

No. 714,015.

Patented Nov. 18, 1902.

T. L. McKEEN.

DRAFT RIGGING FOR RAILROAD CARS.

(Application filed Jan. 9, 1902.)

(No Model.)

3 Sheets—Sheet 1.

FIG. 1.

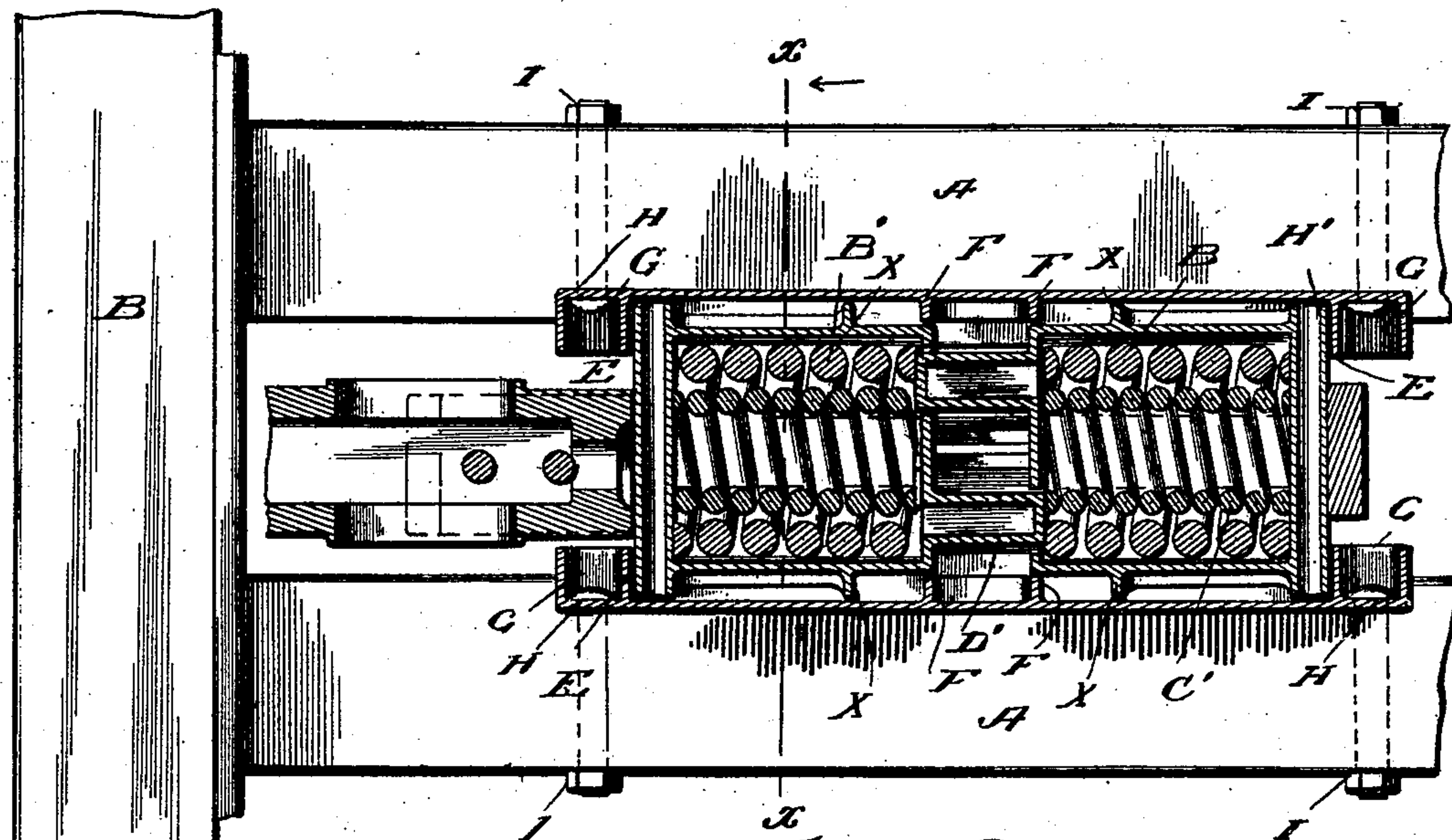
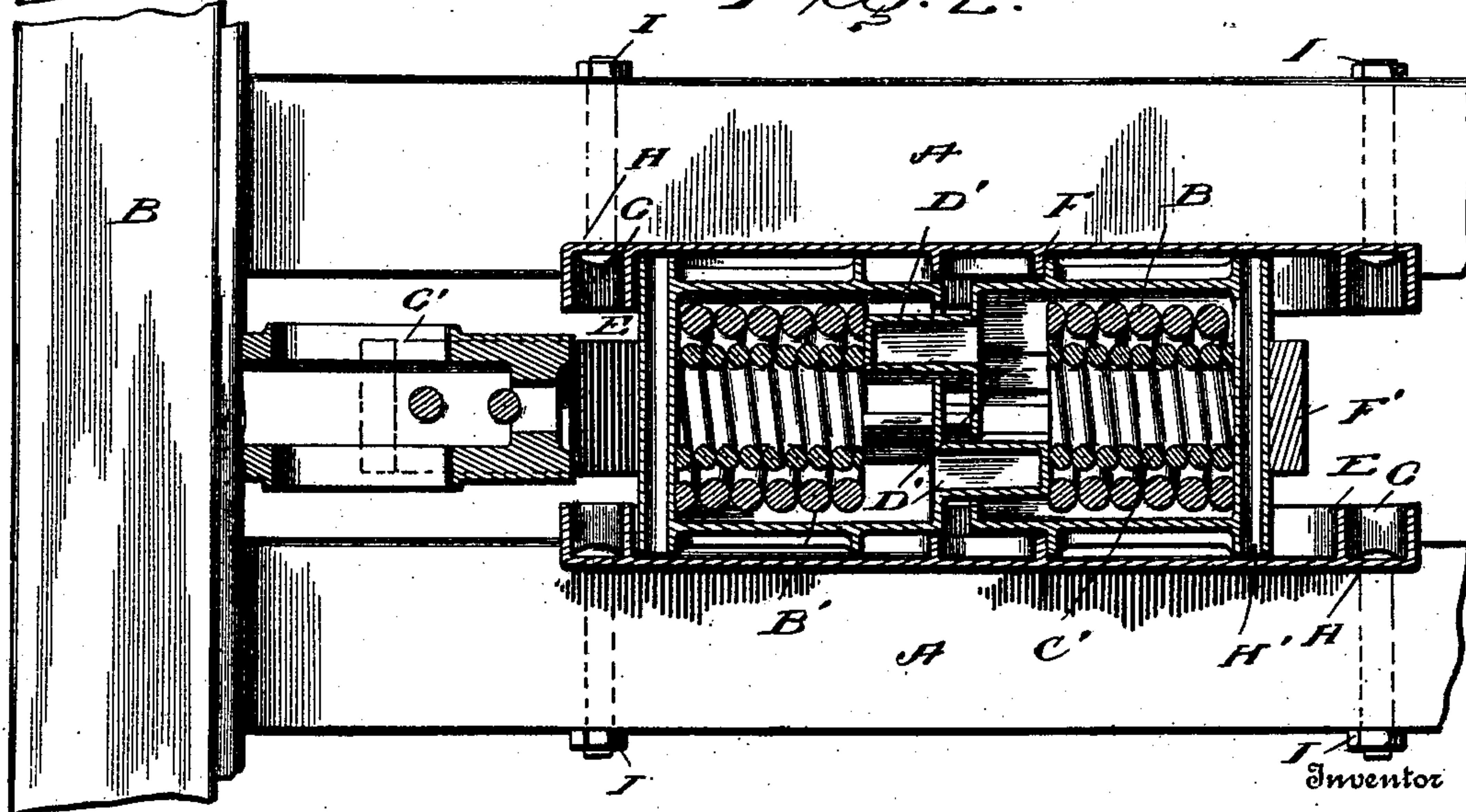


