

No. 610,095.

Patented Aug. 30, 1898.

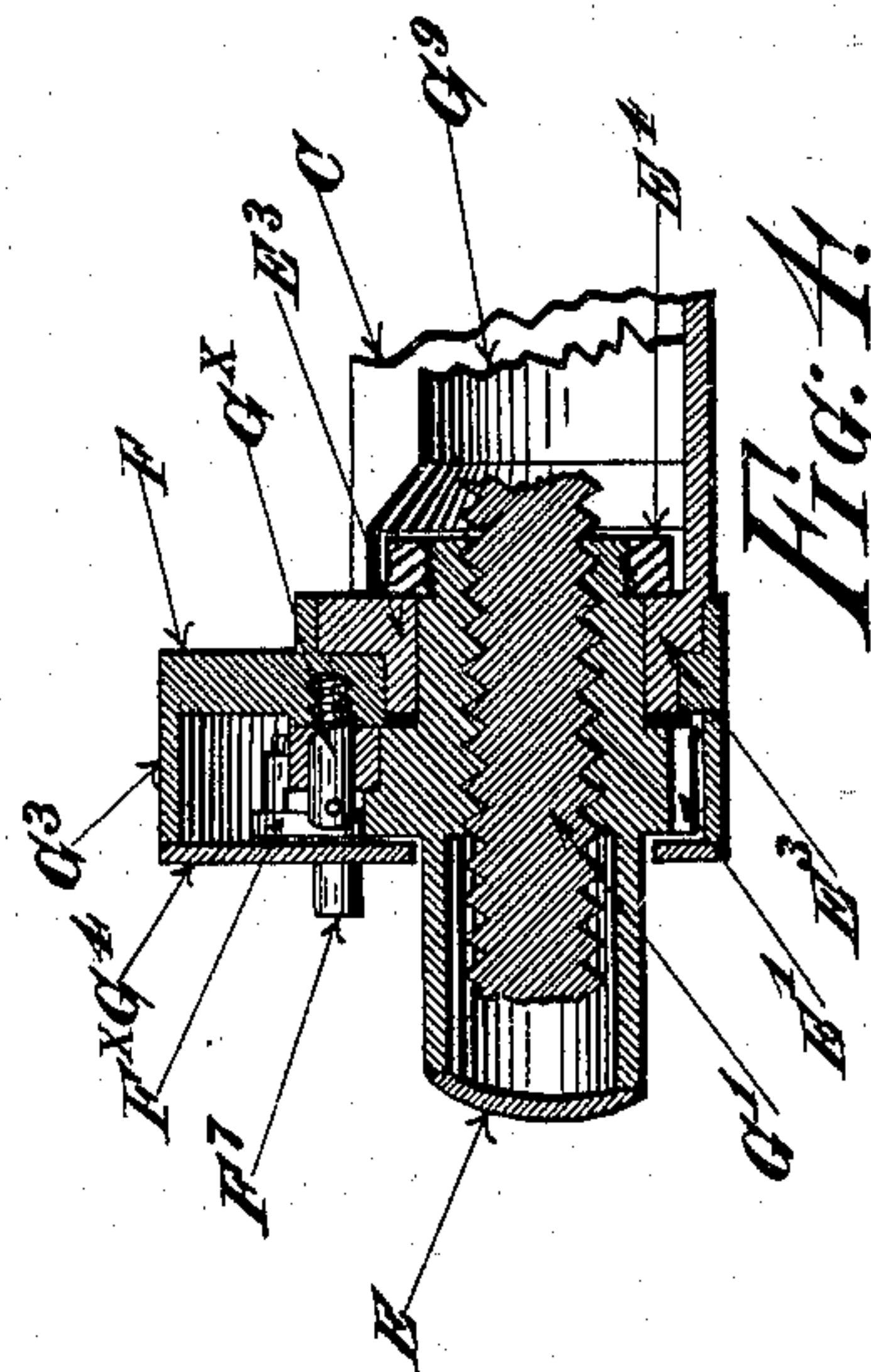
