

(No Model.)

J. DREISÖRNER.
VALVE.

No. 459,271.

Patented Sept. 8, 1891.

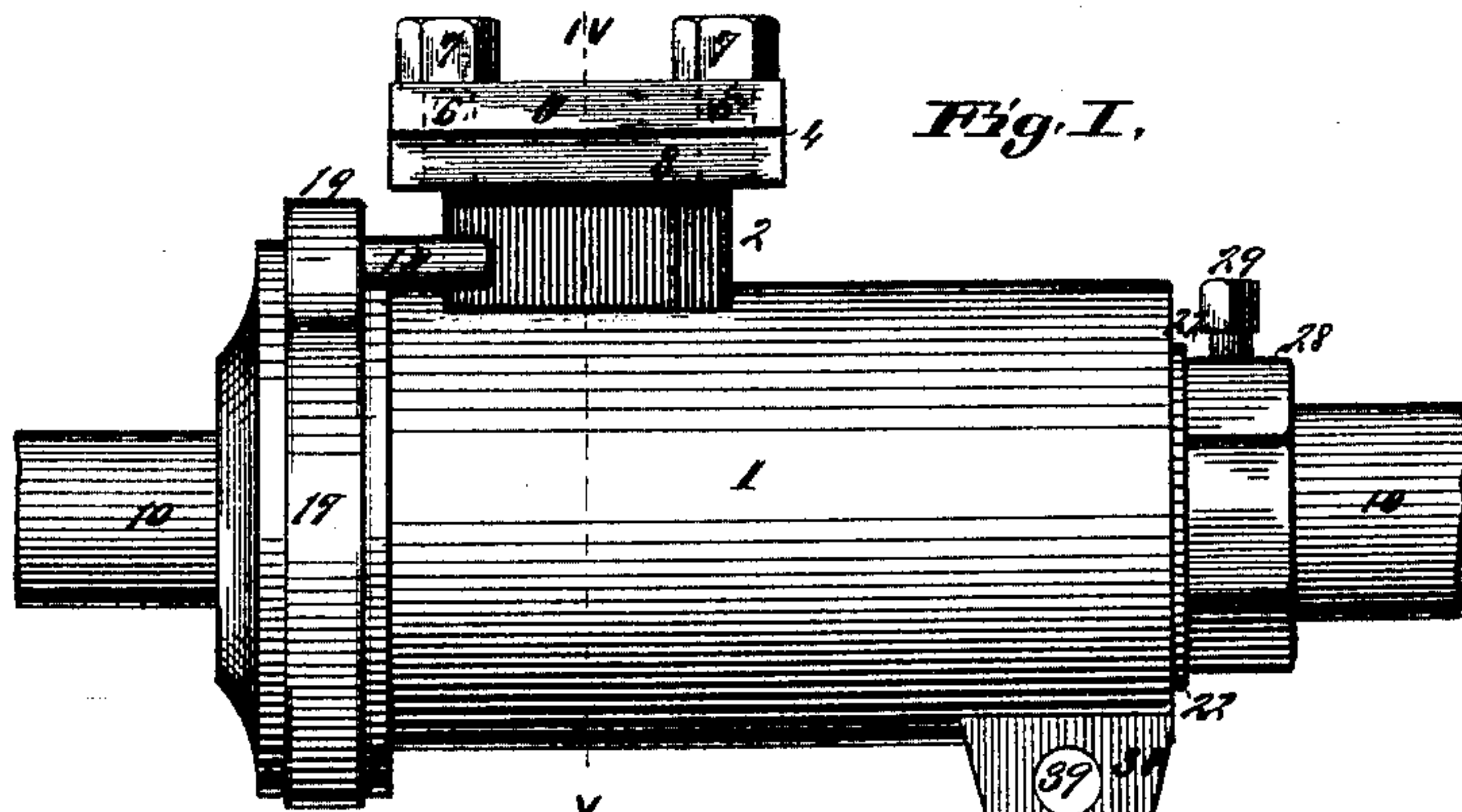


Fig. I.