FIG. 2.



Inventor

Witnesses

H. G. Williams
H. G. Williams

Thos. L. McKen
Thos. L. McKen

By

Jm. C. S. S. S.
Jm. C. S. S. S.
Attorney

No. 714,015.

Patented Nov. 18, 1902.

T. L. McKEEN.

DRAFT RIGGING FOR RAILROAD CARS.

(Application filed Jan. 9, 1902.)

(No Model.)

3 Sheets—Sheet 2.

Fig. 3.

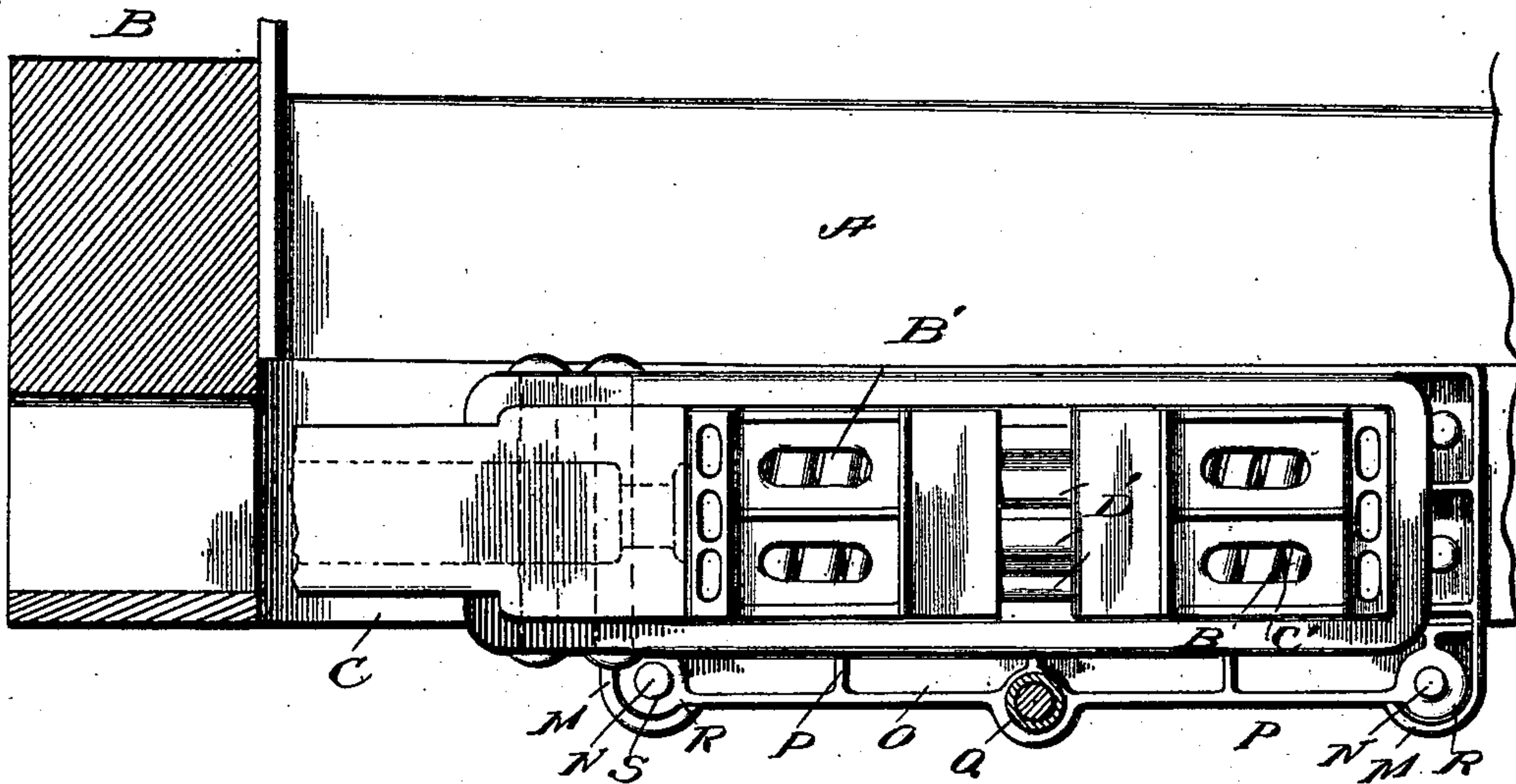


Fig. 4.

