

No. 622,067.

Patented Mar. 28, 1899.

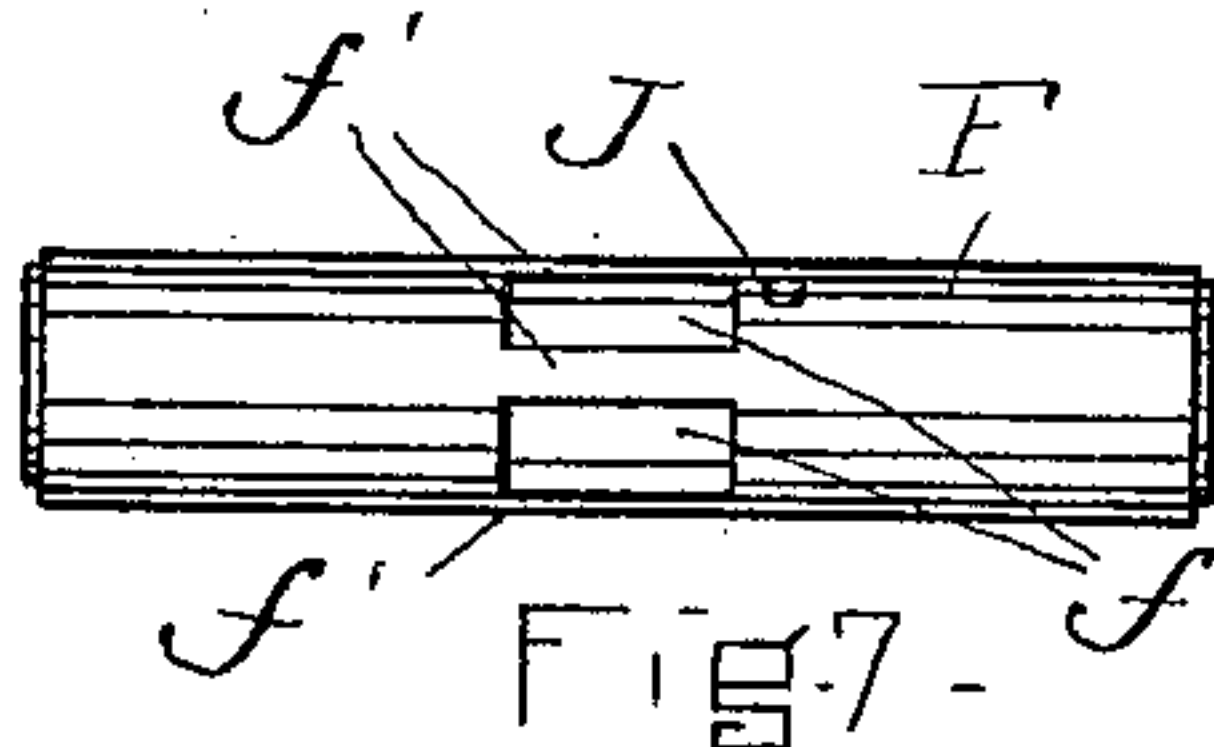
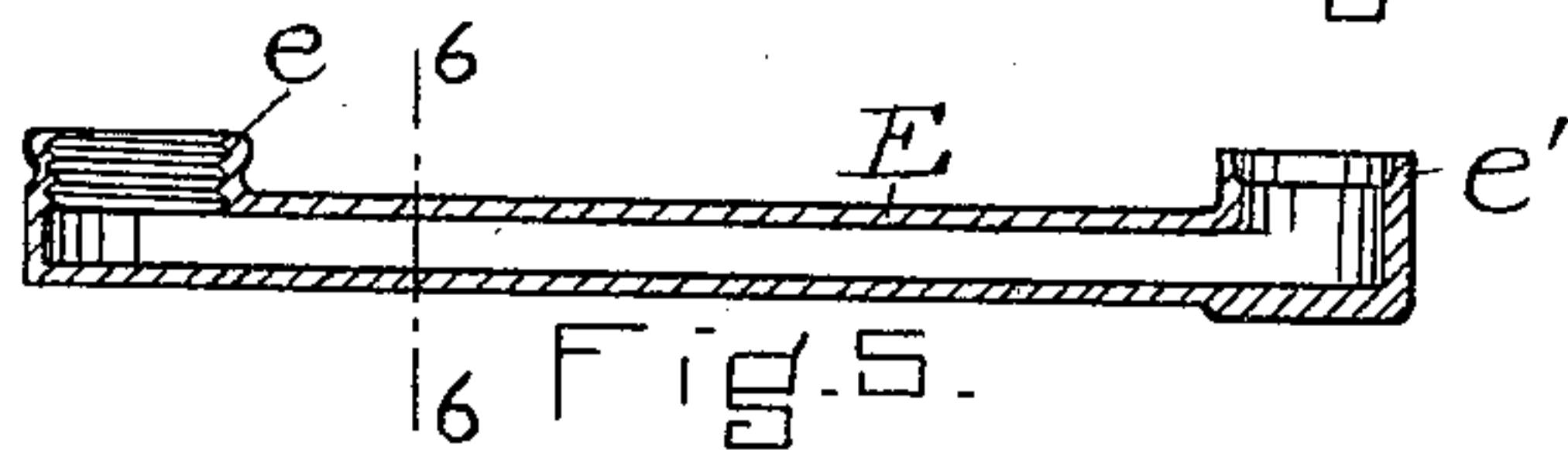