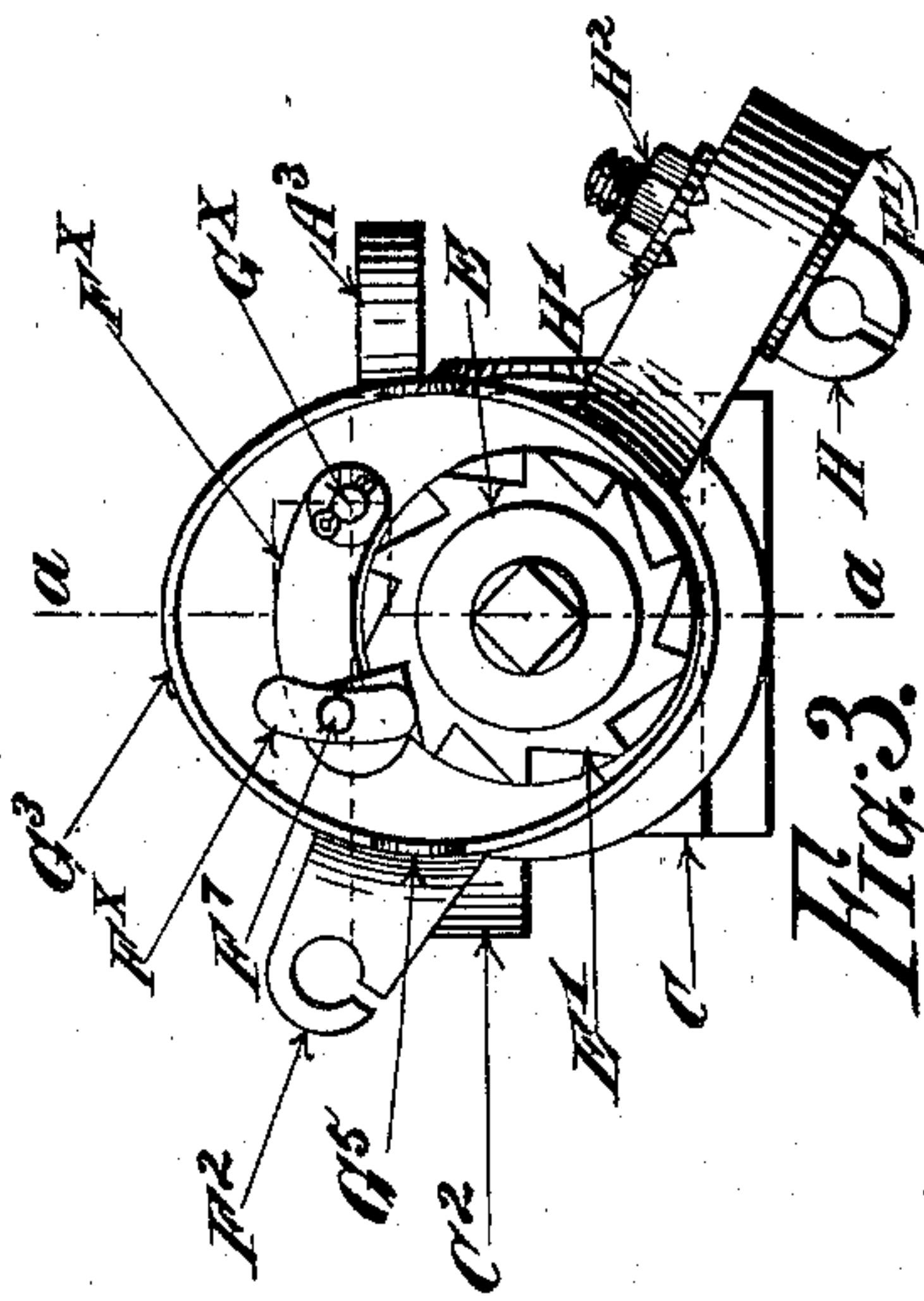
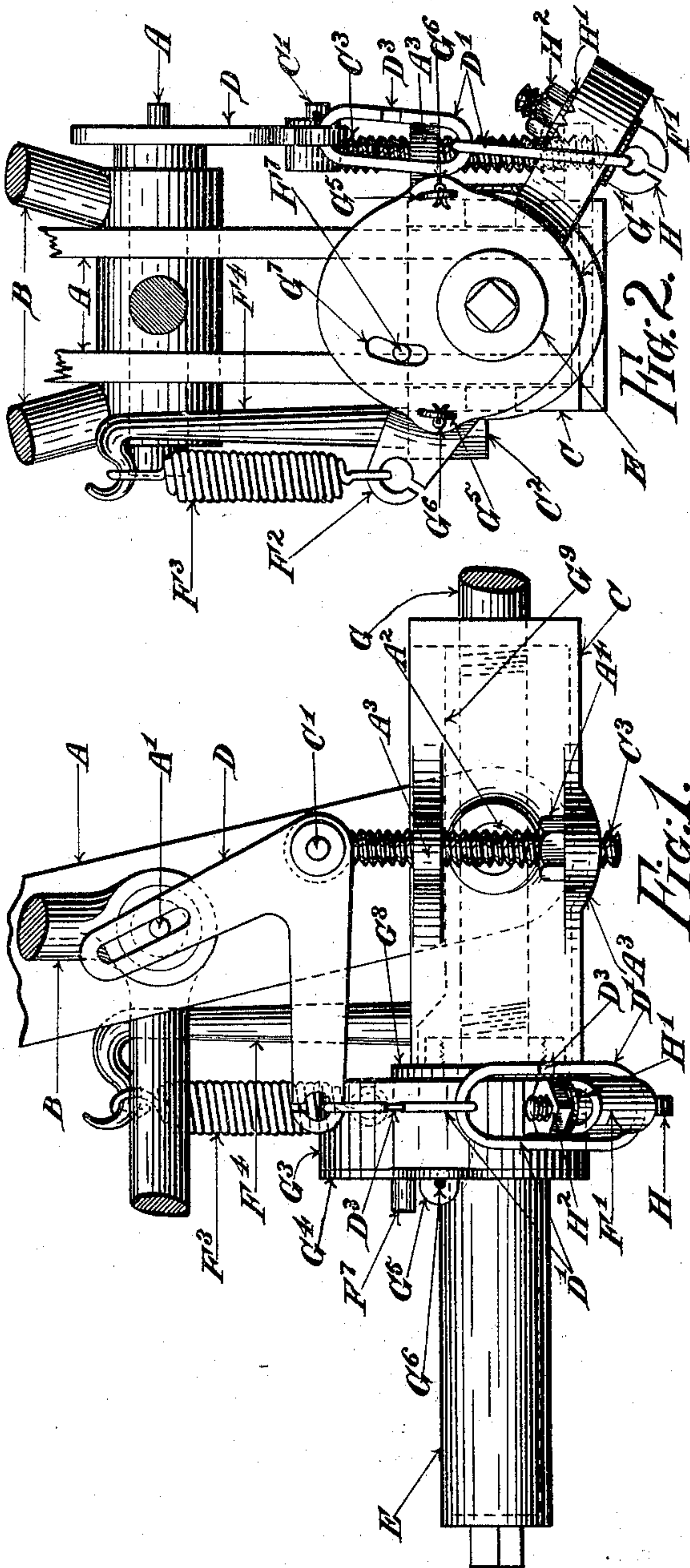
F. W. SELLEY & W. H. NISBET.