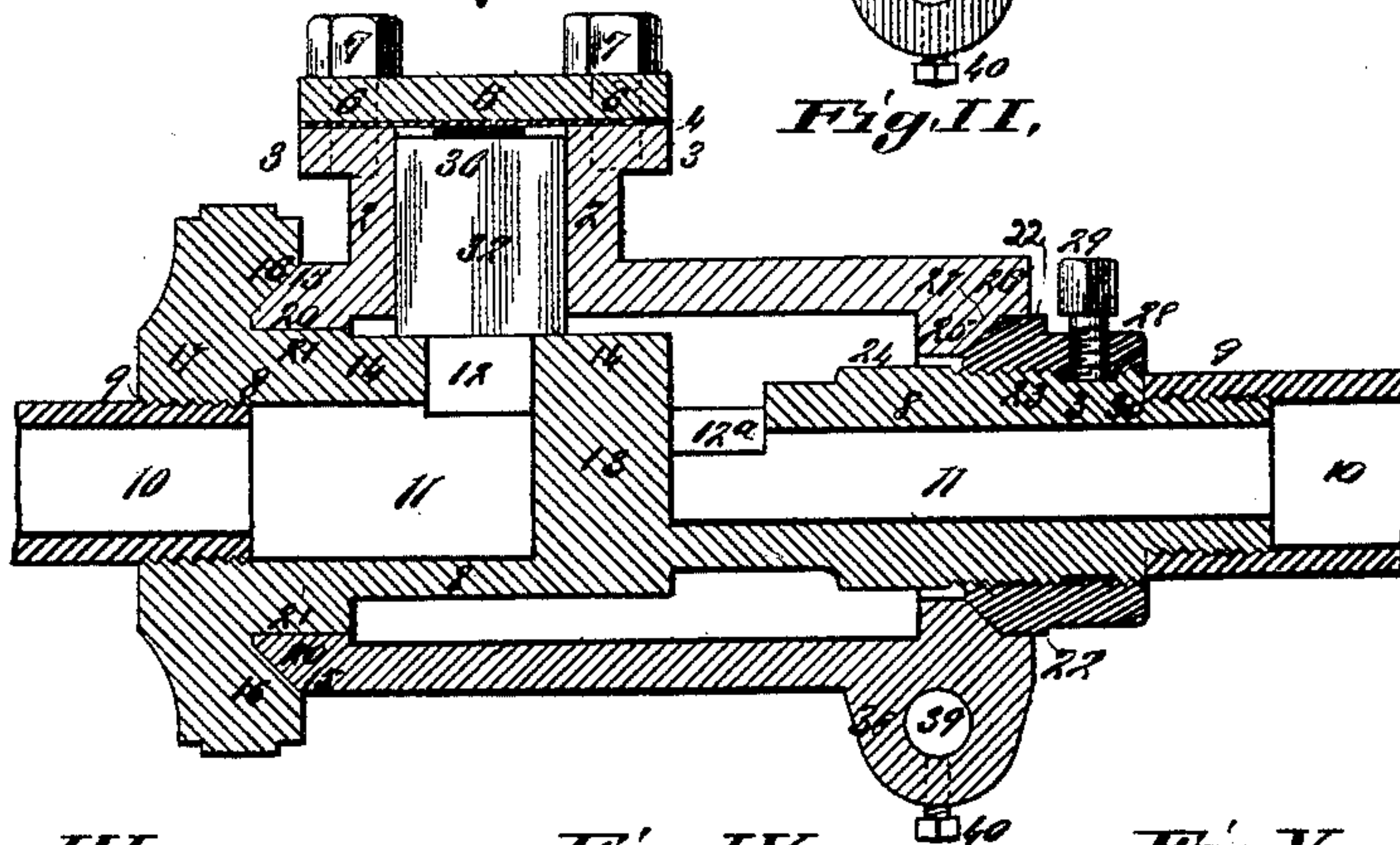


Fig. II.

Fig. III.