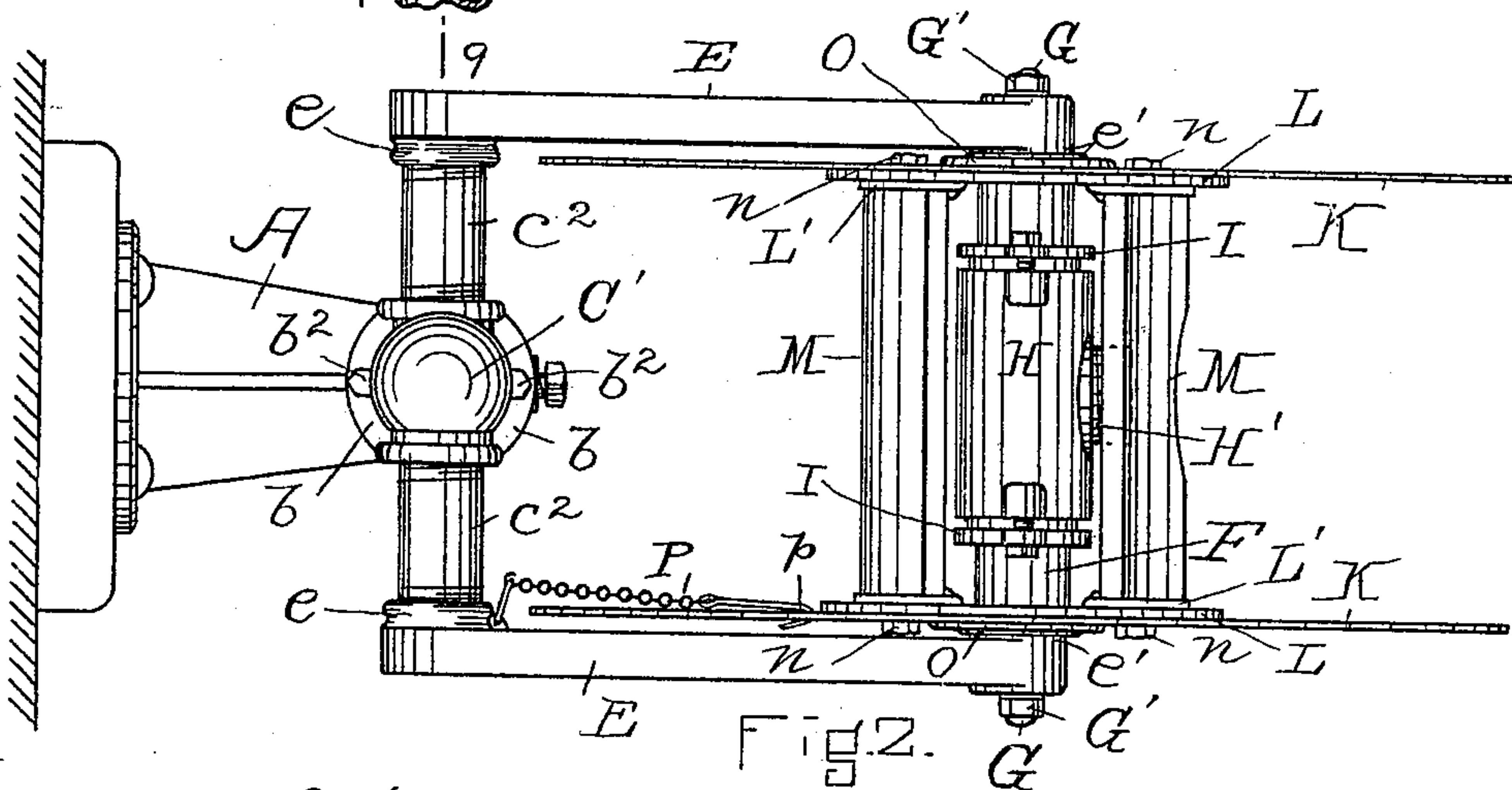
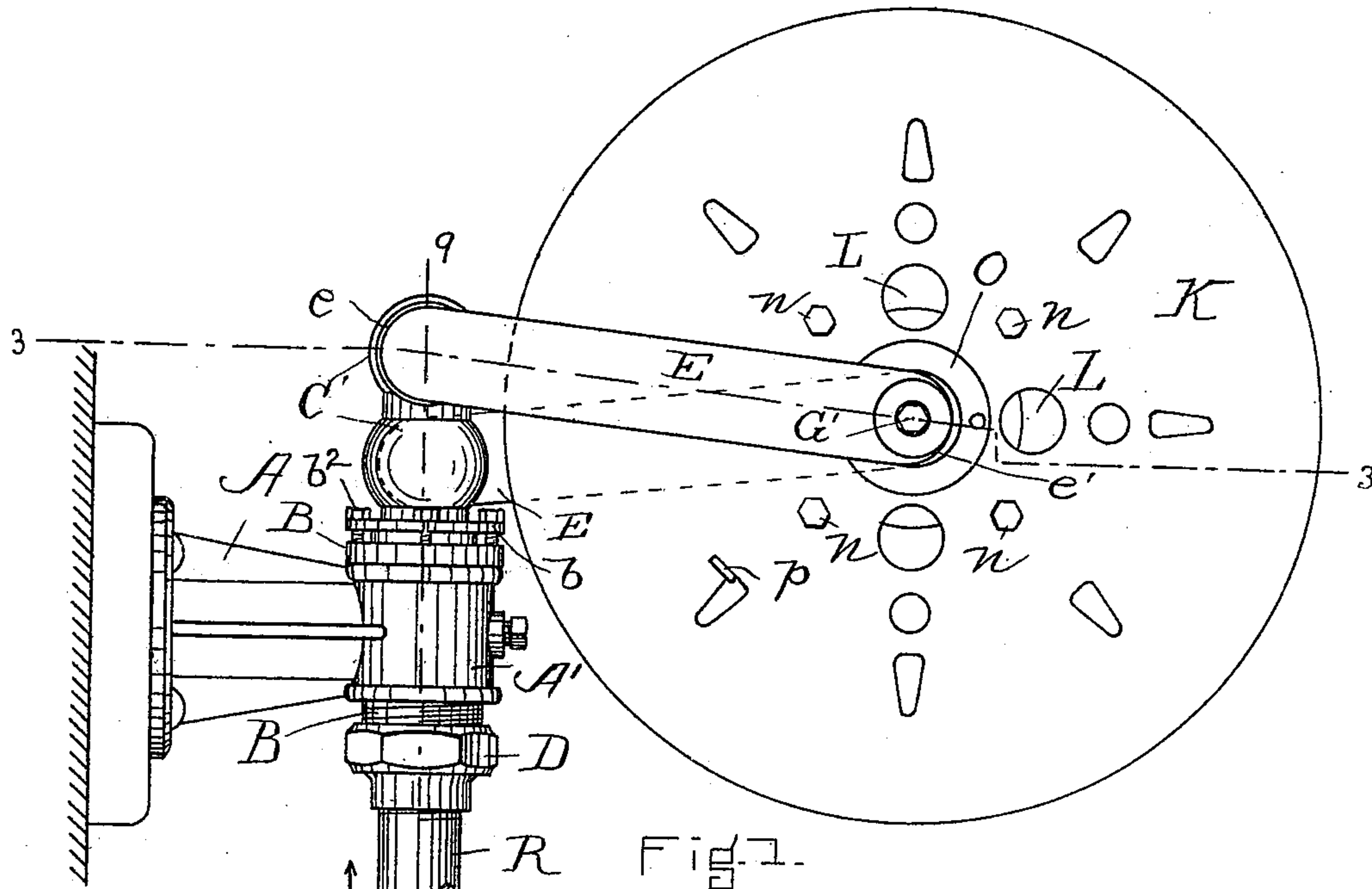
J. S. PATTERSON.