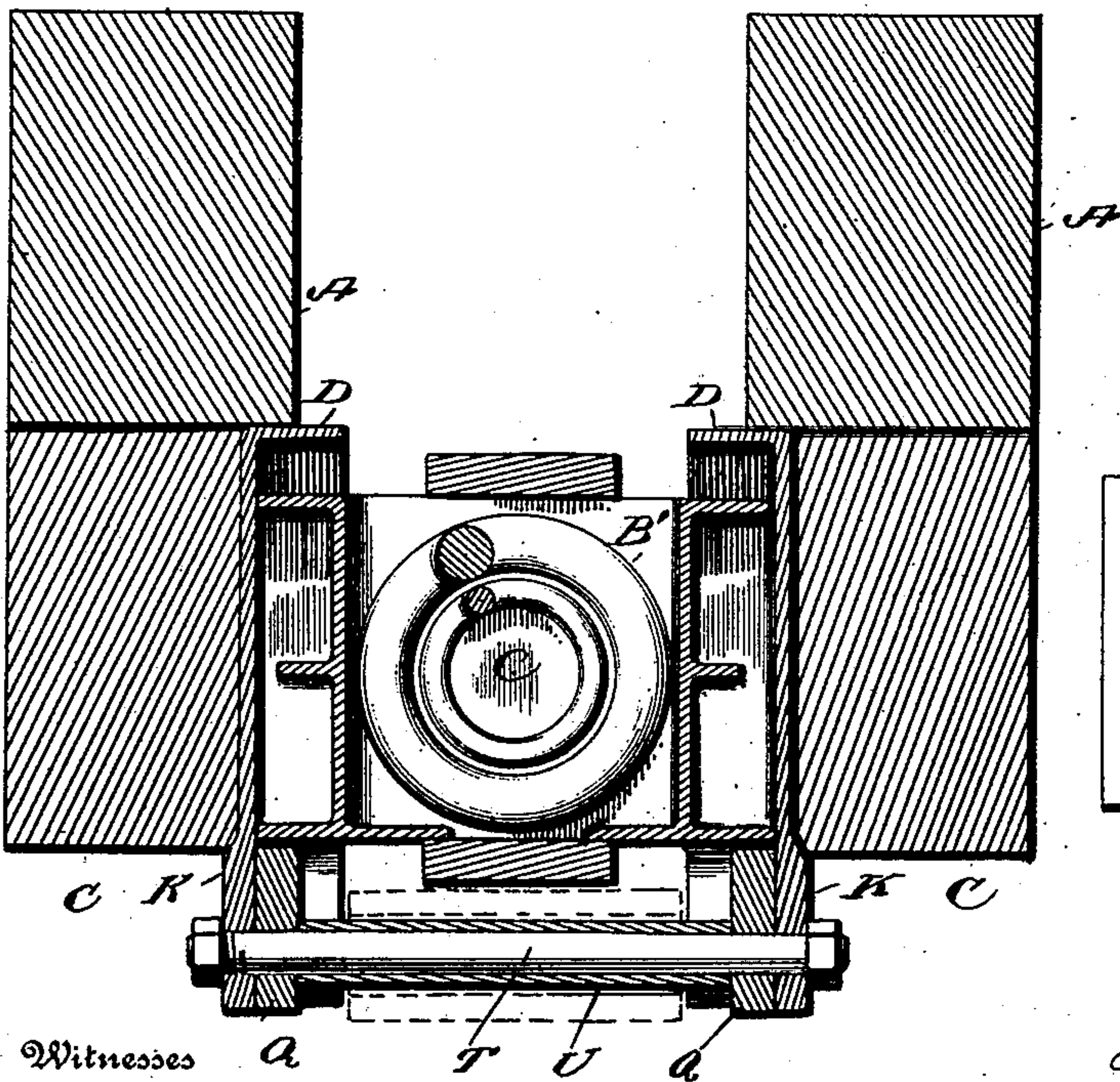
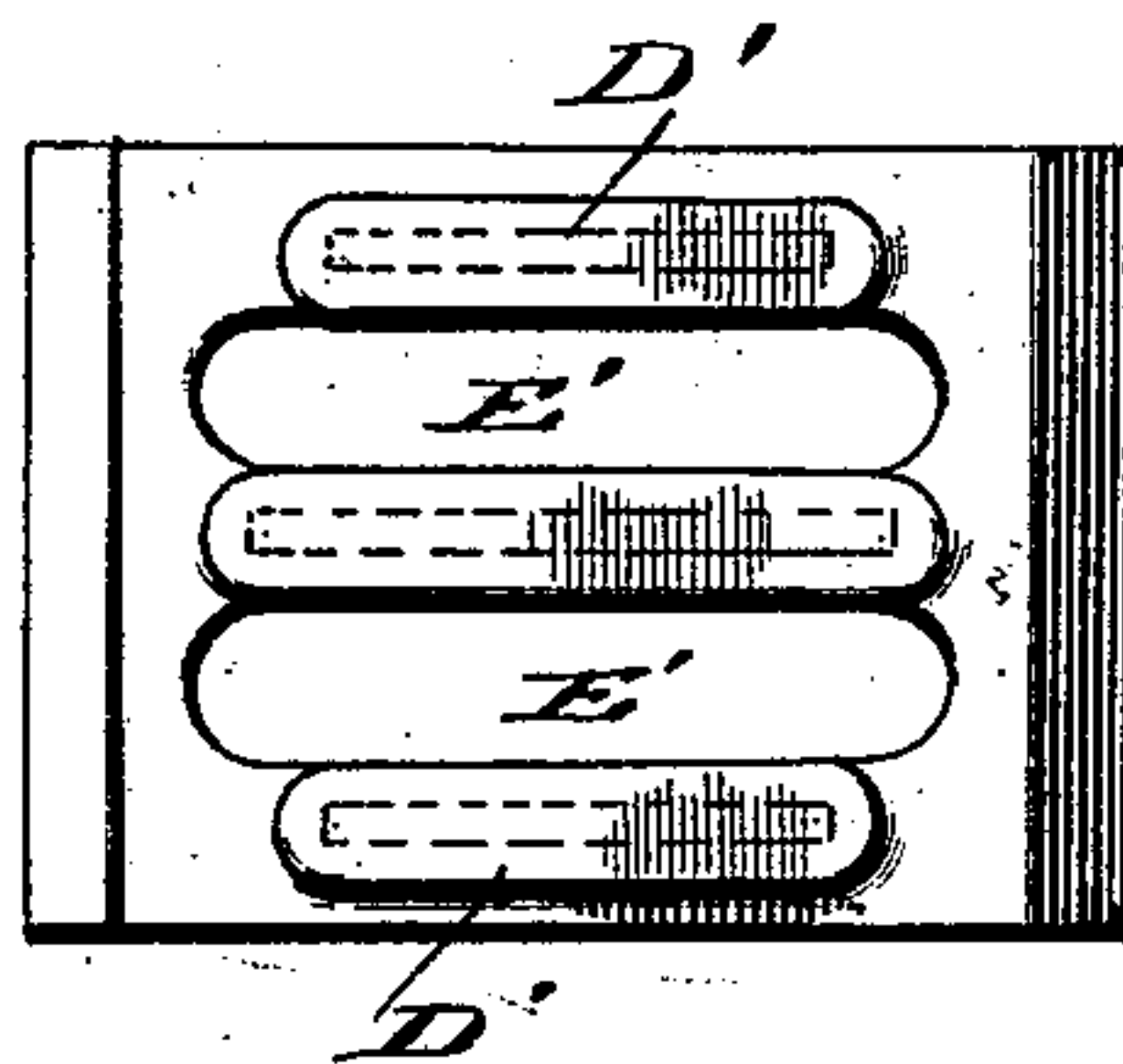


Fig. 9.