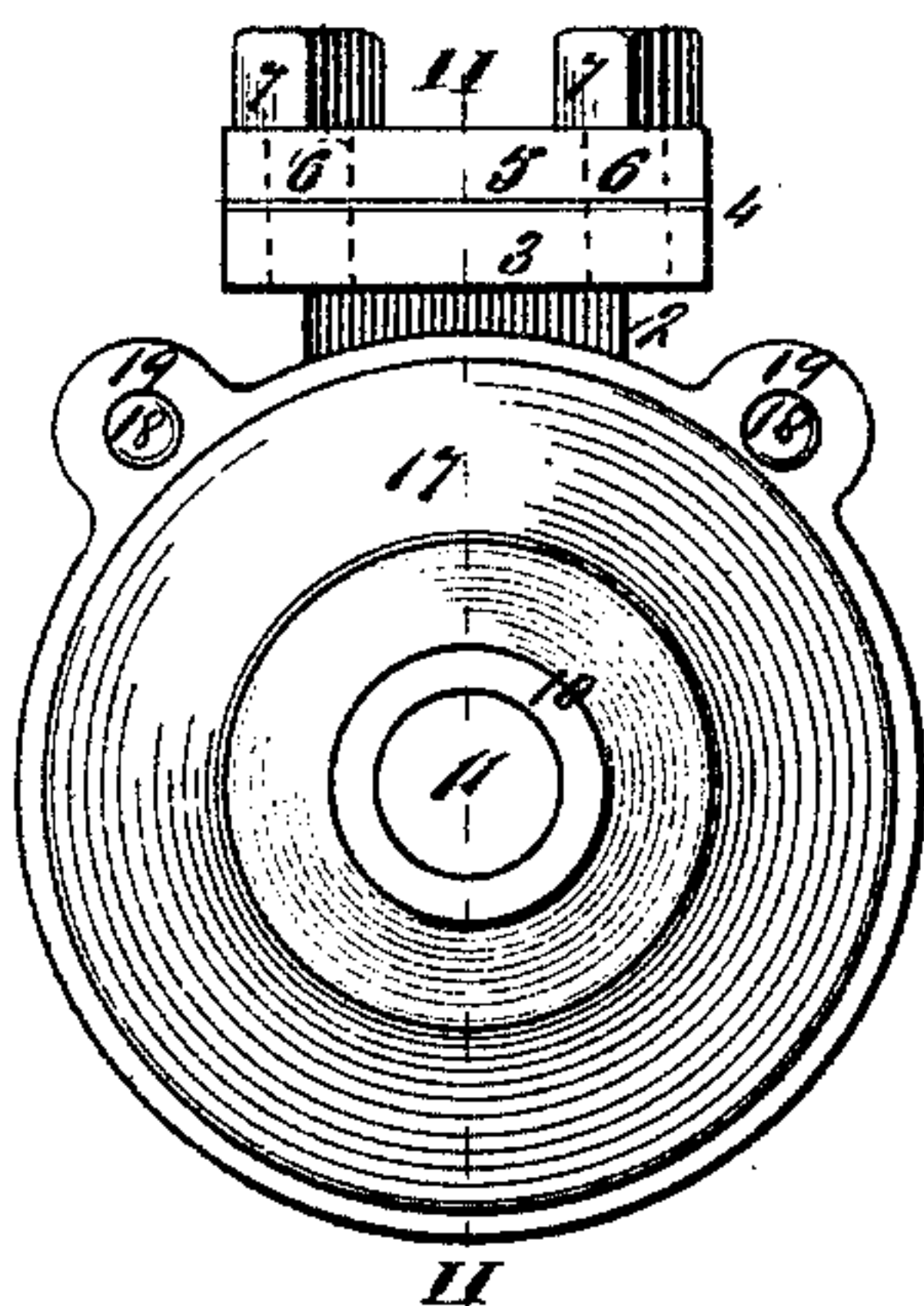


Fig. IV.