SLACK ADJUSTER.

(Application filed Sept. 2, 1897.)

(No Model.)

2 Sheets—Sheet I.



Witnesses

W. H. Nisbet
Geo. H. Rea.

Inventors

Frederick W. Selley
William H. Nisbet
James L. Norris

No. 610,095.

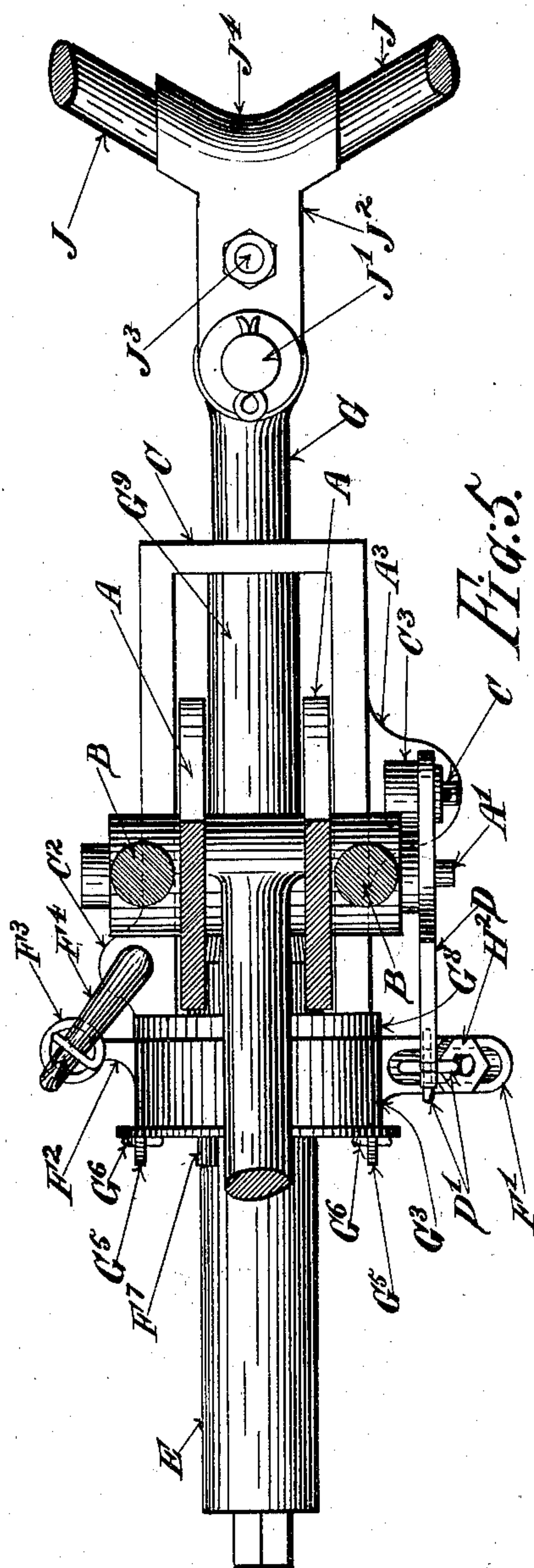
Patented Aug. 30, 1898.

