(No Model.)

J. DREISÖRNER.

DUPLEX ECCENTRIC VALVE FOR HEATERS, &c.

No. 453,109. Patented May 26, 1891.

Fig. I.

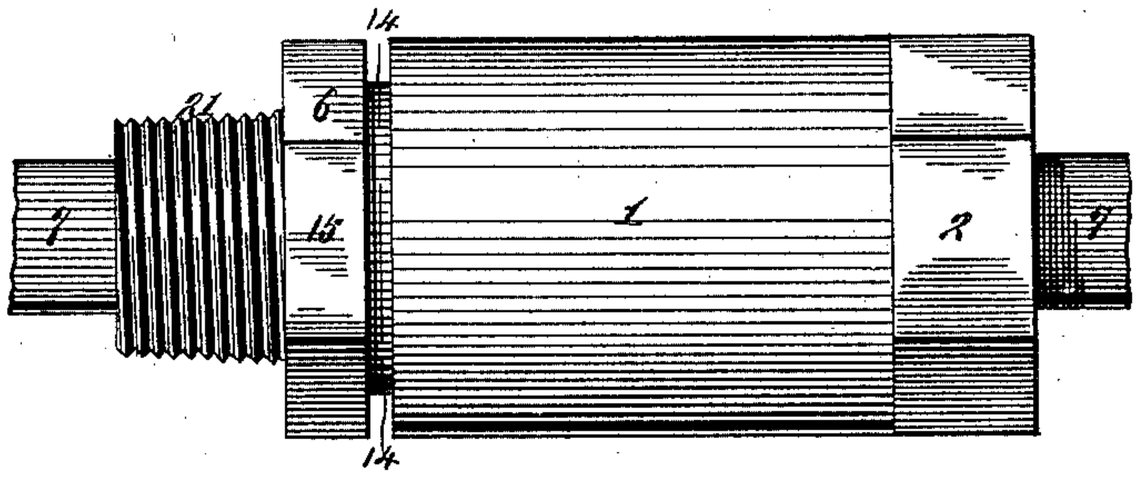


Fig. II.

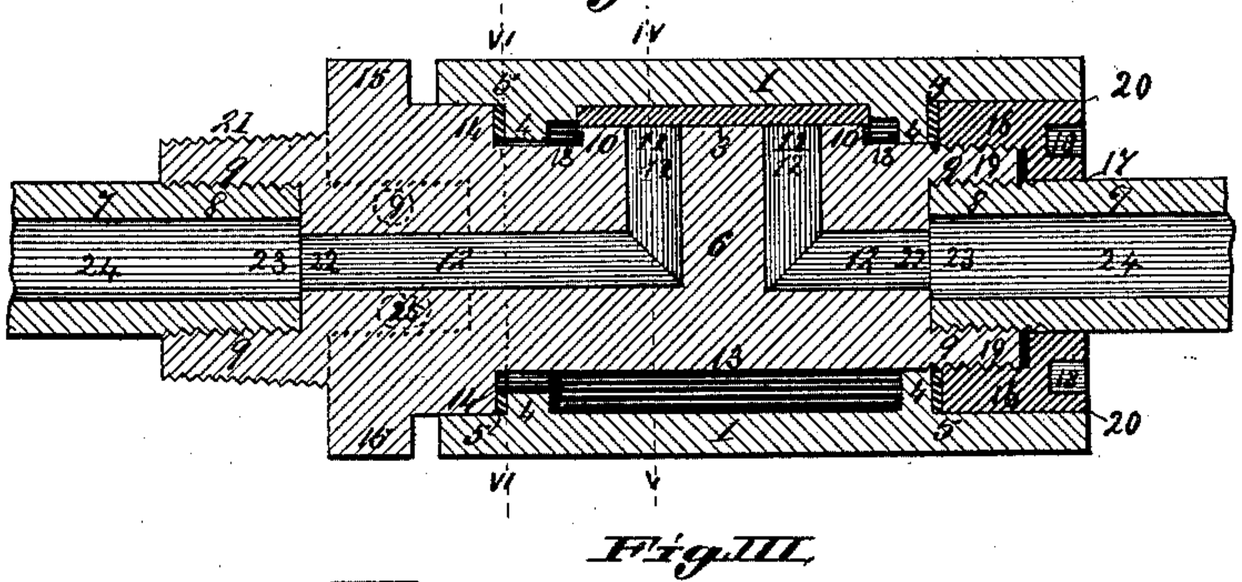


Fig. III.