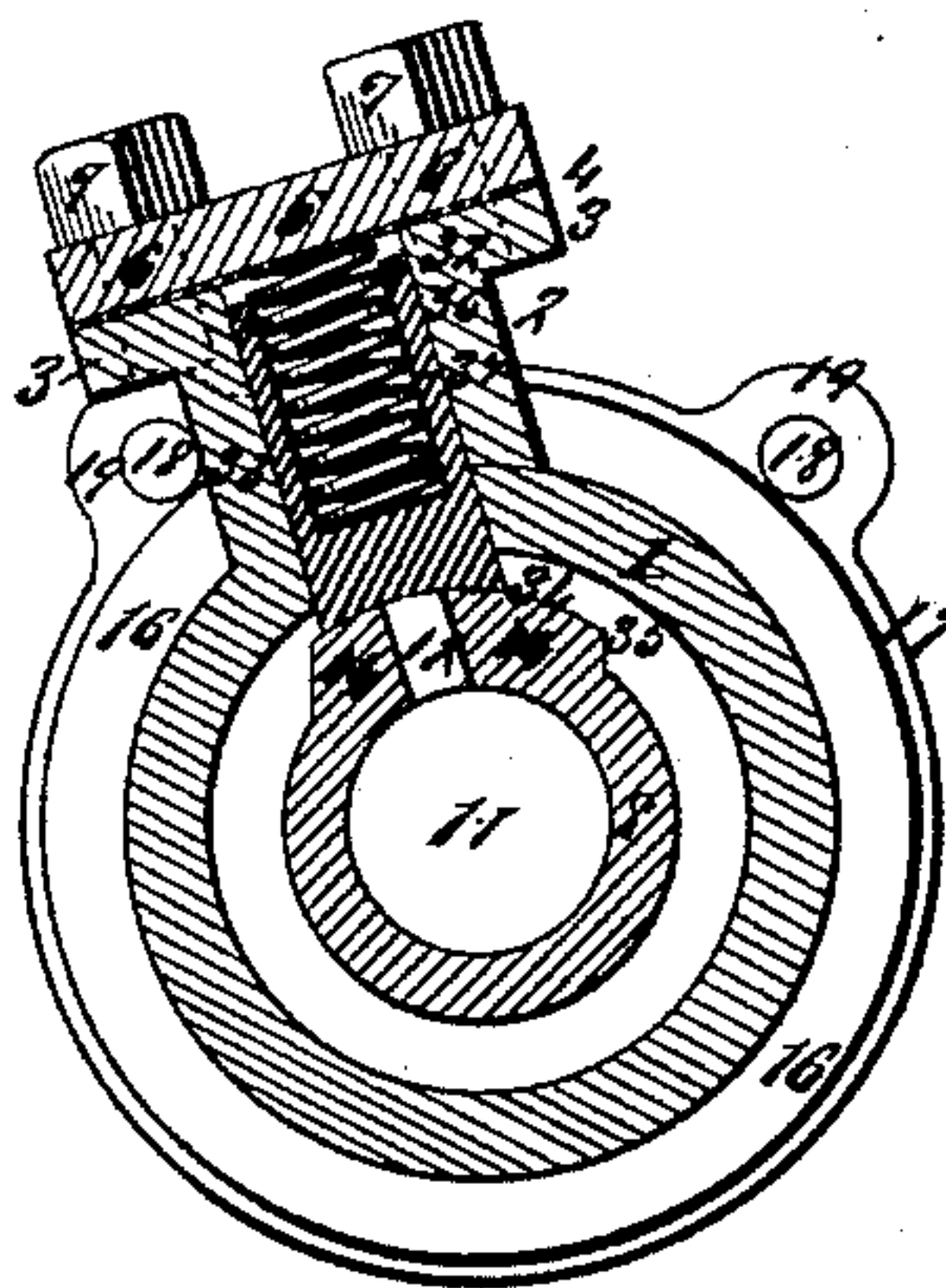
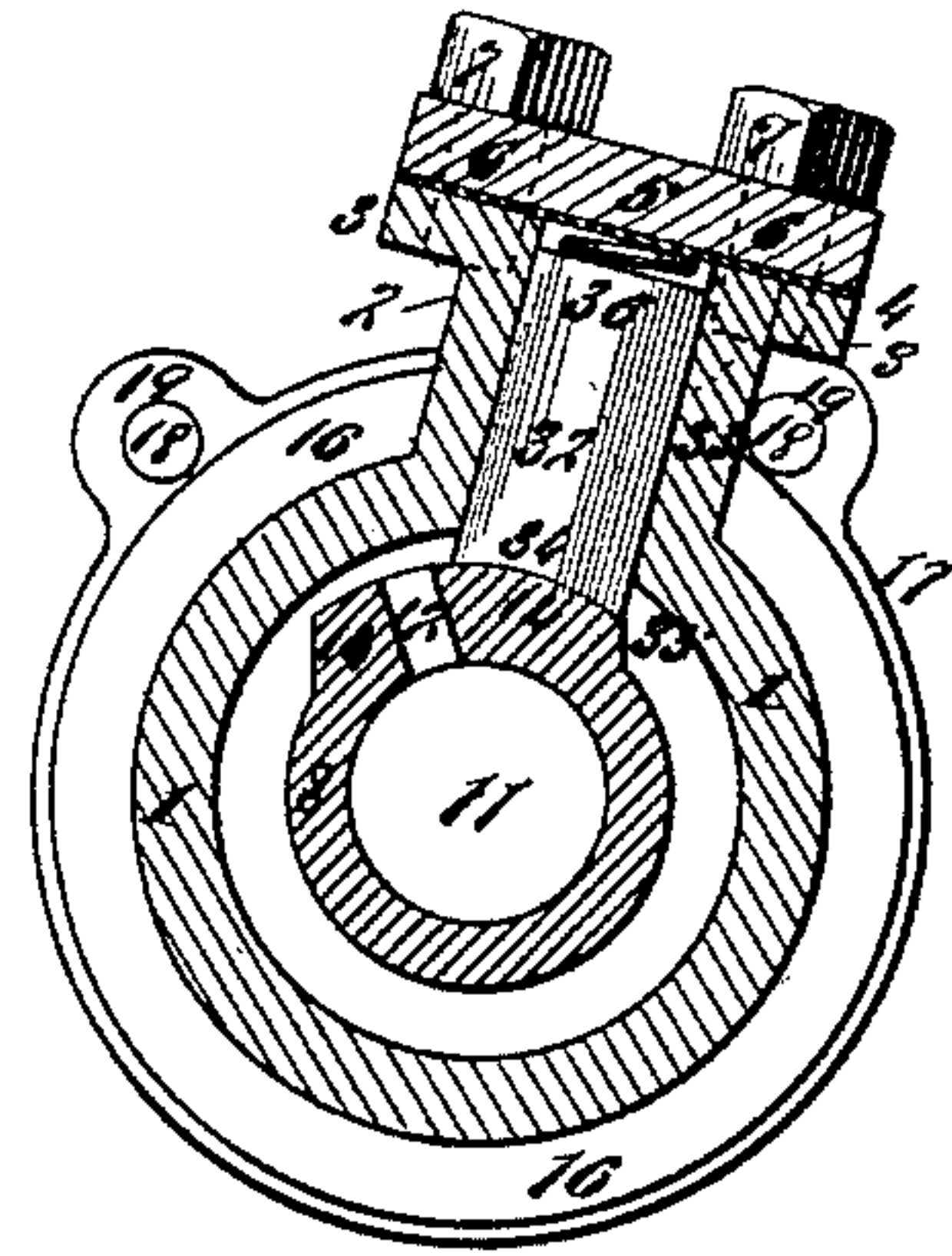


