

G. ROBSON.

PLUG COCK.

APPLICATION FILED JUNE 25, 1910.

975,162.

Patented Nov. 8, 1910.

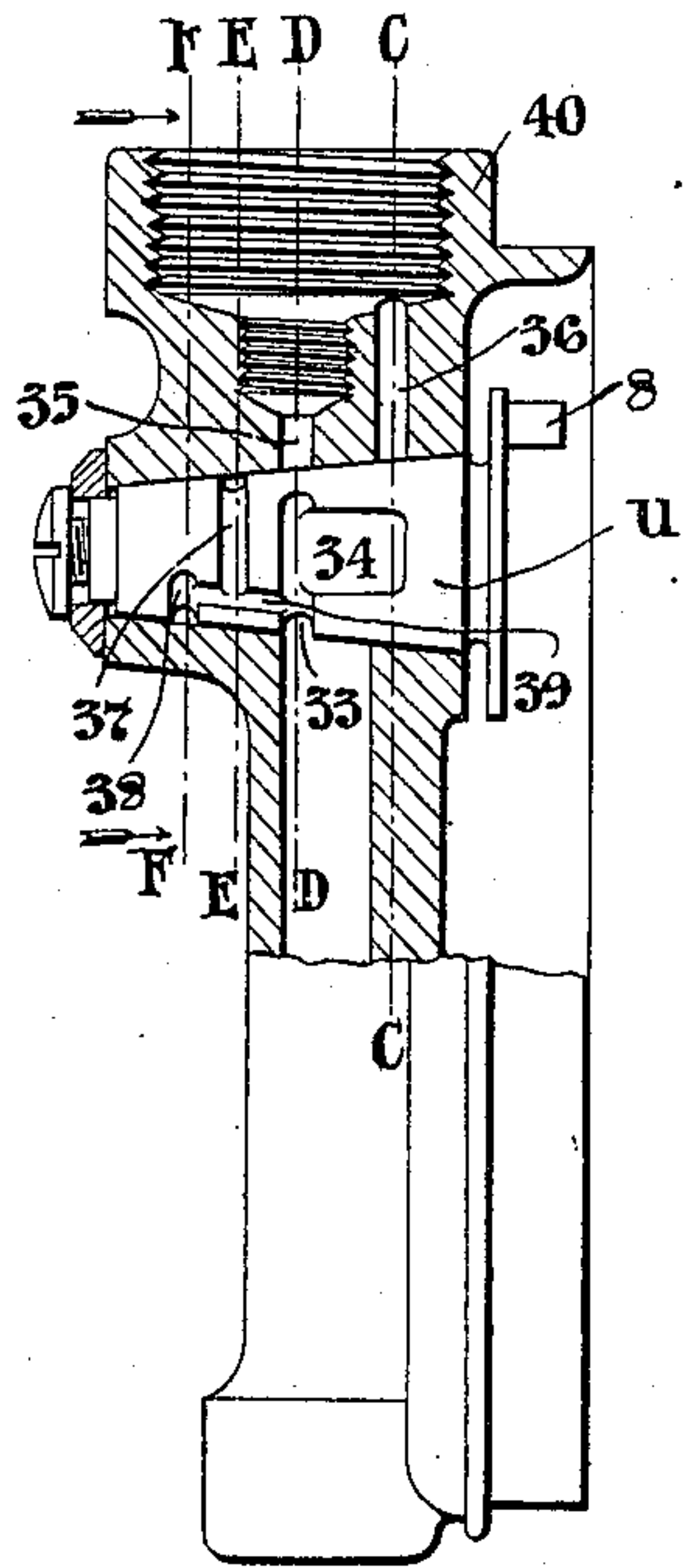


Fig. 1.