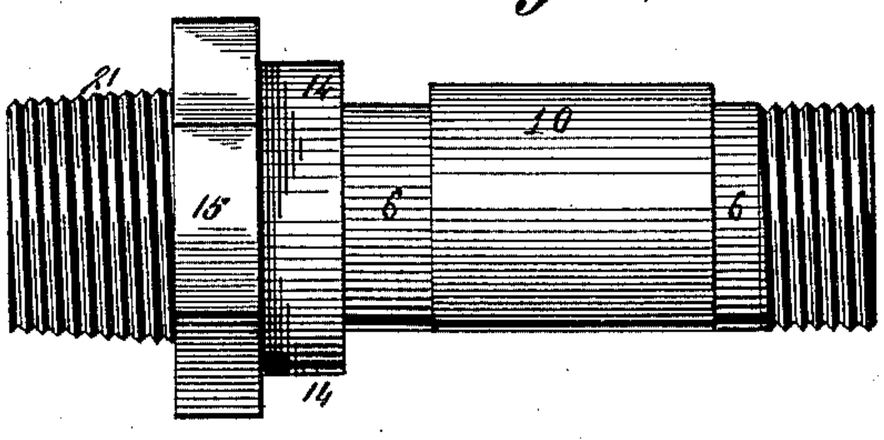


Fig. IV.

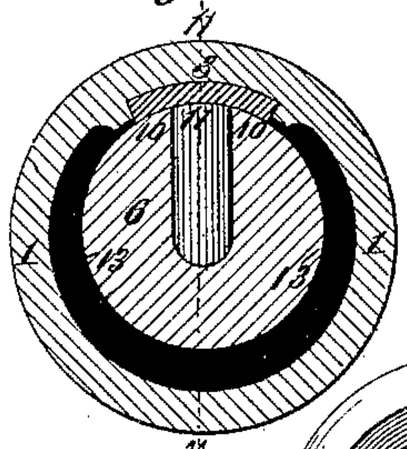


Fig. V.

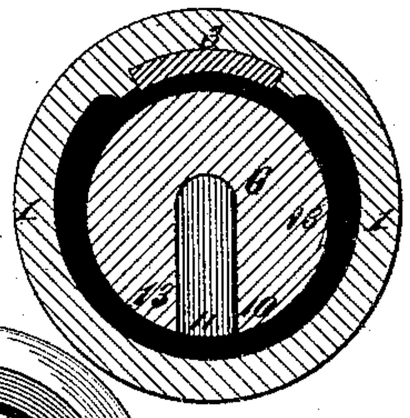
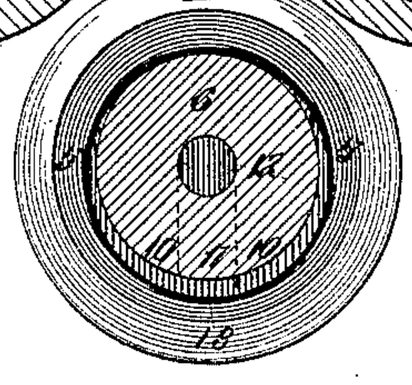


Fig. VI.



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UNITED STATES PATENT OFFICE.

JACOB DREISÖRNER, OF ST. LOUIS, MISSOURI.

DUPLEX ECCENTRIC-VALVE FOR HEATERS, &c.

SPECIFICATION forming part of Letters Patent No. 453,109, dated May 26, 1891.