FIRE HOSE REEL.

(Application filed Jan. 29, 1898.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES.

Matthew M. Blunt.
George J. Butterfield

FIG. 6 INVENTOR.

John S. Patterson
by A. H. Fenner

ATTY.

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2 Sheets—Sheet 2.

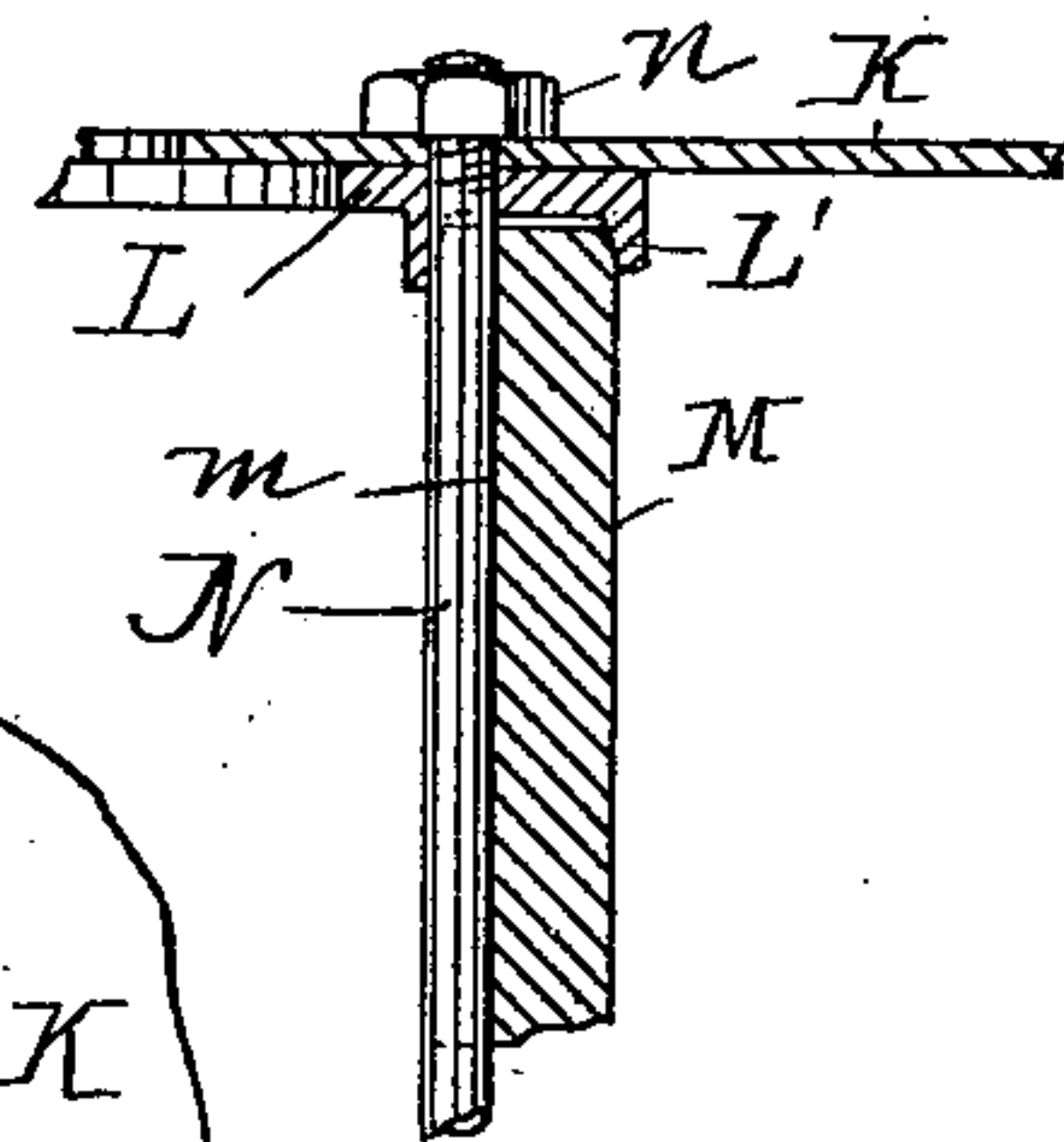
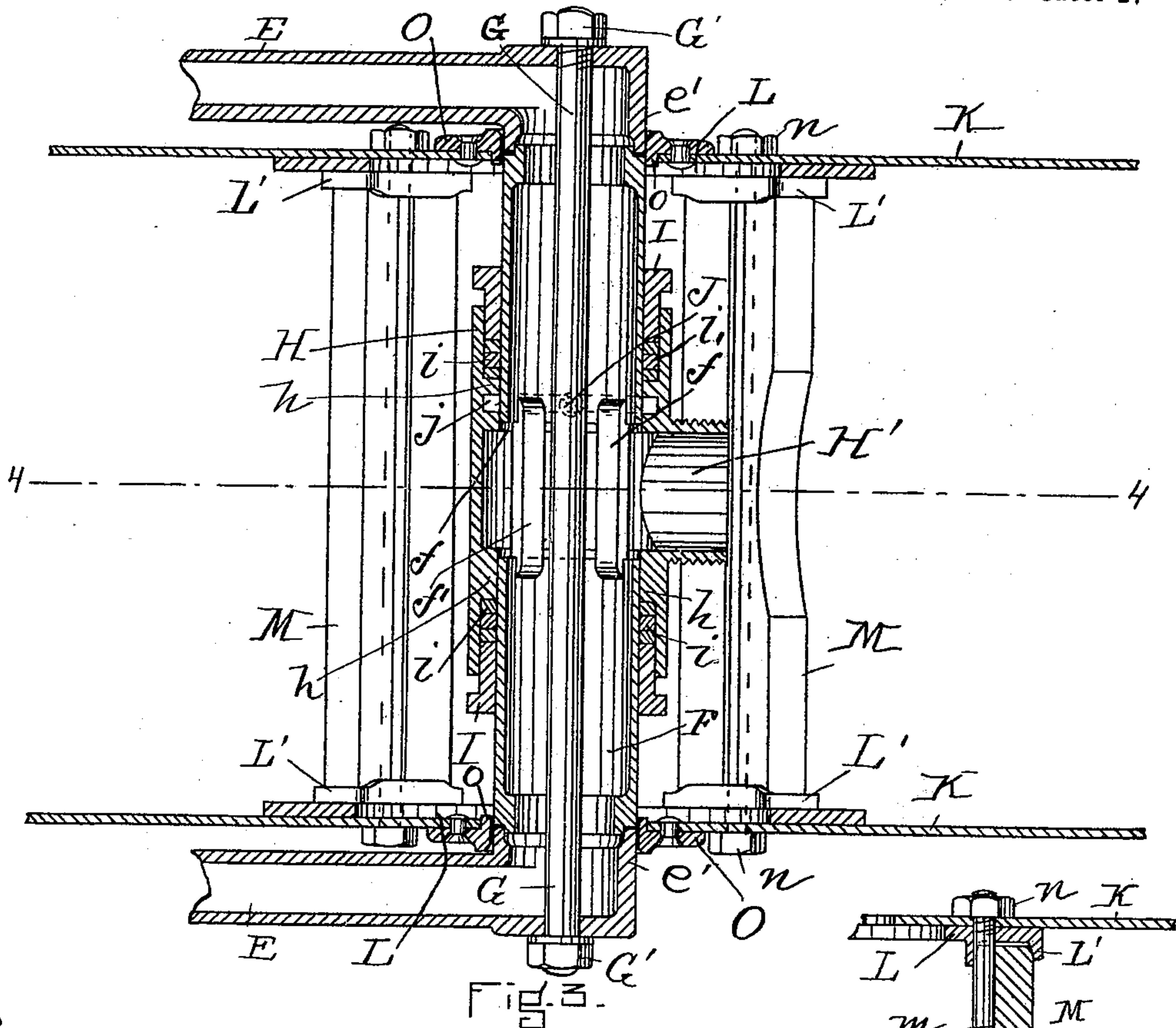


Fig. 8.

