

No. 658,720.

Patented Sept. 25, 1900.

J. T. KELLY.
RADIATOR VALVE.

(Application filed Mar. 28, 1900.)

(No Model.)

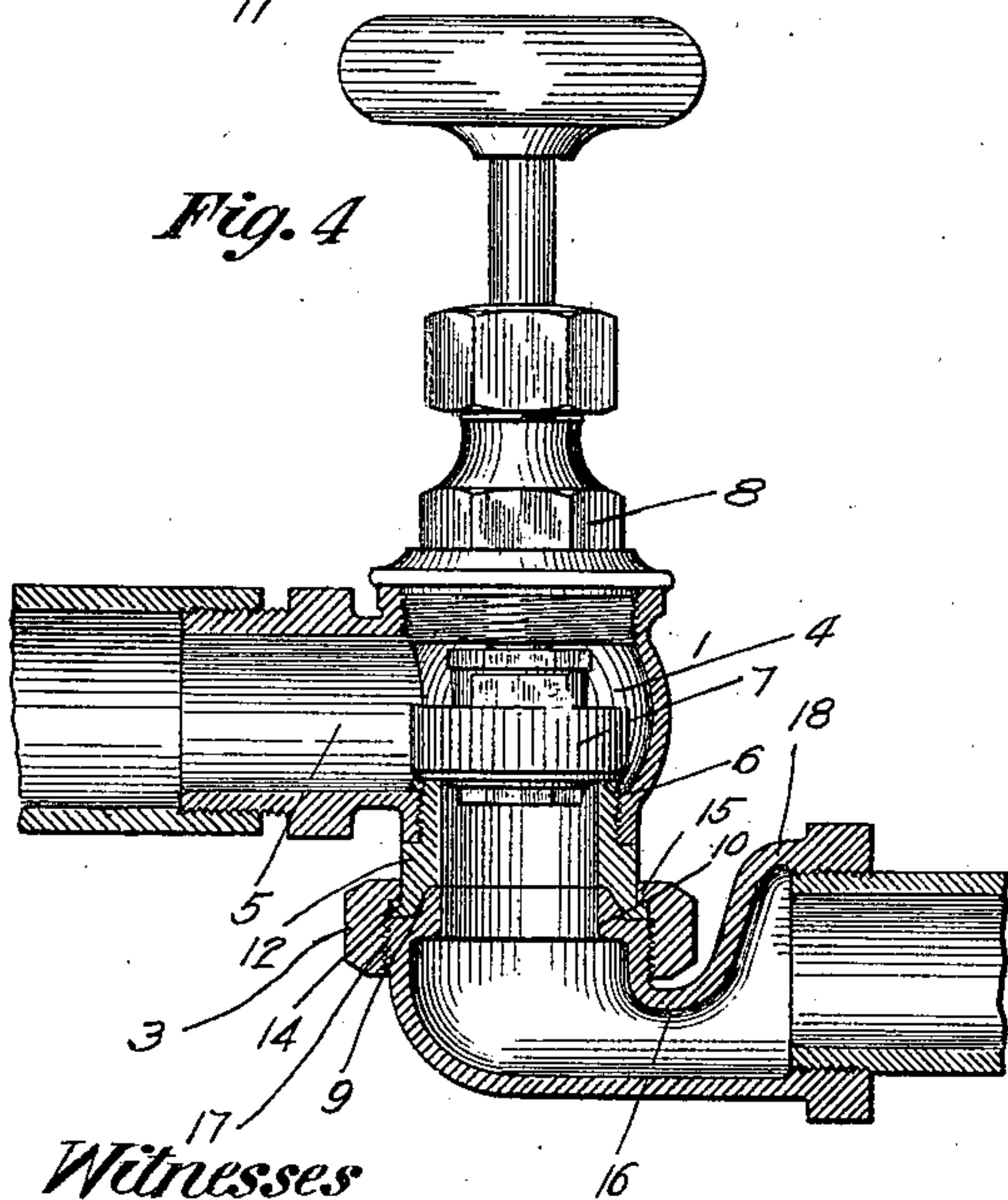
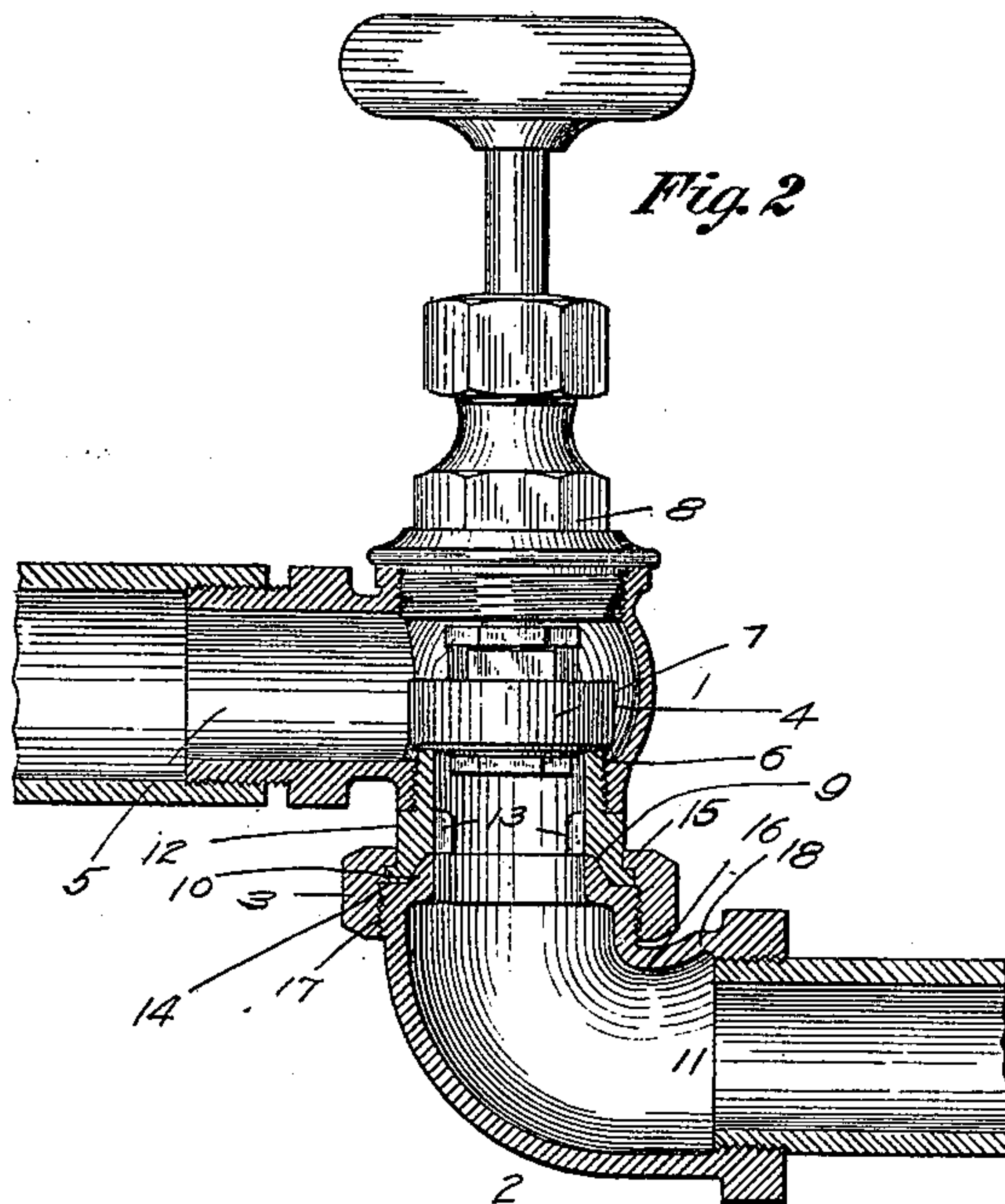
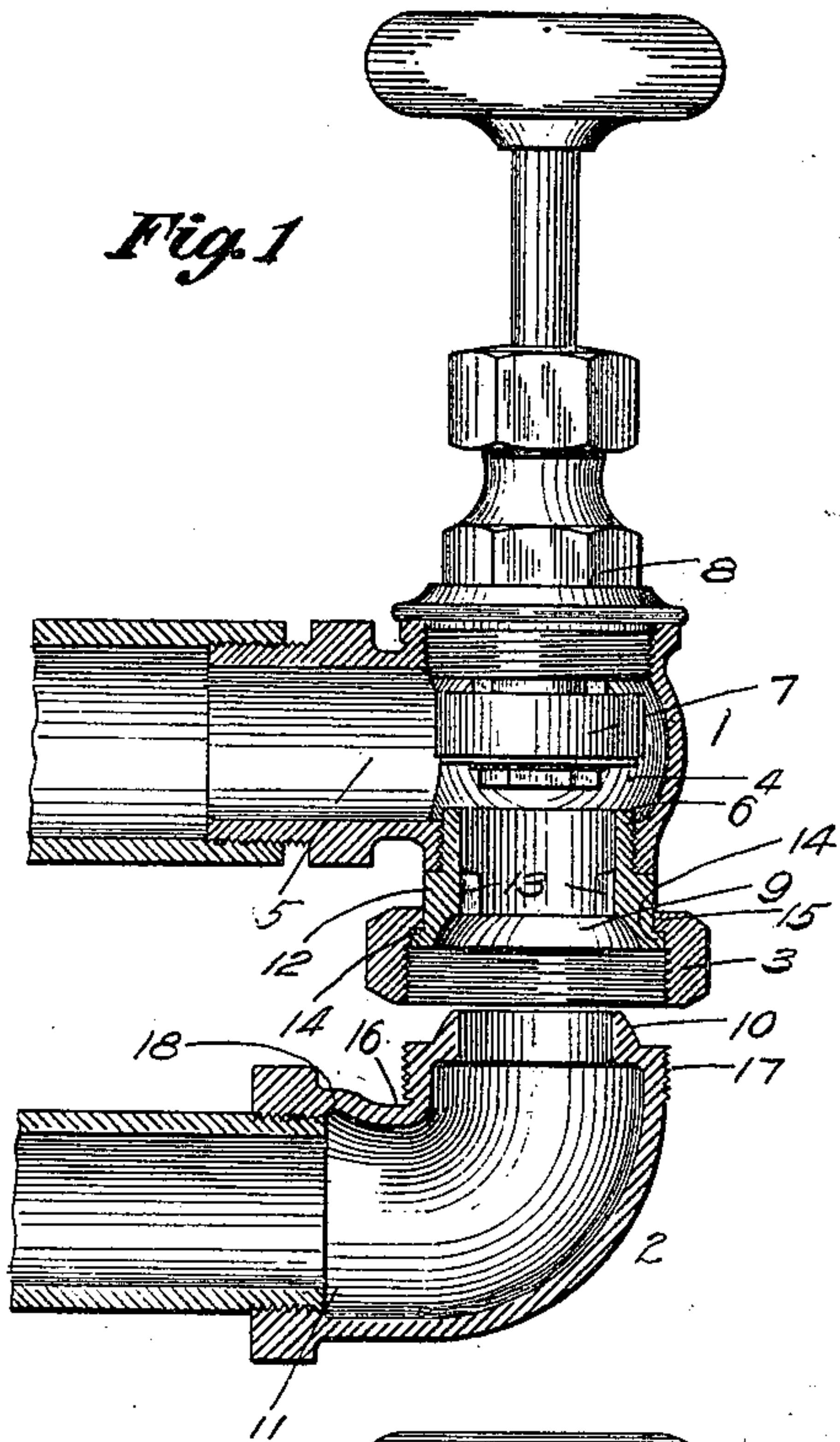