Inventor

Thos. L. McKeen

By

Am. C. W. Squire
Attorney

Witnesses

H. A. Williams

No. 714,015.

Patented Nov. 18, 1902.

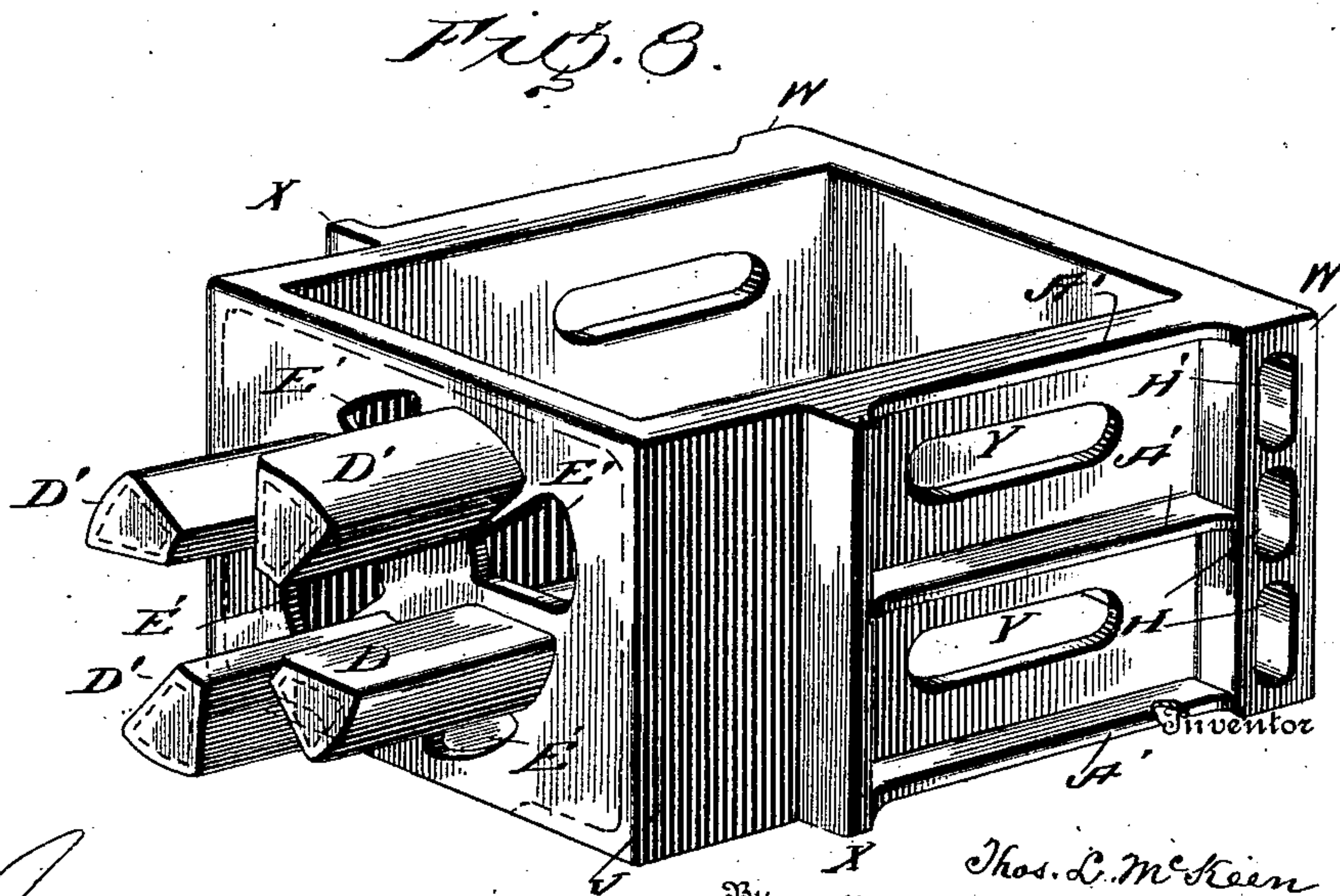
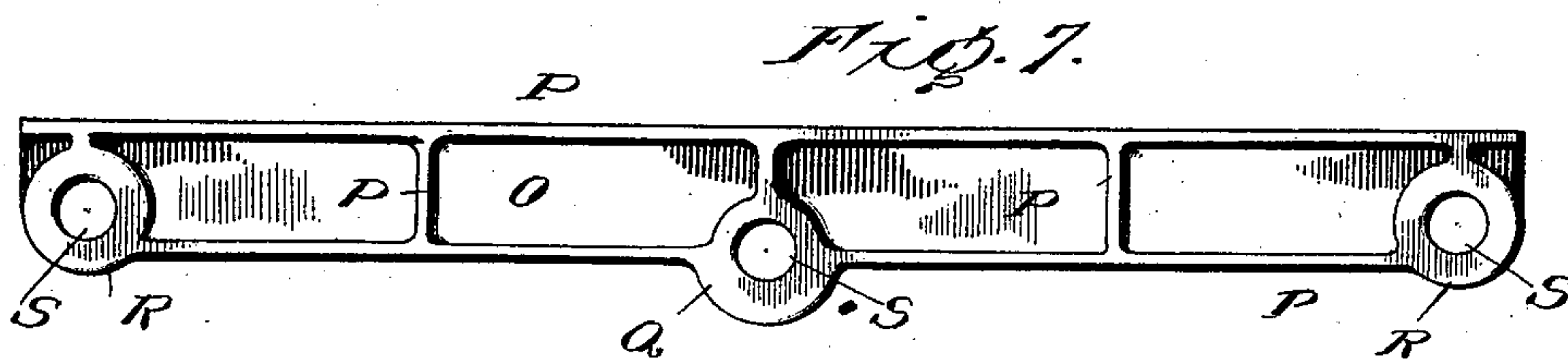
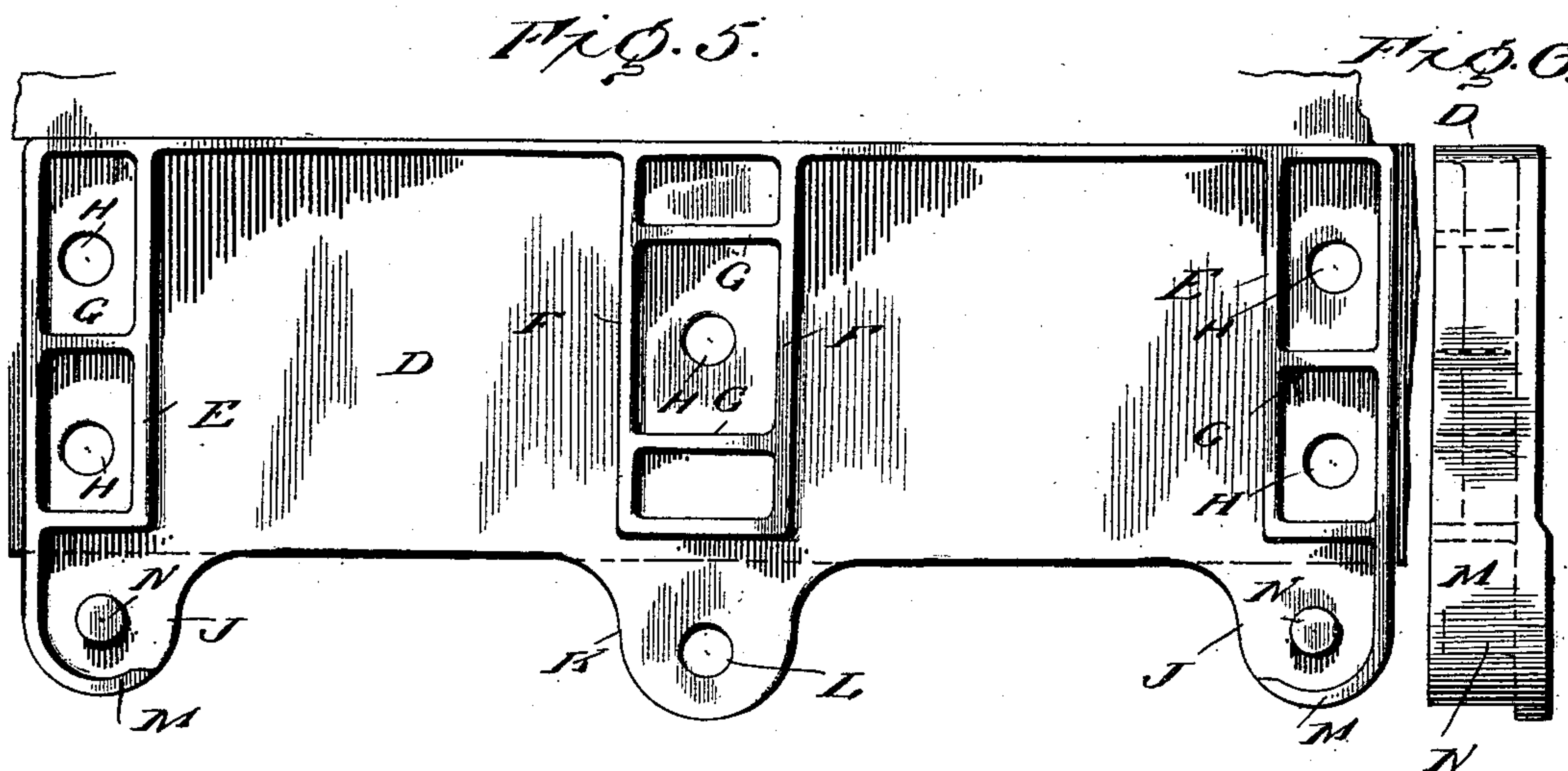
T. L. McKEEN.