Fig. V.



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UNITED STATES PATENT OFFICE.

JACOB DREISÖRNER, OF ST. LOUIS, MISSOURI.

VALVE.

SPECIFICATION forming part of Letters Patent No. 459,271, dated September 8, 1891.

Application filed May 19, 1891. Serial No. 393,310. (No model.)

To all whom it may concern:

Be it known that I, JACOB DREISÖRNER, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Duplex-Port Spring-Puppet Eccentric Valves for Heaters, &c., of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

This invention is an improvement on my duplex-eccentric valve, for which I made application for a patent filed January 17, 1891, Serial No. 379,688, to issue May 26, 1891; and it relates to a duplex-spring-puppet eccentric valve both for heaters and other uses that has an eccentric valve stationary plug or stock, with duplex ports in said plug that tap its tube center on each side of a cut-off partition in said tube, and a spring-puppet eccentric in the case that elastically packs the valve at closed port.

The invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a side view of my valve-case with the stock inclosed therein, and shows the screw-fastened cap that covers the spring-puppet eccentric. Fig. II is a vertical section taken on line II II, Fig. III, and shows the spring-puppet eccentric closing that one of the duplex ports that passes through the eccentric of the plug. It also shows the other duplex port, by which the hot water or steam has free passage to or from the valve-chamber. Fig. III is an end view of the plug or stock head, and shows the spring-puppet eccentric case that surmounts the valve-case. Fig. IV is a vertical section taken on line IV IV, Fig. I, and shows the port closed by the spring-puppet eccentric; and Fig. V is a like view with open port.