F. W. SELLEY & W. H. NISBET.
SLACK ADJUSTER.

(Application filed Sept. 2, 1897.)

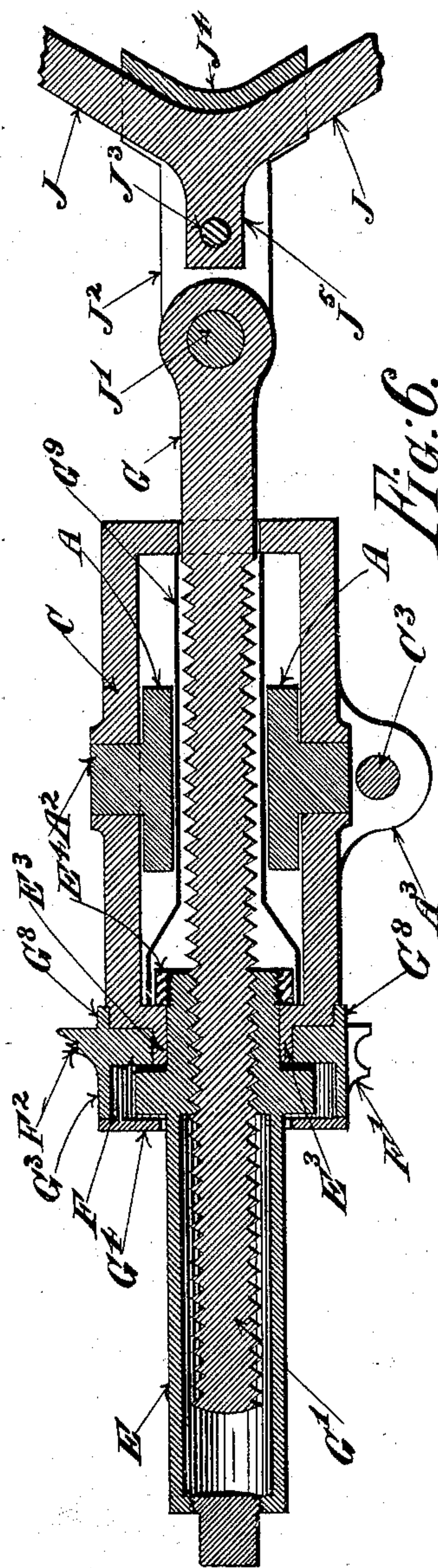
(No Model.)

2 Sheets—Sheet 2.



Witnesses

J. B. Keefe
Geo. W. Rea.



Inventors

Frederick W. Selley
William H. Nisbet
James L. Norris

UNITED STATES PATENT OFFICE.

FREDERICK WILLIAM SELLEY, OF ENMORE, AND WILLIAM HOLMES NISBET,
OF SYDNEY, NEW SOUTH WALES.

SLACK-ADJUSTER.

SPECIFICATION forming part of Letters Patent No. 610,095, dated August 30, 1898.

Application filed September 2, 1897. Serial No. 650,397. (No model.)

To all whom it may concern:

Be it known that we, FREDERICK WILLIAM SELLEY, engineer, residing at Enmore, near Sydney, and WILLIAM HOLMES NISBET, engineer, residing at Martin Place, Sydney, in the British Colony of New South Wales, subjects of the Queen of Great Britain, have invented new and useful Improvements in Slack-Adjusters for Brake-Gears of Railway Rolling-Stock, of which the following is a specification.