Application filed January 30, 1891. Serial No. 379,688. (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 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 relates to a duplex eccentric-valve for heaters, &c., that has an eccentric-valve stock with duplex ports in the stock and an eccentric-packing in the case; and the invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a side view of the valve-plug seated in its tubular case, with details of the hot-water or steam pipe in registered connection therewith. Fig. II is a longitudinal vertical section taken on line II II, Fig. IV, and shows the eccentric-valve plug in its case and the said case provided with an eccentric-packing that closes the parts of the valve when said eccentric-valve registers with said eccentric-packing. Fig. III is a side view of the plug and shows its eccentric-valve. Fig. IV is a vertical section taken on line IV V, Fig. II, and shows the eccentric-valve of the plug in registry with the eccentric-packing of the case and consequently with the valve-ports closed. Fig. V is a like view taken on the same line with the eccentrics out of registry and the valve in consequence at open port; and Fig. VI is a vertical section taken on line VI VI, Fig. II, through the plug, the case being in elevation, and shows the plug-valve in its case at open port, reversed from its position in Fig. II. It also shows one of the packing-rings, which packing-rings secure steam-tight joints at each end of the valve system.

Referring to the drawings, 1 represents the tubular metal case, and 2 is the sexangular projecting wrench-seat at one end of said case, by which it is turned to respectively open and close the valve-ports.

3 represents the eccentric-packing, of brass, or any other suitable metal, that is inserted and projects internally on one side of the tubular case, and 4 are annular integral projecting collars within said tube, which form the end joint-seats of said case, against which the packing-rings 5, which may be of brass or any other suitable material, are compressed to make steam-tight joints.

6 represents the valve-plug coupling-joint pipe that connects the respective receiving and submitting joint-pipes 7 of the hot-water or steam-pipe systems. The peripherally-screw-threaded joint ends 8 of said pipes engage in their internally-screw-threaded socket-seats 9 in the ends of said valve-plug, so as to effect steam-tight joints at their coupling.

10 represents the eccentric-valve that has a projecting periphery on one side of the valve-plug to provide said eccentric, which, when by the rotation of the case the eccentric-packing 3 of said case registers with said eccentric-valve 10, the ports 11 of the duplex coadjutary angle valve-tubes 12 are closed, as shown in Figs. II and IV; but when the case is again turned, so as to bring the two eccentric members respectively in the plug and casing out of registry, then the ports are again opened, so as to provide a free current of hot water or steam, as the case may be, from the one port 11 into the intercommunicatory hot-water or steam chamber 13, as shown in Figs. V and VI.

14 represents an annular peripheral swell-collar near the outer end of the valve-plug, between which peripheral collar 14 of the valve-plug and the internal collar 4 of the case one of the packing-rings 5 is closely nipped, so as to effect a steam-tight joint between the hot-water or steam chamber 13 and said peripheral collar of the plug.

15 represents the sexangular wrench-seat of the valve-plug, by which it is turned into its screw-coupling connection with the pipe 7 at the outer end of said plug, and if the screw-socket 9 of the plug and the peripheral screws 8 of the pipe-sections 7 are respectively at their reverse ends tapped right and left handed, then the one rotary movement of the valve-plug will simultaneously couple both ends, otherwise the junction of the joint-pipe

7 at the inner end of the valve-plug may be subsequently effected by the usual grip-tongs or wrench around said pipe-section.

16 represents the internally-screw-tapped perforated flange-collar, in the center perforation 17 of which one of the joint-pipes 7 is seated, and 18 are socket-wrench seat-holes in the face of said collar, in which the clutch-pins of the wrench are seated to maintain its hold while it turns said screw-tapped collar onto the steam-tight engagement of its peripheral screw-seat 19 around the inner end of the valve-plug. When said collar is screwed home, its inner end tightly nips the packing-ring 5, that is located at that end of the joint, compressing it against the annular shoulder 4 of the casing at said end, and which packing-ring shuts off the exit of steam around the end and periphery of said collar, where it (the collar) rests in its countersunk seat 20 within the wrench-seat end 2 of the case 1.

21 represents a peripheral screw-terminal to the valve-plug for use as a screw-tight attachment for the screw-threaded discharge-orifice of ammonia and other tanks when the invention is used as a draw-valve from any tank or reservoir to which it may be attached.

I have described the valve-plug as stationary and the case as rotary, because when attached as a valve-coupling section to hot-water or steam pipes, or as a draw-valve to ammonia and other tanks and reservoirs, it is generally most convenient to have said valve-plug stationary and the case rotary; but I do not confine myself to said respective arrangement of the coadjutary parts, for it is evident that said arrangement may be reversed, making the valve-plug rotary and the case stationary without departing from the essential features of the invention.