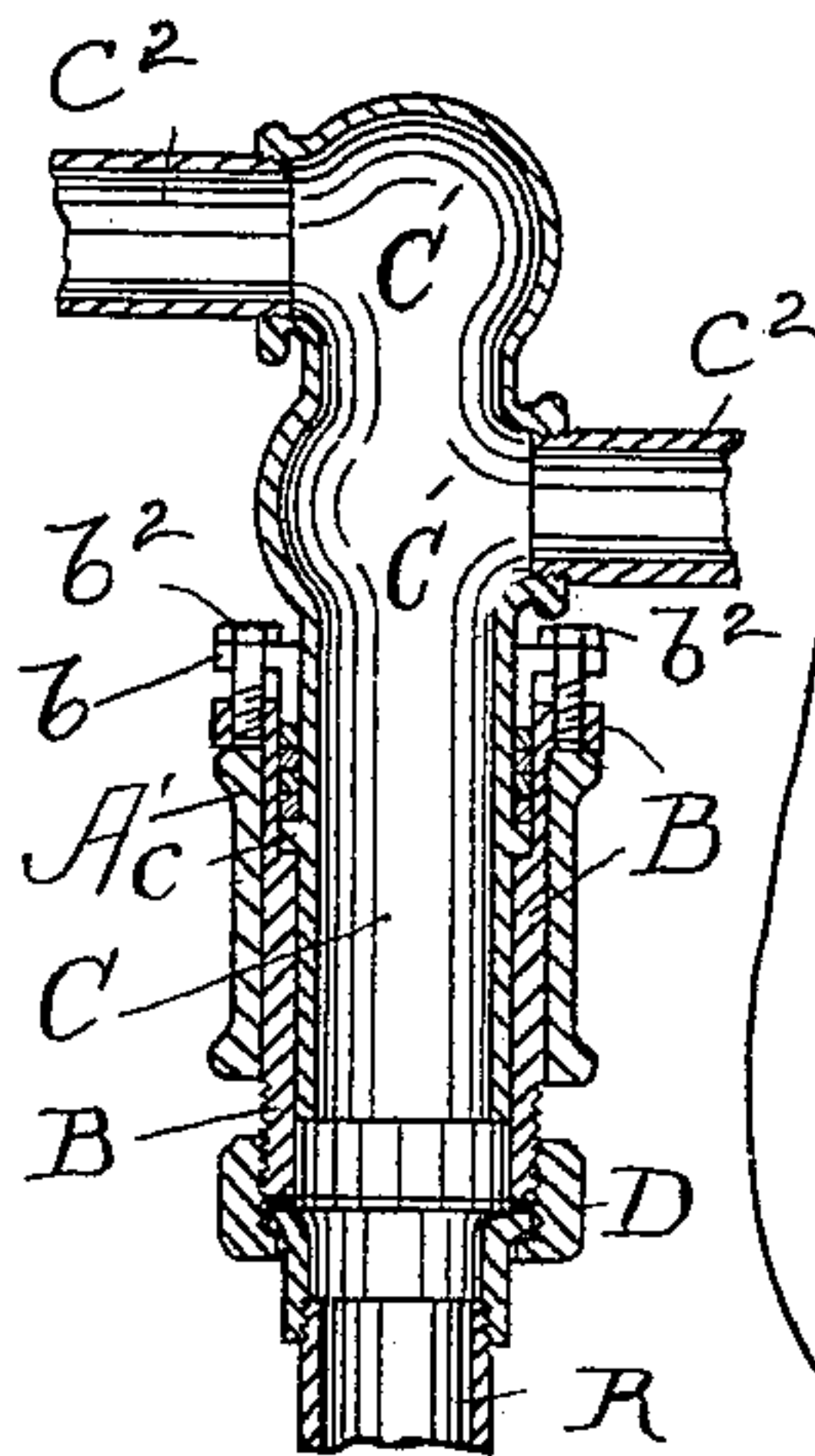


Fig. 9.

WITNESSES.