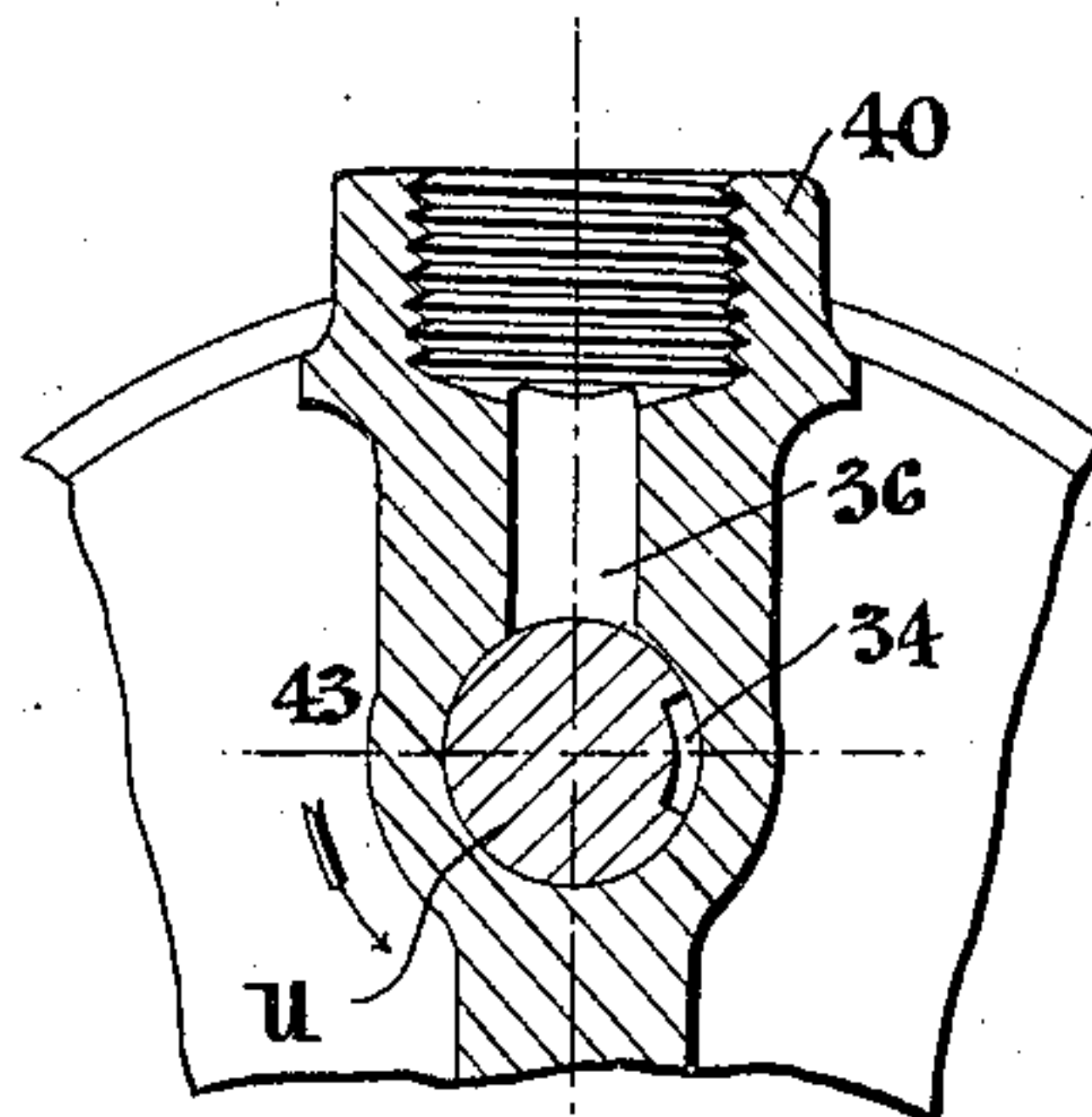


Fig. 2.