This invention relates particularly to certain improvements in this kind of slack-adjusters for brake-gears of railway rolling-stock for and in respect of which we have obtained Letters Patent in the United States of America, dated the 23d day of March, 1897, and numbered 579,369.

These present improvements consist, first, in combining together as one integer the pawl-actuating rocking lever and a cover or box for the pawl and for the ratchet-nut on the pull-rod-screw connection; secondly, in the particular combination of said rocking-lever pawl and ratchet-nut with the pull-rod screw and with the nut-box or bridle; thirdly, in the substitution for the fixed fulcrum or pivot for the bell-crank lever or adjusting-lever of an adjustable pivot or fulcrum, whose distance from the nut-box or bridle may be altered or adjusted quickly and easily, so that the slack-adjuster may be made to standard sizes and adjusted to suit different brakes; fourthly, in the substitution for a fixed attachment on the rocking lever for the links or cord from the bell-crank or actuating lever of an adjustable attachment, whose distance from the center may be quickly and easily altered, so as to facilitate such adjustment, as beforementioned, to different brakes; fifthly, in the combination and arrangement, with the combined lever and pawl-box and a cover therefor, of a trying pintle or pin on the pawl, and, sixthly, in the peculiar combination or joint connection of the screw pull-rod with the brake truss or beam, so that said truss or beam will centrally articulate and so adapt itself as to give equal pressure on either side of the vehicle, no matter to what extent the brake-blocks may be worn; but in order that

this invention may be clearly understood reference will now be made to the drawings herewith, in which—

Figure 1 is a side elevation, and Fig. 2 an end elevation, of a brake-gear slack-adjuster constructed according to these present improvements. Fig. 3 is a view of part of Fig. 2 with the cover of the rocking-lever pawl-box removed. Fig. 4 is a partial sectional elevation of the rocking-lever pawl-box on the line *a a*, Fig. 3. Fig. 5 is a plan of this slack-adjuster, and Fig. 6 is a central horizontal section of same.

The various parts and their functions will be now pointed out with the aid of distinguishing letters as set out in the former patent referred to, and then those parts which form these present improvements will be further described.

The double brake-lever A is geared or connected to the piston-rod of the cylinder of a pressure or other brake. The suspension-rods B carry the fulcrum-pin A' of said lever A, whose lower ends have connection to the nut-box or bridle C, which carries female screw or nut E, adapted to be revolved, as hereinafter described. This nut-box or bridle receives the screwed end G' of pull-rod G, which has rain and dust cover G⁹ and is articulated to the end or bight of the brake truss or beam J. The lower ends of double brake-lever A have each of them an outwardly-pointing pin or pintle A², which fits orifices about midway of the length of the box C, which thus insures that said box C partakes of the same motion as the lower part of said lever A. Connected to said box C and to the fulcrum-pin A' of said lever A is a bell-crank D, whose upper end is slotted and takes on said fulcrum-pin A', whose angle has a fulcrum on the pin C', supported by box C, and whose other end is linked by links D' to end F' of a double-ended rocking lever, whose other end F² is connected, by means of spring F³, to hook stanchion or support F⁴, taking in socket C² on box C, (or said end F² might be resiliently connected to the underframing of the vehicle.) The boss F of this double-ended rocking lever rides in or on journal E³ on end of box or bridle C, and it is enlarged

and forms a cavity or pawl-box G^3 . The nut or female screw E , which is screwed upon the pull-rod G of the brake truss or beam J , is retained in place in nut-box or bridle C free to revolve by means of journal E^3 and screw-nut E^4 , fitting behind said journal. The pawl F^x is carried by said lever F in the pawl-box G^3 and engages with ratchet E' around the nut E . Now in operation the brake-lever A , moving on fulcrum A' in suspension-rods B in applying the brakes, will, if there be any slackness in the connections caused by wear of the brake-blocks or otherwise, so move the position of fulcrum A' relative to nut-box C and pin C' as to give motion to bell-crank lever D , causing it, by means of links D' , to rock the double-ended rocking lever F against the resilient force of spring F^3 . The pawl F^x is thus caused to travel backwardly over one or more of the teeth of ratchet E' , so that when the brake is released said spring F^3 , returning the lever F' to its normal position, said pawl F^x will partially revolve nut E on the screw of the pull-rod G and so shortening the length of the pull-rod will adjust or take up the slack of the connections.