Referring to the drawings, 1 represents the tubular valve-case; 2, the combined buffer and spring-puppet tower that surmounts said case; 3, the screw-perforated integral table-plate at top of said tower; 4, the gasket with perforations that register with those of the table-plate, and 5 the perforate cap-plate, whose perforations register with those of the gasket and table-plate, and which cap-plate with said gasket effects a steam-tight joint

on said table-plate when compressed home to its seat by the engagement of the set-screws 6 in said perforations and perforate screw-seats in the table-plate. The said set-screws are provided preferably with six-sided heads 7 for seating the wrench or key that screws them home; but said heads may be made square or with any other number of sides convenient for seating the wrench or key by which they are turned.

8 represents the stationary tubular valve plug or stock, which is connected by steam-tight screw-joints 9 to the joint-pipes 10 of the hot-water or other system. The said plug has a clean bore 11, except at the line of demarkation between its respective duplex ports 12 and 12^a, where a cut-off partition 13 supervenes.

14 represents a projecting eccentric portion on the valve plug or stock, through which eccentric passes one of the duplex valve-ports 12. The case 1 slides longitudinally on said plug until its beveled forward end 15 engages in the circular bevel-recess 16 in the head 17 of the plug 8, in which circular recess the said bevel end of the case has a free rotary movement to the limit to which it is confined by its buffer-pins 18, that are seated in the lugs 19 in said head, and project over said case, and which as the case rotates come, respectively, in contact with one side or the other of the combined buffer and spring-puppet tower 2 at the points respectively of closed port, as shown in Figs. II and IV, and open port, as shown in Fig. V. The said bevel end of the case and its tube-seat 20, which closely fits the swell-saddle collar 21 next the head of the plug, effects a steam-tight joint, while at the same time it does not prevent the partial rotation of said case, as stated, to the limit of the buffer-stay.

22 represents the screw-collar that engages with a steam-tight joint on its screw-seat on the swell 24 of said plug, and 25 is the bevel point of said collar, which with its swell-head 26 has a steam-tight seat in the bevel-ended recess 27 in the rear end of the case. The said collar has a six-sided (more or less) wrench-seat 28 for tightening up the union joints of the casing and the plug.

29 represents a spline set-screw that is seated in the perforate screw 30 in the wrench-

seat of the collar 22, and the projecting point of which screw when screwed home engages in the peripheral spline-groove 31 around the swell 24 of the plug. It will also be seen
 5 that as there is a slight latitude in the width of said spline-groove over the thickness of the set-screw after the said collar has been adjusted on its screw-seat to take up the wear, or to either tighten or loosen the joint,
 10 the set-screw will still work in the spline-groove to set the adjustment, and will thus prevent the collar from turning loose on its screw-seat.

32 represents an elastic eccentric puppet-valve that works in the spring-puppet valve-chamber 33 within the spring-puppet tower 2. The arc face 34 of said puppet is seated with elastic pressure on the arc face 35 of the projected eccentric portion 14 of the plug under
 20 the influence of the spiral spring 36 that is housed in the socket-boxing 37 in said eccentric puppet, and whose upper end pushes against the cap-plate 5 that surmounts said tower.

38 represents a pendent lug that projects from the bottom of the case 1, and which lug is provided with a perforate lever-seat 39, in which any suitable lever or handle may be inserted and fastened to its seat by the set-screw 40 for turning the case 1. Now it will
 30 be seen that the arc face 34 of the elastic puppet eccentric valve 32 always keeps its elastic seat on the arc face of the eccentric portion 35, and when the case is turned round to its closed position, as shown in Fig. IV, and to its buffer limit on that hand, the tower 2, having been arrested by coming in contact with the buffer-pin 18 on that side of the stationary plug, the arc face of the spring-puppet
 35 then covers and closes the member 12 of the duplex ports of said plug, and the hot water or other fluid that passes through said valve system is arrested in its passage. When again it is required to open the port and renew the
 40 passage of the hot water, &c., the case, with its eccentric puppet-valve, is turned round into the position shown in Fig. V, with the tower buffed against the other buffer-pin, when the member 12 of said duplex ports is opened and
 45 a free current ensues.