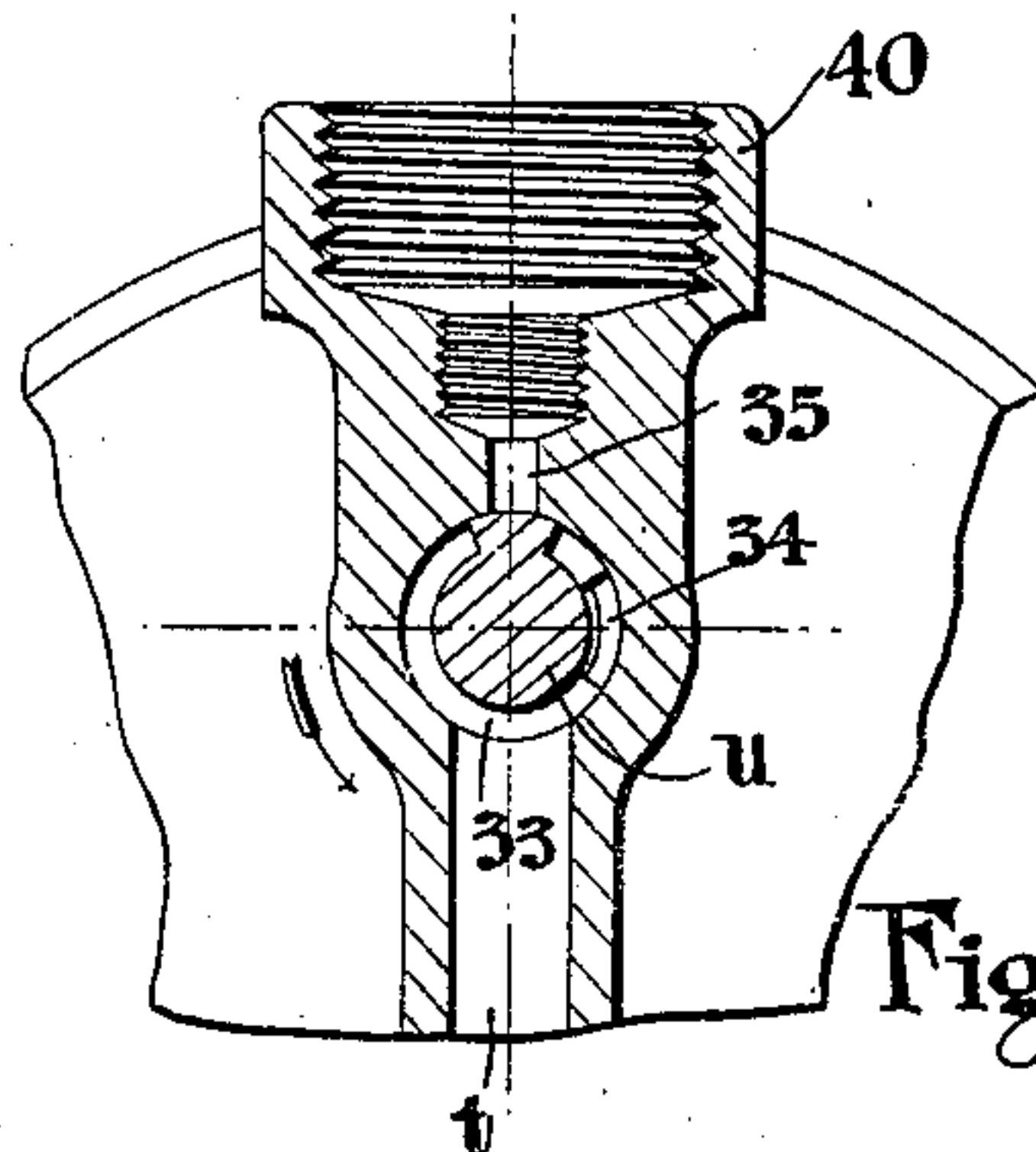


Fig. 3.