DRAFT RIGGING FOR RAILROAD CARS.


(Application filed Jan. 9, 1902.)

(No Model.)

3 Sheets—Sheet 3.



Witnesses

Witnesses

 J. A. Williams.

By *Thos. L. McKen*
Jm. C. W. Intire
Attorney

UNITED STATES PATENT OFFICE.

THOMAS L. McKEEN, OF EASTON, PENNSYLVANIA.

DRAFT-RIGGING FOR RAILROAD-CARS.

SPECIFICATION forming part of Letters Patent No. 714,015, dated November 18, 1902.

Application filed January 9, 1902. Serial No. 89,076. (No model.)

To all whom it may concern:

Be it known that I, THOMAS L. McKEEN, a citizen of the United States, residing at Easton, in the county of Northampton and State of Pennsylvania, have invented certain new and useful Improvements in Draft-Rigging for Railroad-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 to make and use the same.

My invention relates to certain new and useful improvements in draft-rigging attachments for railroad-cars, and particularly to that class in which the springs are arranged in tandem within longitudinally-reciprocating cases or boxes located between cheek-plates or housings secured to the draft-timbers, the said cases or boxes supported vertically therein by carry-bars.

My invention has for its object to dispense with all loose or independent followers and to provide a rigging which shall be economical of construction, strong, and durable, and the parts of which shall be readily interchangeable, thus permitting of ready and expeditious repairs.

With these ends in view my invention consists in the construction and arrangement hereinafter and in detail described.

In order that those skilled in the art to which my invention appertains may know how to construct and apply the same and fully understand its operation, I will proceed to describe the same, referring by letters to the accompanying drawings, in which—

Figure 1 is a horizontal section of my improved draft-rigging with the draft-timbers and end sill shown in elevation. Fig. 2 is a similar view showing the relation of the parts under a pulling strain. Fig. 3 is a side elevation of the draft-rigging with one of the draft-timbers and cheek-plates or housings removed, the end sill being shown in cross-section. Fig. 4 is a cross-section on the line x of Fig. 1. Fig. 5 is an inside side elevation of one of the cheek-plates or housings. Fig. 6 is an end view of the same. Fig. 7 is a side elevation of one of the carry-bars for supporting the springs and their cases or boxes. Fig. 8 is a perspective view, on enlarged scale, of one of the spring cases or boxes; and Fig. 9

is an inside end view, on reduced scale, of a modified construction of the spring cases or boxes.

Similar letters of reference denote like parts in the several figures of the drawings.

A represents the side sills, B the end sill, and C the subsill or draft-timbers of an ordinary car construction.

D represents cheek-plates or housings cast with stops E at each end and a central vertical stop F, as clearly shown at Fig. 5. These stops, as clearly shown and for the sake of lightness, are cored out and braced and strengthened by longitudinal ribs G, and bolt-holes H are provided for the reception of screw-bolts I, by means of which the housings or cheek-plates are rigidly secured to the draft-timbers, as clearly shown at Figs. 1 and 2. The lower edges of the housings or cheek-plates D are formed with two end lugs J and a central lug K, the latter provided with a central bolt-hole L. The metal constituting the ends of the housing is extended down and partially around the end lugs J in the form of a flange M to support and house the ends of the carry-bars, as will be presently explained, and the lugs J are formed with a central teat or stud N, which coöperates with the flanges M.

The carry-bars O (see particularly Fig. 7) for the sake of lightness and strength are cast with longitudinal and vertical ribs P and with a central boss Q and end bosses R, all of said bosses formed with central holes S, those in the end bosses R to receive the studs N of the lugs J on the cheek-plates or housings D and that in the central boss Q to receive a single securing-bolt T, which passes through the lugs K of the cheek-plates and the bosses Q of the carry-bars and also through a tubular bridge or washer U, arranged between the two carry-bars O, as clearly shown at Fig. 4. From this construction and arrangement it will be seen that the carry-bars O may be expeditiously removed by withdrawing the securing-bolt T and moving the ends of the said bars off the studs N of the lugs J of the cheek-plates, thus enabling the draw-bar and the springs and their cases to be readily removed.

I will now proceed to describe the construction of the spring cases or boxes V, referring

especially to Fig. 8. The two boxes are cast from a single pattern and are therefore duplicates of each other. They are formed with one end extended laterally to constitute shoulders W, and near the opposite end with lateral projections, constituting shoulders X. The metal constituting the sides of the case is cored out, as shown at Y, to lighten the same and is provided with longitudinal ribs A' to strengthen the same and assist in receiving the buffing and pulling shocks or strains. The outer ends of the cases constitute integral followers for the springs B' C', and the inner ends are formed with a series of longitudinal projections D' and with intermediate gates or openings E' to receive the projections D' of the adjacently-arranged case V.

When the two cases V are located between the cheek-plates and within the yoke F' of the draw-bar G', as clearly shown at Figs. 1, 2, and 4, the carry-irons are located and secured as heretofore described, and the parts are then all in operative relation.

In arranging the two cases and springs in operative position the two cases are so arranged relatively to each other that the projections D' of each will enter the correspondingly-shaped gates or openings E' of the other, so that the said projections on each case will bear against the inner ends of the springs of the adjacent case.