It will be seen that the lever F is constructed integral with the pawl-box G^3 , which has circular periphery and which has a cover G^4 , said latter being kept in position by split pins G^6 , through lugs or pintles G^5 , and having a slot G^7 , through which protrudes a handle or pin F^7 from the pawl F^x , so that the pawl may be tested and be actuated by hand, when desired. The said pawl F^x is carried by said box G^3 on pin or stud G^x .

The ratchet-nut E' passes through the head of box or bridle C , screwing on screw G' of rod G , and it is kept in position by nut E^4 on its end. The box G^3 fits over the end of bridle C , with a lap, as at G^8 , for keeping out dust and is also held in its position by the screwing up of the nut E^4 .

The fulcrum or pin C' is carried on the end of screw C^3 , which passes through two female screws in lugs A^3 and has a jam-nut A^4 , so that upon loosening said nut A^4 and revolving the screw C^3 the position of said fulcrum or pin C' would be adjusted as desired.

The links D' have slotted parts D^3 , which will pass through the jaws of the attachments while the other parts will not, and thus these links are secured against danger of being misplaced or lost. The attachment H takes through a slot in the end F' of the rocking-lever pawl-box and is adjustable by reason of the corrugated surface, into which a rib or ribs on its washer H' may be tightly fastened by screw-nut H^2 . Said corrugations and the rib or ribs might of course be on the jaw side of the attachment instead of on the nut side.

The pull-rod G is articulated to the brake-truss J by a joint-pin J' . The rod G terminates in a knuckle-joint on pin J' to a yoke J^2 , which takes around the bight or angle J^4

of the beam or truss connection J to the brake-blocks, which angle-piece J^4 is fastened by pin J^3 by its tail J^5 through the yoke J^2 . It will be seen that the articulation and specially having the two joint-pins will allow the beam or truss J to adapt itself to any inequalities of its resistance when the brake is applied.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is—

1. In a brake-gear slack-adjuster, the combination with suspension-rods and the brake-lever fulcrumed thereon, of the nut-box or bridle carried by the brake-lever, a threaded pull-rod passing through said nut-box or bridle and connected to the brake-beam, a nut engaging the threaded end of the pull-rod and having formed thereon a ratchet, a rocking lever fulcrumed on the end of the nut-box or bridle and having formed integrally therewith a box or casing inclosing said ratchet-nut, a removable cover for said box or casing, a pawl pivoted in said box and engaging said ratchet, a pivoted bell-crank lever movably connected at one end to the fulcrum of the brake-lever and at its other end to one end of the rocking lever, and a spring attached to the other end of the rocking lever and operating to rock said lever in a direction opposite to the bell-crank lever, substantially as described.

2. In a brake-gear slack-adjuster, the combination with suspension-rods and the brake-lever fulcrumed thereon, of the nut-box or bridle carried by the brake-lever, a threaded pull-rod passing through said nut-box or bridle and connected to the brake-beam, a nut engaging the threaded end of the pull-rod and having formed thereon a ratchet bearing against the end of the nut-box or bridle, a rocking lever fulcrumed on the end of the nut-box or bridle and provided with a pawl engaging said ratchet, a screw adjustably threaded in supports carried by the nut-box or bridle, a bell-crank lever pivoted upon the upper end of said screw, said bell-crank lever being movably connected at one end to the fulcrum of the brake-lever and at its other end connected to one end of the rocking lever, and a spring attached to the other end of the rocking lever and operating to rock said lever in a direction opposite to the bell-crank lever, substantially as described.

3. In a brake-lever slack-adjuster, the combination with suspension-rods and the brake-lever fulcrumed thereon, of a nut-box or bridle carried by the brake-lever, a threaded pull-rod passing through said nut-box or bridle and connected to the brake-beam, a nut engaging the threaded end of the pull-rod and having formed thereon a ratchet bearing against the end of the nut-box or bridle, a rocking lever fulcrumed on the end of the nut-box or bridle and having formed integrally therewith a box or casing inclosing

said ratchet, a pivoted pawl arranged in said box and in engagement with said ratchet, a pin carried by said pawl and projecting through a curved slot in the cover of the box, 5 a pivoted bell-crank lever carried by the nut-box or bridle and movably connected at one end to the fulcrum of the brake-lever and connected at its other end to one end of the rocking lever, and a spring operating to rock the rocking lever in a direction opposite to the bell-crank lever, substantially as described.

Dated this 17th day of June, 1897.

FREDERICK WILLIAM SELLEY.
WILLIAM HOLMES NISBET.

Witnesses:

FRED WALSH,
A. W. NEAL.