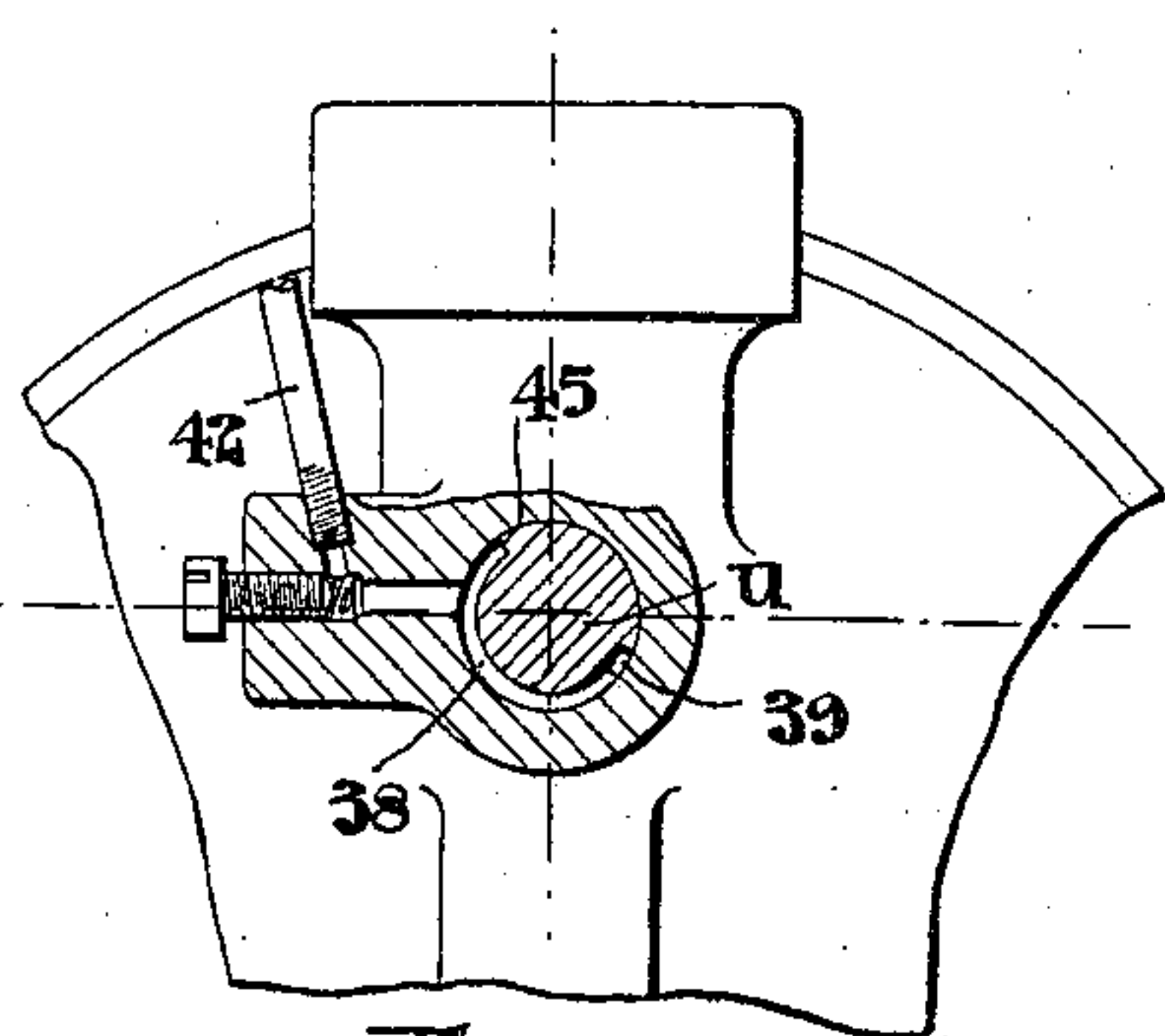


Fig. 5.