Fig. 3

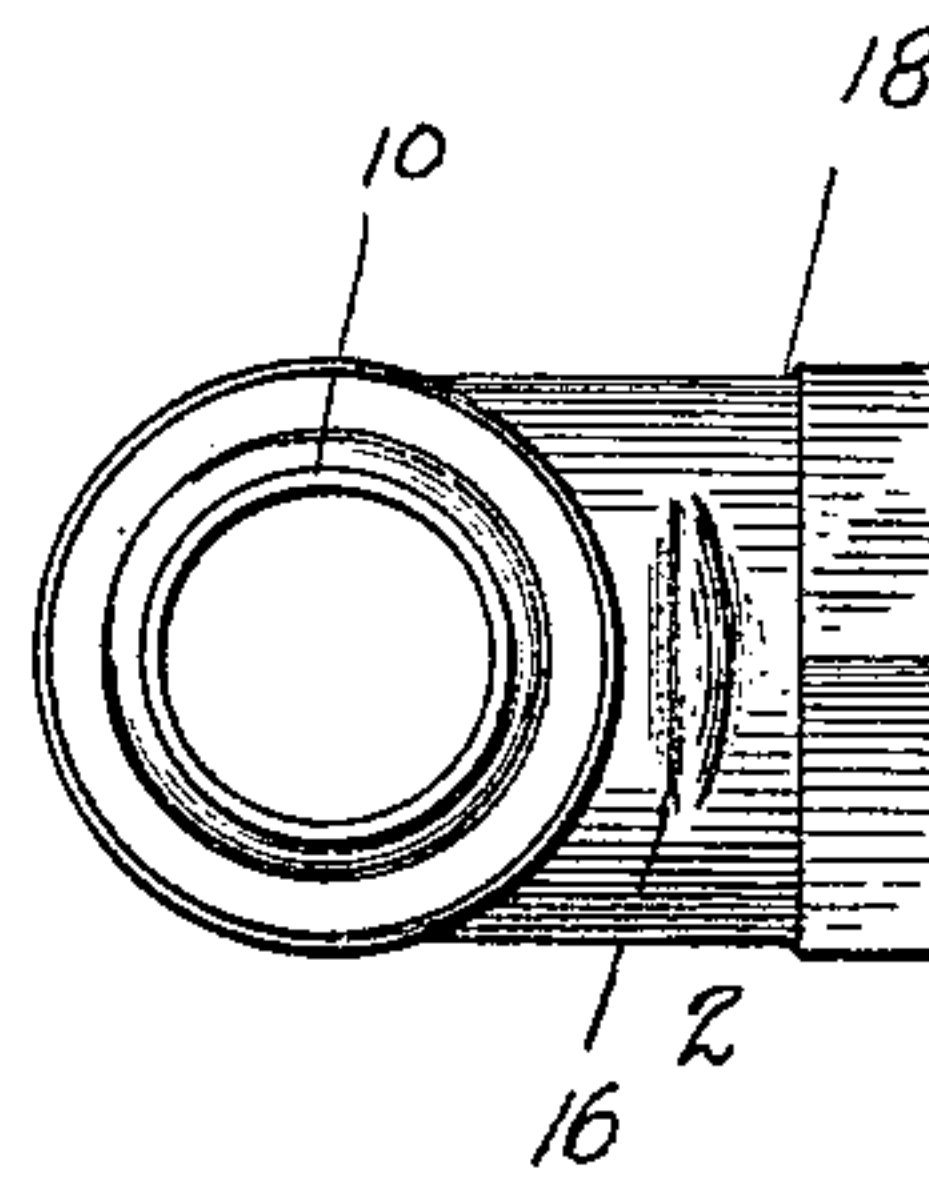
