MCGUIRE, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Draw-Bars; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a portion of the draft-timber of a car and the rear end of a draw-bar embodying my invention. Fig. 2 is a plan view of a portion of the draft-timbers and a draw-bar embodying my invention, partly in section. Fig. 3 is a similar view of the draw-bar with modified form of casing or buffer-block connection with the draft-timbers. Fig. 4 is a detached view of the spring-follower.

Like symbols refer to like parts wherever they occur.

My invention relates to the construction of that class of spring-supported draw-bars which perform the function of both buffer and draw-bar, and has for its object to simplify and reduce the number of parts thereof, and to so strengthen the whole structure as to render it better capable of resisting the shocks and jars to which it is constantly subjected, and especially to adapt it to the "strap," or generally preferred form of draw-bar.

The forms of draw-bars now in most common use are of either the strap or "tail-bolt" pattern—that is to say, the spring-support is coupled to the bar and the draft is effected either by a strap, loop, or stirrup, or by a rod or "bolt" attached to the rear end of the draw-bar proper. The simplest and best construction heretofore known, so far as I am aware, has been substantially that of the Butler patent, No. 213,974, dated April 8, 1879, which may be briefly stated as consisting of a casing, housing, or the equivalent thereof—viz., buffer heads or blocks—secured to the draft-timbers, through which casing passed hollow sleeves or followers, and between said followers and within the casing the draft and buffer spring or springs were located, said sleeves and spring being connected with the draw-bar proper by a central bolt, termed the

"tail-bolt." The main objections to the Butler patent, or above specified construction, are, first, that it is not adapted to strap draw-bars; second, that, as in all tail-bolt draw-bars, the strain is on the head of the bolt and on bolt key or cotter, which is liable to pull through or break off, thus releasing the draw-bar, and, third, in case of the breaking of the cotter or key there is apt to be a loss of the buffer-spring and other parts of the device, as well as a releasing of the draw-bar. The advantages of the Butler construction are simplicity, strength, durability, and thorough protection of the buffer and draft spring, which cannot be so compressed as to destroy its resiliency.

The present invention is therefore an improvement on the devices of the Butler patent, No. 213,974, whereby the same are adapted to use with strap draw-bars, the advantages retained, and the objectionable features avoided.

I will now proceed to describe my invention more fully, so that others skilled in the art to which it appertains may apply the same.

In the drawings, A A indicate the usual draft-timbers of the car, and B the rear end of any approved form of strap draw-bar.

1 indicates a casing, which may be composed of two sections or halves $1^a 1^b$, the ends of which 2 2 constitute buffer-blocks and have central orifices 3 3 for the passage of followers 4 4, which act on the buffer and draft spring. I prefer that these buffer-blocks 2 2 should constitute the ends of a box or casing, such as shown in Figs. 1 and 2, as in such construction the spring 5 is inclosed, thoroughly protected, and not likely to be displaced or lost, and when such construction is adopted the twin sections $1^a 1^b$ will each be provided with one or more lateral ribs or off-sets 1^c let into the draft-timbers A A, and the whole casing be firmly secured by through-bolts 1^d . It is not, however, absolutely necessary that more than the buffer-blocks 2 2 be used, and in case the side walls constituting the casing are dispensed with the buffer-blocks may be let into the draft-timbers A A at their ends 2^c , as indicated in Fig. 3, and the through-bolts 1^d used, as before specified.

4 4 indicate the spring-followers of such diameter as to pass freely through the orifices

3 3 or openings in the heads of the casing or
 buffer-blocks 2 2, each provided with a flanged
 head 4^a, or equivalent means, for preventing
 the escape of the follower, and providing a
 5 bearing for the end of the spring, and also
 provided with a central boss 4^c for centering
 and securing the draft and buffer spring 5.
 In lieu of a central boss, there may be substi-
 10 tuted an annular rib, as indicated in dotted
 lines, Fig. 4, to guide and guard the draft and
 buffer spring; but it will be evident to any
 mechanic that the central boss is the prefer-
 able construction. Where two-part casing or
 box 1^a 1^b is used, the rear follower 4 may
 15 have on its outer end a flange or collar 4^b, to
 limit the inward movement of the said rear fol-
 lower; but the same is not essential, as the
 strap may be allowed to strike directly on
 the rear buffer-block 2, which will arrest the
 20 inward movement of the rear follower 4, and
 in fact where the buffer-blocks are simply
 single plates with central orifices, as shown
 in Fig. 3, the rear collar 4^b is necessarily dis-
 pensed with in order that the follower may
 25 be entered in the orifice of said buffer-block.
 6 indicates the strap of a draw-bar arranged
 to inclose the buffer-blocks or casing with in-
 cluded followers and central springs, said
 strap secured to the rear end of draw-bar B
 30 in any suitable manner, but preferably by
 through-bolts 6^a, as indicated in the drawings.

It will be noted that in a construction of
 draw-bar of the character hereinbefore de-
 scribed the ultimate strain or force in both
 35 drawing and buffing will fall on the buffer-
 blocks and be transmitted to the draft-tim-
 bers long before any strain which could de-
 stroy the resiliency of the draft and buffer
 spring has been exerted on said spring; also
 40 that in case of rupturing force being brought
 to bear on the devices the strap which in-
 closes the parts will form a box or casing to
 prevent loss of the spring and followers, and
 the devices, while perfectly efficient as a com-
 45 bined spring-draft and buffer-bar, are very
 simple in form and composed of the least
 number of parts capable of obtaining the de-
 sired result, all of which are among the ad-
 vantages of the present invention.

50 I am aware that the combination of buffer-
 blocks, sleeve-followers, and an interposed

buffer and draft-spring with a draw-bar and
 tail-bolt is old; and I am also aware that the
 combination of movable follower-plates, an
 interposed buffer and draft spring, and a 55
 draw-bar with strap acting directly on the
 movable follower-plates of the spring with-
 out interposed buffer-blocks is also old; and
 I do not herein claim the said combinations,
 because the first recited is not adapted to use 60
 with strap draw-bars and has the disadvan-
 tages hereinbefore recited, and because the
 second exerts the whole force of draft and
 buffing, and the consequent shocks thereof,
 directly on and destroys the resiliency of the 65
 buffing and draft springs; but,

Having thus described my invention, what
 I claim, and desire to secure by Letters Patent,
 is—

1. In a draw-bar, the combination, with 70
 fixed buffer-blocks, of spring-followers mov-
 able therein, a draft and buffer spring inter-
 posed between the followers within the fixed
 buffer-blocks, and a draw-bar strap which in-
 closes the fixed buffers, followers, and spring, 75
 substantially as and for the purposes speci-
 fied.

2. In a draw-bar, the combination, with a
 fixed casing having buffer-blocks at its ends,
 of spring-followers movable in the buffer- 80
 blocks of the casing, a draft-spring interposed
 between the spring-followers and within the
 casing, and a draw-bar strap which incloses
 the casing, followers, and spring, substan-
 tially as and for the purposes specified. 85

3. In a draw-bar, the combination, with
 fixed buffer-blocks, of spring-followers mov-
 able therein, said followers provided on their
 inner heads with spring guards or guides, a
 buffer and draft spring interposed between 90
 the followers and within the fixed buffer-
 blocks, and a draw-bar strap which encircles
 the fixed buffer-blocks, followers, and spring,
 substantially as and for the purposes speci-
 fied. 95

In testimony whereof I affix my signature, in
 presence of two witnesses, this 7th day of July,
 1890.

GEORGE W. MCGUIRE.

Witnesses:

GEO. H. SCHWAN,
 FRANK MANAK.