Matthew M. Blunt.
George F. Butterfield

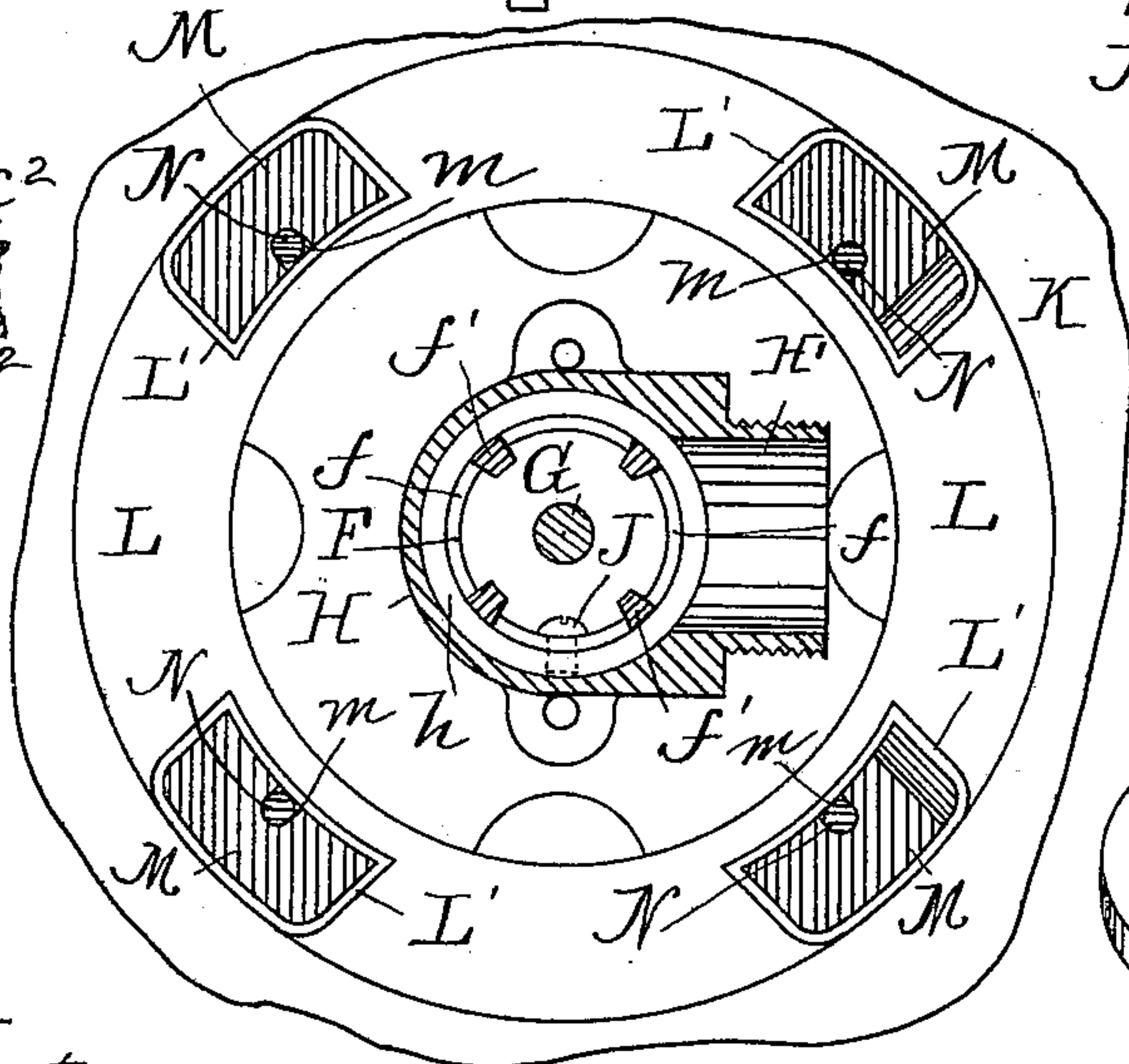


Fig. 4.

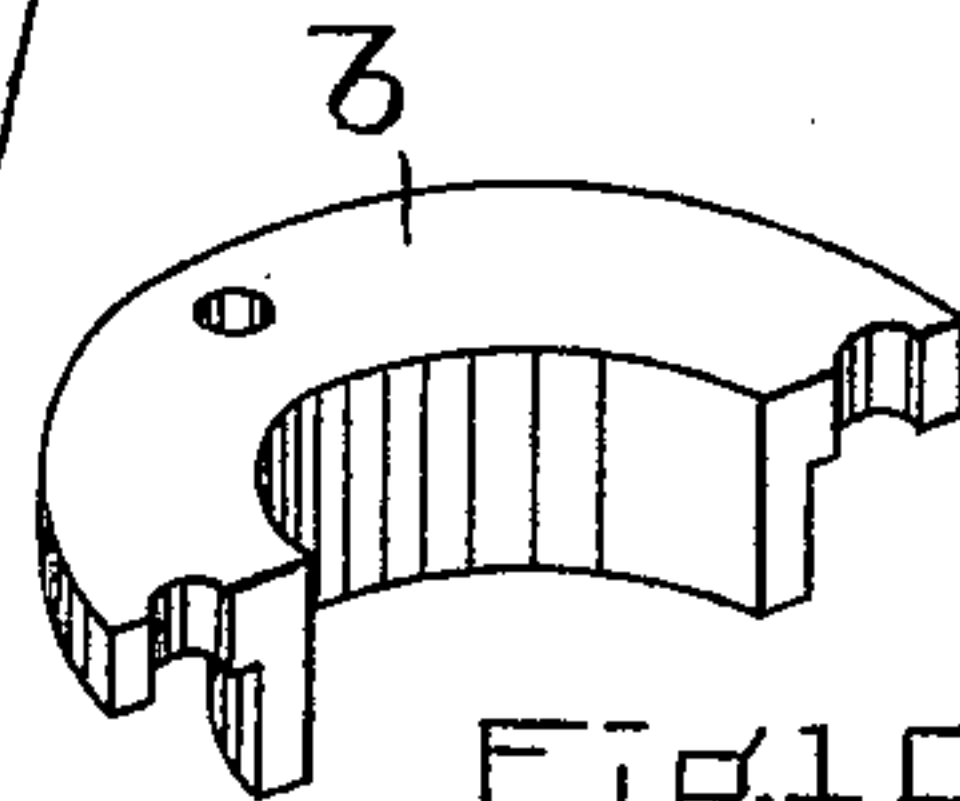


Fig. 10.
INVENTOR.

John S. Patterson.
by A. H. Fennell.
ATTY.

UNITED STATES PATENT OFFICE.