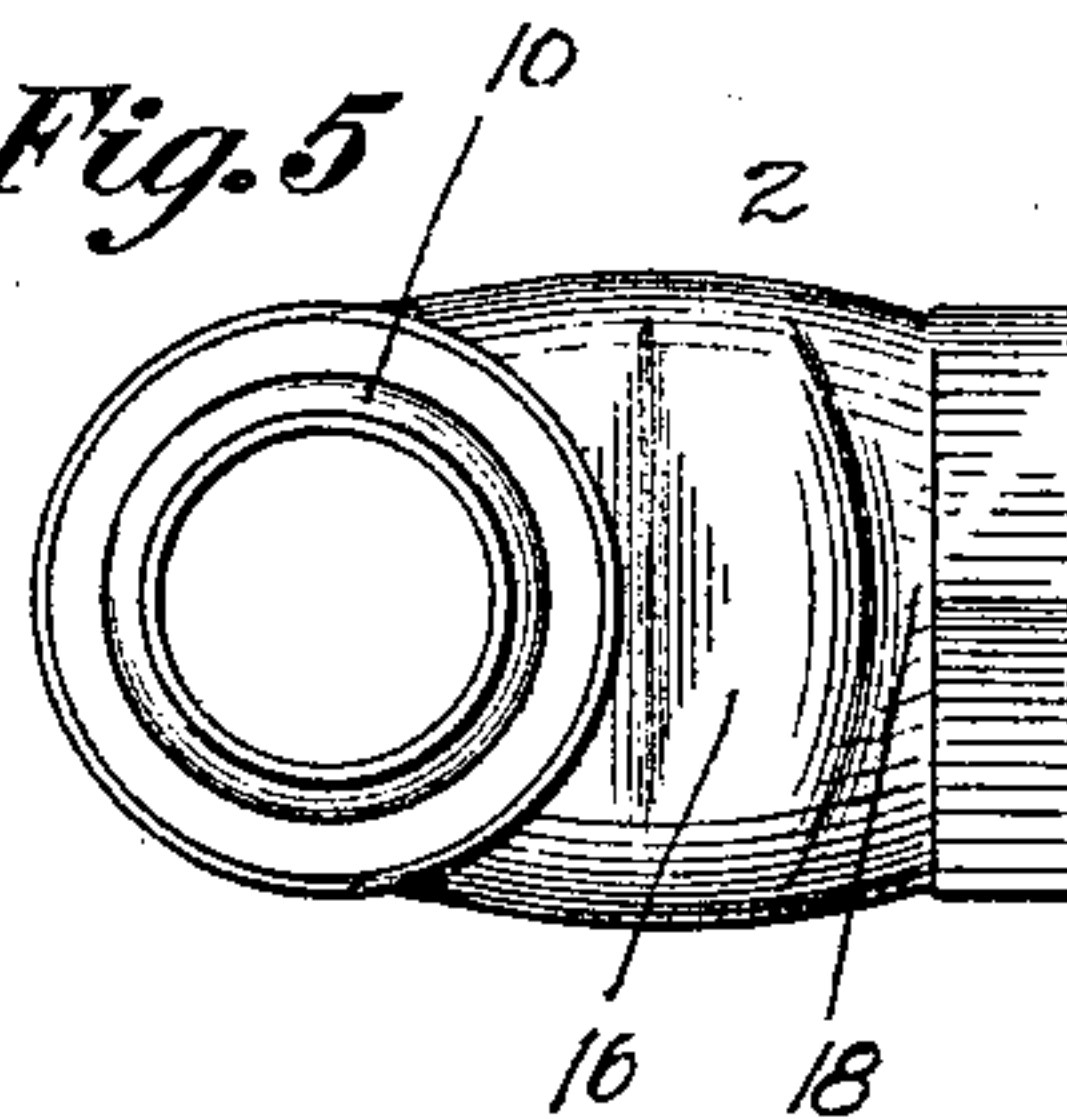