I have shown the plug stationary and the case movable, as it is most convenient to have said plug stationary in consequence of its connection with stationary supply and discharge
 55 tubes and the case is the more easily made adjustable; but I do not confine myself to said respective actions of said parts, for it is evident that the case may be made stationary and the plug adjustable without departing
 60 from the essential features of the invention. The movement, it will be seen, is very slight to effect, respectively, the opening and closing of the duplex ports, the unclosing of the port 12 providing a free course for the flow
 65 both through said port and through the port 12^a. It is also evident that when the flow is required to be only restricted, and not stopped

to limit the flow of water, the case can be partly turned, stopping short of its buffer limit, and so regulate the volume of the flow. 70

I claim as my invention—

1. The combination of the tubular valve-plug 8, having an eccentric portion 14 on one part of its periphery, said plug being provided with duplex ports 12 12^a, and having a cut-off
 75 portion 13 between said ports, the tube-case 1, that houses said valve-plug, and the elastic eccentric puppet-valve 32, that works in said tube-case, substantially as and for the purpose set forth. 80

2. The combination of the tubular valve-plug 8, having an eccentric portion 14, said plug being provided with duplex ports 12 12^a, the cut-off partition 13 in said tubular plug between said ports, the head 17 of said plug, the
 85 lugs 19 on said head, the buffer-pins 18, seated in and that project from said lugs, the tube 1, that houses said valve-plug, the combined buffer and spring puppet-tower 2, the eccentric puppet-valve that works within said tow- 90
 er, and the spring 36, that presses said valve to its seat on the eccentric portion 14, substantially as and for the purpose set forth.

3. The combination of the tubular valve-plug 8, having an eccentric portion 14, said
 95 plug being provided with duplex ports 12 12^a, the cut-off partition 13 in said tubular plug between said ports, the tube-case that houses said valve-plug, the head 17 of said valve-plug, the buffer-pins 18, that project from said
 100 head, the combined buffer and spring puppet-tower, the screw perforate integral table-plate 3, that surmounts said tower, the perforate cap-plate 5, the gasket 4 between said plates, the set-screws 6, that fasten down said cap- 105
 plate, the eccentric puppet-valve 32 within said tower, the said valve provided with the spring-socket boxing 37, and the spiral spring housed in said boxing and that pushes against the cap-plate 5 to press said eccentric puppet- 110
 valve to its seat, substantially as and for the purpose set forth.

4. The combination of the tubular valve-plug 8, having an eccentric portion 14, said
 115 plug being provided with duplex ports 12 12^a, the cut-off partition 13 in said tubular plug between said ports, the tube-case 1, that houses said valve-plug, the head 17 of said valve-plug, the lugs 19 on said head, the buffer-pins 18, that are seated in and project from
 120 said lugs, the circular bevel recess 16 in said head, the swell saddle-collar 21 on said valve-plug, the bevel forward end of said tubular valve-case that rides on said saddle-collar 21 and fits in said circular recess 16, the com- 125
 bined buffer and spring puppet-tower 2, the said tower limiting the rotary movement of said valve-case by contact with said buffer-pins, the elastic eccentric puppet-valve 32, and the spring 36, that holds said puppet to
 130 its seat on said eccentric portion 14, substantially as and for the purpose set forth.

5. The combination of the tubular valve-plug 8, having an eccentric portion 14, said

plug being provided with duplex ports 12 12^a,
the cut-off partition 13 in said tubular plug
between said ports, the tube-case 1, that houses
said valve-plug, the said case being provided
5 with the combined buffer and spring puppet-
tower 2, the elastic eccentric puppet-valve
that rests on said eccentric portion 14 and
works within said tower, the head 17 of said
valve-plug, the circular recess 16 in said head,
10 the swell saddle-collars 21 and 24 of said
valve-plug, the bevel point of said tubular
case that fits in said circular recess 16 in said
plug-head, the inner swell-head 26 of said
valve-case, provided with the bevel-ended re-

cess 27, the screw bevel-nosed collar 22, which 15
is screw-seated on the collar-swell 24 of the
plug and whose bevel point fits in the bevel-
recess 27 of the case, the wrench-seat 28 of
said collar 22, the set-screw 29, whose point
fits in the peripheral spline-groove 31 of the 20
plug, the operating-lug 38, having the lever-
hole 39, and the set-screw 40, substantially as
and for the purpose set forth.

JACOB DREISÖRNER.

In presence of—

BENJN. A. KNIGHT,
SAML. KNIGHT.