JOHN S. PATTERSON, OF CHELSEA, MASSACHUSETTS, ASSIGNOR TO THE
REVERE RUBBER COMPANY, OF BOSTON, MASSACHUSETTS.

FIRE-HOSE REEL.

SPECIFICATION forming part of Letters Patent No. 622,067, dated March 28, 1899.

Application filed January 29, 1898. Serial No. 668,401. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. PATTERSON, a citizen of the United States of America, and a resident of Chelsea, Suffolk county, Massachusetts, have invented certain new and useful Improvements in Fire-Hose Reels, of which the following is a specification.

This invention relates to hose-reels of the class adapted to be mounted within buildings and supplied with hose permanently connected with a water-supply; and it is in the nature of improvement upon the apparatus shown in the patents of William T. Y. Schenck, No. 416,863, dated December 10, 1889, and No. 446,745, dated February 17, 1891, my objects being to simplify such reels, render them more compact, lessen their weight, and reduce the number of parts and the cost of manufacture, as well as the liability to get out of order.

In the Schenck patents the reel apparatus supported on a fixed bracket swings from side to side in a stuffing-box connection with a branch of the stand-pipe which supplies the water, and the reel proper, having a stuffing-box sleeve with threaded lateral stem to which the hose is always coupled, revolves freely around aligned pipe-sections within said sleeve and connected tubularly with the water-supply. My primary improvements relate to these tubular connections and consist in a continuous vertical stem integral with a doubly-offset hollow head having diverging arms, the sleeve in which said stem turns being connected to the stand-pipe branch by a union-coupling, also in flattened tubular side arms made continuous—that is, without joint or interposed coupling between the points where the axial pipe and the water-supply pipes enter said side arms at the inner face of their respective ends. The axial water-pipe is a continuous tube of uniform external diameter thickened internally at its ends, where it fits into integral sockets at the extremities of the flat side arms, the central portion of said tube having radial openings for water-passage between its thickened longitudinal ribs, while the surrounding stuffing-box sleeve has an inwardly-extending ring bearing on said tube at each side of such openings to support the packing, one of said rings

having an internal annular groove to receive the tip of a radial screw extending from within said tube outwardly into said groove to hold the sleeve in its rotation centrally upon the tube.

Other novel features are stout sheet-metal side disks for the reel, provided on their inner faces with metallic rings having aligned sockets to receive and hold the ends of the several reel-bars, together with metallic tie-rods running through longitudinal grooves or perforations in the several reel-bars and extending through said rings and disks, with tightening-nuts on their extremities, also a flexible or frangible hook or like device engaging the disk to prevent premature uncoiling of hose, but adapted to yield under slight strain without unfastening in case of fire.

In the drawings, Figure 1 is a side elevation, and Fig. 2 a top plan, of one of the improved reels shown mounted in position for use. Figs. 3 and 4 are sections, on an enlarged scale, taken, respectively, on line 3 3 of Fig. 1 and line 4 4 of Fig. 3. Figs. 5 and 6 are longitudinal and transverse sections of the flattened side arm. Fig. 7 is a plan of the axial tube of the reel proper, and Fig. 8 a detail section of the reel-bar support. Fig. 9 is a vertical section through the supporting-bearings, showing the integral head and stem; and Fig. 10 represents the semicircular gland.

A represents the wall-bracket or other support for the apparatus, and A' the hollow extremity thereof, forming an open socket to receive and support the flanged sleeve B of a stuffing-box connected by a union-coupling D with a branch of the stand-pipe. C is the continuous tubular stem or vertical axis of the reel, having a partial rotation in and water-tight connection with such sleeve B. Said stem C has an outstanding collar c to support it in sleeve B and is formed integral with the doubly-offset hollow head C', from which extend in opposite directions the short pipe-sections c², either integral with or separate from said head C' and leading to right and left at different heights above said head, the side arms converging therefrom to a common plane, as they do in the Schenck patent, No. 446,745.

The coupling-nut D, Figs. 1 and 9, screws

upon the externally-threaded lower end of the flanged sleeve B, and the apparatus is thus united to the branch pipe or water-supply pipe R by a simple union-joint. Packing surrounds the tubular stem C above its collar *c* and within the recessed upper portion of the sleeve B. Such packing is compressed to form a water-tight joint by a peculiar gland *b b*, made in two semicircular parts, which may be introduced laterally and are forced down upon the packing by screw-bolts *b²* through marginal flanges.

The side arms E are flattened cast-metal tubes of equal capacity with the pipe-sections *c²*, and each arm has on its inner face, at one end, a threaded hub *e*, by which it is secured to its respective pipe-section *c²*. The outer end of each arm has on its inner face a plain circular hub *e'*, formed to exactly fit upon the end of the axial water-pipe F when the reel proper is introduced between said arms by springing their extremities slightly apart. The joints so formed will be suitably packed, if required. A tie-rod G extends axially through the pipe F, and tightening-nuts G' are screwed upon its threaded extremities where they protrude through the arms E. The axial water-pipe F, which thus connects the extremities of the two side arms E, is a continuous externally-cylindrical tube, preferably of a brass composition finished smoothly and thickened internally at its ends to permit making a rabbeted joint with the hubs *e'* of the side arms. The central portion of pipe F is formed with a series of openings *f* as water-passages between longitudinal bars *f'*, integral with the pipe and thickened internally, so as to connect the end portion of the pipe firmly and resist end pressure thereon without destroying its externally-cylindrical character.