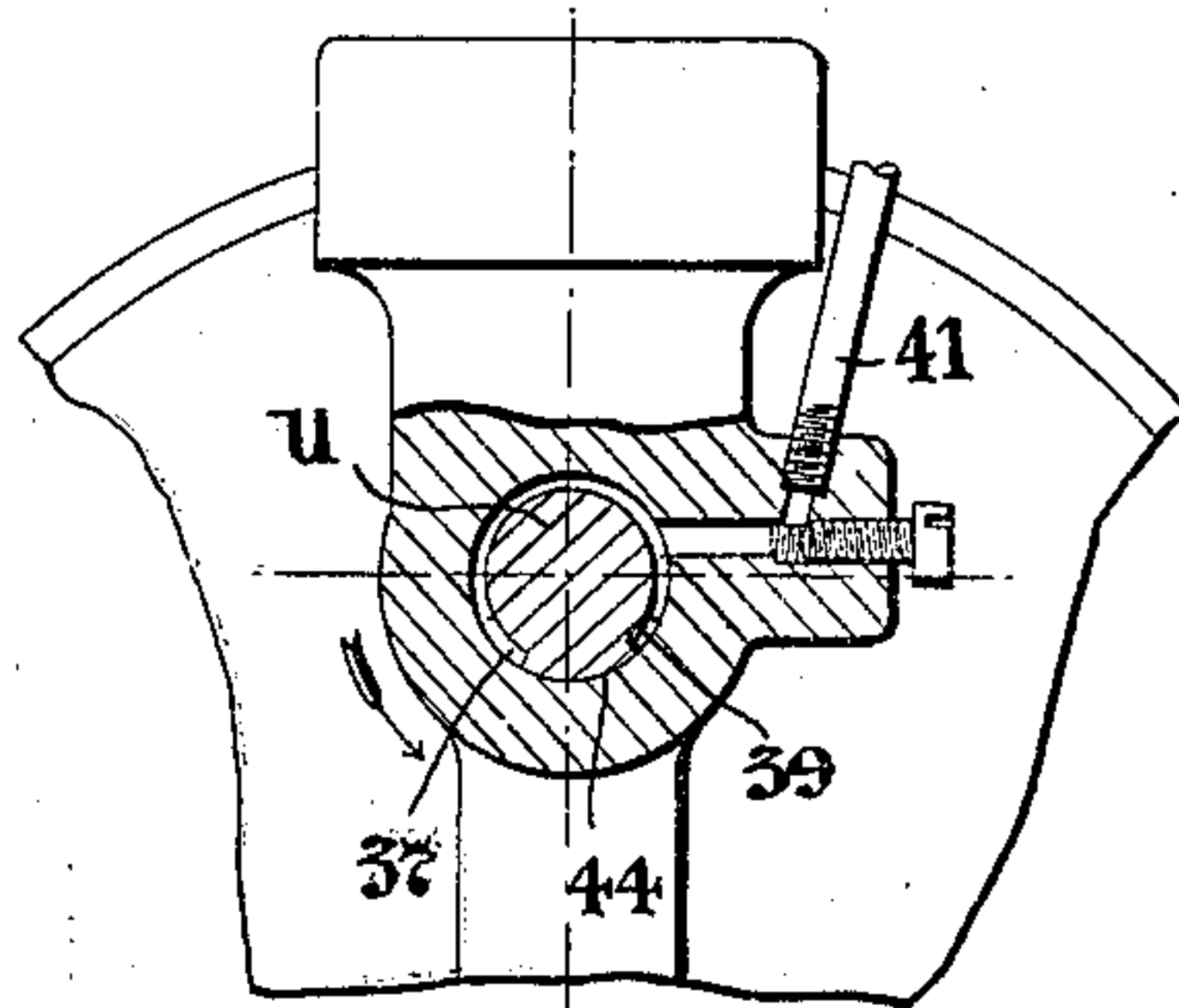


Fig. 4.

Witnesses:  
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*George Robson.*

By

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Atty.



# UNITED STATES PATENT OFFICE.

GEORGE ROBSON, OF LONDON, ENGLAND.

PLUG-COCK.

975,162.

Specification of Letters Patent.

Patented Nov. 8, 1910.

Application filed June 25, 1910. Serial No. 568,870.

*To all whom it may concern:*

Be it known that I, GEORGE ROBSON, a subject of the King of Great Britain and Ireland, residing at Albion House, New Oxford street, in the county of London, England, have invented a certain new and useful Improved Plug-Cock, of which the following is a specification.

This invention relates to plug cocks for controlling the passage of gas to a burner or burners.

The plug cock hereinafter described is more particularly adapted for use in connection with a cluster of burners, comprising for instance three burners, two of which are required to be extinguished at midnight leaving the third alight until daybreak when it is also extinguished.

The object of the invention is a plug cock which will control the lights in the manner above specified and will also control the corresponding pilot lights so that when a burner is "on" its corresponding pilot will be "off" and vice versa.

The invention will now be described with reference to the accompanying drawings, in which:—

Figure 1 is a side elevation partly in section of the improved plug cock in position in its casing. Figs. 2, 3, 4 and 5 are transverse sections on the lines C. D. E. F. respectively of Fig. 1.