When the device is attached to an ammonia or other tank or reservoir, it will be seen that the section of pipe 7 at the attachment end thereof may be dispensed with. When, on the other hand, the device is used in a hot-water or steam-heater system, then the peripheral attachment-terminal 21 is not required and may be dispensed with, in which case the screw-socket 9, in which the screw-terminal of the pipe-section 7 is jointed, will be located ahead in the main body of the plug, as shown in broken lines in Fig. II. The central ports 22 of the tube-channels 12 coincidently register with the junction-ports 23 of the tube-centers 24 of the pipes 7.

The attachment-screw 21, which has been described as an integral extension of the valve-plug 6, may, as shown in the broken lines in Fig. II, be of disintegral construction when it has a rear extension 25, that engages in the internally-screw-threaded socket-seat 9 in the initial end of the valve-plug.

I claim as my invention—

1. The combination of the eccentric-valve plug 10, the tube-case that houses said valve-plug, having a seat or socket in one side and the solid eccentric-packing inserted in said socket, the said eccentric-valve and packing arranged to register together in closed port and separate in open port, substantially as and for the purpose set forth.

2. The combination of the valve-plug 6, whose periphery projects farther from the center thereof on one side than it does on the other, so as to form an eccentric-valve 10, the duplex tube-channel 12 in said plug, provided with ports 11, that discharge through said eccentric-valve, the tube-case 1, that incloses said valve, and the eccentric-packing 3, having a countesunk seat within said case substantially as and for the purpose set forth.

3. In a duplex-valve system, the combination of the tube-case 1, the annular integral collars 4 within said case, the packing-collars 5, that are seated against said integral collars, the projecting eccentric-packing 3, the back of said packing being countersunk within said case, the valve-plug 6, provided with the eccentrically-projecting valve 10, and the duplex tube-channels 12, provided with the corresponding ports 11, substantially as and for the purpose set forth.

4. In a duplex eccentric-valve, the combination of the tube-case 1, the inwardly-projecting integral collars 4 of said case, the eccentric-packing 3, secured within said case, the wrench-seat 2 around one end of said case, the valve-plug 6, the said valve-plug being formed with the eccentric-valve 10, the annular swell-collar 14, the screw-tapped socket-terminal 9, the peripheral screw-tapped terminal 19, the duplex valve-tubes 12, having discharge and reception ports 11, also registering ports 22, and the wrench-seat 15, substantially as and for the purpose set forth.

5. In a duplex eccentric-valve, the combination of the tube-case 1, the annular integral collars 4 within said case, the eccentric-packing 3, secured within said case, the eccentric-valve plug 6, having the eccentric-valve 10, the annular peripheral swell-collar 14, and the peripheral terminal screw-seat 19, and the internally-screw-tapped flange-collar 16, that is screw-seated on the screw-terminal 19 of the valve-plug, the packing-rings 5, that pack between said collars 4 of the case and respectively the collar 4 of the valve-plug and the flange-collar 16, and said flange-collar housed within its countersunk seat 20 in the case, and said collar provided with socket-wrench seat-holes 18 for a grip-hold of the wrench in turning said collar, substantially as and for the purpose set forth.

6. In a duplex eccentric-valve, the combination of the tube-case 1, the eccentric-packing in said case, the valve-plug 6, the eccentric-valve on said plug, the said valve-plug provided with the internal tube-channels 12 and the screw-tapped socket-seats 9, and the hot-water or steam-joint pipes 7, whose screw-

tops engage in said screw-seats 9 and register with said tube-channels 12, substantially as and for the purpose set forth.

7. In a duplex eccentric-valve, the combination of the tube-case 1, the eccentric-packing in said case, the valve-plug 6, the eccentric-valve on said plug, the tube-channels 12 within said plug, the joint-pipe 7, screw-tapped to said valve-plug and that registers with said tube-channels 12, and the attachment screw-extension 21 on one end of the valve-plug, by which the valve is attached to a tank or reservoir, substantially as and for the purpose set forth.

JACOB DREISÖRNER.

In presence of—
E. S. KNIGHT,
A. M. EBERSOLE.