The stuffing-box sleeve H, which surrounds the axial pipe F, has at each side of the openings *f* an internal ring or thickened portion *h* bearing upon said pipe, while the remainder of its interior is of greater diameter to afford annular space for the packing *i*, which is compressed against the rings *h* by the annular glands I, tightened thereon by screws through ears or flanges in the parts. (See Fig. 2.) To prevent longitudinal displacement of the sleeve H and permit its proper rotary movement with the reel around pipe F, I form an annular groove *j*, Fig. 3, in the inner face of one of the bearing-rings *h*, and I extend outwardly through the wall of pipe F a radial stud or screw J, the tip of which enters the groove *j* and holds the parts in the desired relation to each other. The sleeve H has midway of its length a lateral tubular stem H', externally threaded to permit the end coupling of the reel-hose to be screwed and permanently retained thereon during use of the apparatus. The screw J is readily introduced through this tubular stem and inserted by an ordinary screw-driver or a stud may be driven in.

The reel proper has certain novel features. It is composed of two broad sheet-metal disks K, preferably of steel, perforated at intervals for ornamentation and lightness and mounted on the pipe F at its outer ends, cast-metal rings L, fixed to the inner faces of said disks and formed with equidistant sockets L' opposite to each other, reel-bars M, preferably of wood, longitudinally grooved in their inner faces, as at *m*, and fitting endwise into the sockets L', and tie-rods N, occupying the grooves *m* in the reel-bars, extending endwise through the disks K within the raised outlines of the sockets and furnished terminally with nuts *n* to hold the various parts firmly together. To this list may be added smaller rings O, fixed to the outer faces of the disks and each formed with an annular flange *o*, extending through the central opening in the disk to bear upon the axial pipes F. Two of the reel-bars M are somewhat cut away in their adjacent edges about centrally, as indicated in Fig. 4, to facilitate attaching the hose (not shown) to the threaded stem H'. The stuffing-box H H' revolves with the reel around the axial pipe F in coiling and uncoiling the hose, which is permanently attached to the stem H'. A chain P is connected to one of the side arms E and terminates in a flexible wire hook *p*, engaging in one of the perforations of the disk K to prevent the premature uncoiling of the hose and yet allow it to be quickly extended in case of fire without stopping to unfasten it.

I claim as my invention—

1. In a hose-reel having a tubular, water-supplying frame, continuous, tubular side arms formed with integral terminal hubs without intermediate joint, in combination with water-supply pipes entering the inner end of said arms, a continuous cylindrical axial pipe connecting the outer end of said arms and having central water-passages therefrom, and a rotatable reel with central stuffing-box mounted on said axial pipe to receive water therefrom, substantially as set forth.

2. In a hose-reel, a tubular, water-supplying frame, comprising diverging water-supplying pipes, a continuous cylindrical axial delivery-pipe with a central lateral opening therefrom, and continuous, flattened tubular side arms respectively connecting the extremities of said supply-pipes to the axial delivery-pipe without other joint than at their ends, in combination with the hose-supporting reel mounted for rotation upon said delivery-pipe between said arms, substantially as set forth.

3. In a hose-reel having a tubular, water-supplying frame, a continuous, cylindrical, axial water-pipe around which the reel proper rotates, such pipe having lateral water-passages through its walls midway of its length, in combination with a stuffing-box sleeve surrounding said axial pipe and formed with a lateral tubular threaded stem for hose con-

nection and with inwardly-extending bearing-rings as an inner support for the packing, suitable packing and pressure glands being provided, substantially as set forth.

5 4. In a hose-reel having a tubular, water-supplying frame, the continuous, cylindrical, axial pipe F formed with central radial openings f through the walls and stout integral bars f' between them, and provided with a
10 radial stud or screw J fixed in and extending outwardly beyond the tube-wall, in combination with the tubular sleeve H surrounding pipe F, formed with the hose-connecting tubular stem H' and with inwardly-extending
15 rings h each side of the opening f , one of said rings being formed with an annular groove to receive the protruding tip of said stud or screw, substantially as set forth.

20 5. In a hose-reel having a tubular, water-supplying frame, the reel proper, comprising broad sheet-metal disks K and metallic rings L on the inner faces of said disks provided with equidistant sockets, in combination with reel-bars M fitting endwise in said sockets
25 and grooved longitudinally along their inner portions, and with tie-rods located in such grooves, extending through said rings and

disks, and having terminal heads or nuts outside of said disks, substantially as set forth.

6. In a hose-reel apparatus, the continuous 30 tubular stem C having a radial collar c midway of its length and, at its upper end, the doubly-offset hollow head C' integral with such stem and collar and provided with diverging pipes c^2 , in combination with the 35 bracket A supporting a flanged stuffing-box sleeve having a union-coupling at its lower end, and with the gland b serving to compress the packing around said stem C, substantially as set forth. 40

7. In a hose-reel apparatus, a flexible or frangible hook suitably secured to a fixed portion of the frame, arranged to engage a rotary part of the reel proper, and adapted to yield without previous unfastening when the 45 hose is required to be uncoiled instantly, substantially as set forth.

Signed by me, at Boston, Massachusetts, this 21st day of January, 1898.

JOHN S. PATTERSON.

Witnesses:

A. H. SPENCER,
R. P. ELLIOTT.