When the cases are in proper relation one with the other, as shown at Fig. 1, it will be seen that the inner or adjacent ends of the two cases are separated a distance somewhat greater than the distance between the shoulders X of the cases and the vertical faces of the central stops F of the cheek-plates or housings D, and hence the inner ends of the casings V can never contact during the buffing and pulling actions; but the entire strain is taken up by the shoulders X and central stops F.

The cases V are cast with one horizontal side open in order that the springs B' C' may be readily located within the case in an obvious manner and with the opposite side partially closed, as shown at Fig. 4, to give strength to the same.

While I prefer the construction shown at Fig. 8 in so far as the projections D' and gates or openings E' are concerned, it will be understood that I do not wish to be confined to any particular design of the same, but that they may be of the form shown at Fig. 9 or any other shape.

While I have shown and prefer to use the single bolt T and pipe washer or bridge U for securing the carry-bars O in place, it will be understood that in lieu thereof I may employ two short bolts, one for each carry-bar. The single bolt and pipe-washer, however, serve to prevent the spreading or closing in of the housings or draft-timbers and hold all the parts in fixed and rigid relation. Hence my preference for this construction.

In removing the carry-bars it will be seen that not only is the bolt connection readily released, but the relation between the flanged lugs on the cheek-plates or housings and their central studs and the bosses on the ends of the carry-plates hold the parts in position after the bolts have been removed and until it is convenient to slip the bosses off of the studs, thus greatly facilitating the operation of removing the draw-bar and springs.

While I prefer to make the carry-bars of cast-iron or steel, it will be seen that they may be readily made of wrought-iron, if so desired, and it will also be understood that other forms of carry bars or plates may be used in connection with the other described features of my invention.

The tubular washer T may be of such diameter as to constitute a roller to support the yoke, spring-cases, and springs, or an independent roller may surround the tubular washer, as indicated by dotted lines in Fig. 4.

With the construction shown and described it will be apparent that it will be necessary for railroad companies to keep only a limited number of castings in stock in order to make replacements or repairs.

When the draft-rigging is in normal condition, the several parts bear the relation shown at Fig. 1; but when a pulling strain is exerted, as indicated at Fig. 2, the rear spring-case is drawn forward by the yoke F' and the front end of the forward casing being in contact with the forward stops E of the cheek-plates or housings D, and the projections D' of each of the spring-cases enter and pass through the corresponding gates or openings E', thus compressing the springs B' C' between said projections and the opposite ends or integral followers of the cases. Under a buffing action, the rear follower end of the rear case being in contact with the rear stops E of the cheek-plates or housings, a similar compression of the springs occurs, and under either action the shoulders X of the spring-cases contact with the central stops F of the cheek-plates or housings to prevent the setting of the springs and at the same time preventing the adjacent ends of the spring-cases from coming in contact with one another.

Many changes may be made in the mere details of construction without departing from the spirit of my invention, the genus of which resides in the employment of two spring-cases adapted to receive springs and having their adjacent ends provided with projections and corresponding openings, whereby the projections on each casing may pass through the end of the other within the outer walls thereof, so that both springs are simultaneously compressed as the two spring-cases approach each other.

While I prefer to make the housings with the integral studs or teats N, it will be understood that in lieu of such construction the lugs J may be formed with a central bolt-

hole and the carry-bars and lugs connected by short bolts and that in some cases both the studs and bolt-holes may be omitted from the lugs of the cheek-plates or housings and the flange M made sufficiently strong to constitute a support for the ends of the carry-bars.

Having described the construction and operation of my improved draft-rigging, what I claim as new, and desire to secure by Letters Patent, is—

1. In a tandem draft-rigging, in combination with the draw-bar and yoke and with housings adapted to be secured to the draft-timbers and provided with central and end stops, two spring-cases adapted to receive springs, and having one end closed to constitute an integral follower and the opposite end provided with longitudinal projections and corresponding intermediate gates or openings, and provided also with lateral shoulders adapted to contact with the central stops on the housings substantially as and for the purposes hereinbefore set forth.

2. In combination with the housings adapted to receive the spring-cases, springs and draw-bar yoke, and provided with a central lug depending from the lower edge and having a central bolt-hole therein and two end lugs having a central stud partially surrounded by an annular flange, carry-bars provided with central and end bosses having holes or channels therein to receive a central secur-

ing-bolt, and the studs on the housings respectively, substantially as and for the purpose hereinbefore set forth.

3. In a tandem draft-rigging attachment, in combination with the draw-bar and yoke and with housings adapted to be secured to the draft-timbers, two spring-cases closed at their outer ends to constitute integral end followers, and provided at their adjacent ends with longitudinal projections adapted to enter corresponding gates or openings in the ends of each to press simultaneously upon springs within the respective cases, substantially as and for the purpose set forth.

4. In combination with the housings adapted to receive spring-cases, springs and draw-bar yoke, and provided with a central depending lug having a central bolt-hole therein, and two depending end lugs formed with a partial flange; carry-bars provided with a central boss adapted to receive a securing-bolt, and with two end bosses adapted to enter within the flanged end lugs of the housings, substantially as and for the purpose set forth.

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

THOMAS L. McKEEN.

Witnesses:

REUBEN KOLB,
ALICE FENICLE.