When the invention is applied to the control of a cluster of burners, for instance, a cluster comprising three burners, the central one of which is required to remain alight all night, while the two outer ones are to be extinguished at midnight, the plug cock is preferably arranged and operated as follows:—

Referring to Figs. 1 to 5 the plug cock which is preferably conical is provided with a series of circumferential ports. Those indicated 33 and 34 are designed to register at the proper time with gas outlet ports 35 and 36 leading respectively to one burner and two burners respectively of a cluster of burners. The ports 37 and 38 are for the purpose of supplying gas to the pilot lights of the two groups of burners and the various ports are all in communication as shown in Fig. 1 by a longitudinal port 39. Preferably the pipes leading to the main burners are concentrically arranged, the inner port 35 having a screwed socket to receive a pipe, not shown, leading to the single burner,

while the screwed socket 40 is adapted to receive a pipe leading to the two outer burners of the cluster. gas being supplied to the socket by the port 36 which is oblong or of similar shape in cross section.

In the position shown in Figs. 1 and 2 gas is supposed to be cut off from the main burners but is "on" for the pilot lights, the gas in the pipe *t* passing by the longitudinal port 39 to the pilot light ports 37, 38 see Figs. 4 and 5 which communicate by pipes 41 and 42 with the pilot burners. Upon rotating the plug cock a quarter turn in the direction of the arrow 43 Fig. 2 the ports 33 and 34 are brought into register with ports 35 and 36 leading to the main burners, but the pilot lights are extinguished by reason of the blank portions 44 and 45 (Figs. 4 and 5) of the plug being brought across their outlet openings. When midnight is reached, the plug is given another quarter turn in the same direction, the port 34 is moved out of register with the port 36 to extinguish two burners of the cluster; the gas passing to the single light of the cluster will remain unaffected owing to the length of the port 33; the pilot light port 37 will be in such a position that gas can pass by pipe 41 to the pilots of the two main burners which are extinguished; and the pilot light port 38 of the single main burner which is alight remains cut off by the blank part of the plug at that particular part thereof. The succeeding actuation of the plug is now a half turn which completes the cycle and leaves the ports in the position shown in Fig. 2. Both pilot light passages are provided with adjustable screws to regulate the supply of gas.

Any suitable means may be employed to rotate the plug cock in the manner described and it may if desired form part of, and be driven by an automatic gas lighting and extinguishing apparatus such as is described in my concurrent application Serial No. 568,868.

Having now described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. A device of the character described comprising a casing formed with an inlet opening and two exit openings and a plug valve seat between the inlet and outlet openings, a plug valve fitting in the seat; said plug valve having a concavity of sufficient width to register with the two exit openings,



a circumferential groove formed in the periphery of the plug valve and communicating with one side of the concavity and being in the plane of but one of the outlet openings, a horizontal groove formed in the periphery of the plug valve and communicating with the concavity and the circumferential groove communicating therewith, a second circumferential groove formed in the plug valve and communicating with the opposite side of the longitudinal groove and extending beyond the plane of the end of the first mentioned circumferential groove, and a third circumferential groove formed in the plug valve and communicating with the longitudinal groove on the same side as the first mentioned circumferential groove and extending beyond the plane of the end of the second mentioned circumferential groove, the casing having ports with which the second and third mentioned circumferential grooves are adapted to communicate.

2. A device of the character described, comprising a casing formed with two outlet openings and an inlet opening and a valve seat formed between said inlet and outlet openings, the said casing also having a port

on each side which registers with the valve seat, a plug valve fitting in the valve seat, said plug valve having a cavity formed on its periphery adapted to be brought into registry with the two outlet openings, a circumferential groove communicating with the concavity and in a plane with one of the outlet openings in the casing, two other circumferential grooves in the periphery of the plug valves, the two latter circumferential grooves adapted to be brought into registry with the ports in the sides of the casing, there being a longitudinal groove in the plug valve with which all the circumferential grooves communicate, the two circumferential grooves which register with the side ports in the casing communicating with the longitudinal groove on the opposite sides of the latter and are out of the plane of the two outlet openings.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE ROBSON.

Witnesses:

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