Fig. 5



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN T. KELLY, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO GEORGE M. JONES, OF PITTSBURG, PENNSYLVANIA.

RADIATOR-VALVE.

SPECIFICATION forming part of Letters Patent No. 658,720, dated September 25, 1900.

Application filed March 28, 1900. Serial No. 10,463. (No model.)

To all whom it may concern:

Be it known that I, JOHN T. KELLY, a resident of New York, (Brooklyn,) in the county of Kings and State of New York, have invented a new and useful Improvement in Radiator-Valves; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to radiator-valves, its object being to provide a valve of this character by which connections close to the floor can be made either for passing under the radiator itself or leading in any direction to the radiator and the necessity for raising the valve and the radiator itself any considerable distance above the floor be overcome. It is of course well known that for all such connections, even though the valve parts may be ornamental, it is desirable to have them as low down as practicable, and where the pipe connections extend under the radiator itself this has been found to be impracticable on account of the necessary height of the valve parts in making elbow and like joints.

The object of the present invention is to provide a suitable valve in which these difficulties are overcome.

It consists, generally stated, in a radiator-valve having its body formed in two sections, the upper section containing the valve-chamber, valve-seat, and valve and also provided with a seat on the bottom face thereof, and the lower section having the form of an elbow and having a seat on its upper face fitting against the bottom seat of the upper section and forming a swivel-joint therewith and a swivel-nut uniting the two sections, so providing a valve with which connection can be made in any direction, while the valve itself is brought practically on the level of the connecting-pipes, the only portion extending above the same being the chamber containing the valve. It also consists in certain other improvements which will be hereinafter more particularly set forth and claimed.

To enable others skilled in the art to make and use my invention, I will describe the same more fully, referring to the accompanying drawings, in which—

Figure 1 is a longitudinal section of a valve

embodying the invention, showing the valve open and the two valve-sections separated, but in position for connection. Figs. 2 and 4 are like views showing the valve closed and the two parts connected, different forms of lower sections being illustrated in the two figures; and Figs. 3 and 5 are plan views of the different forms of lower sections shown, respectively, in Figs. 2 and 4.

The valve illustrated and embodying the invention is of the class used in connection with steam-radiators, and it has its body formed of two sections, the upper section 1 and the lower section 2, these sections being connected together by a suitable swivel-nut 3. The upper section has the valve-chamber 4, provided with the side outlet 5 and the valve-seat 6, against which the valve 7 seats itself, the valve being mounted in the usual bonnet 8, screwing into the upper section 1. The upper section is provided with the conical seat 9 on its bottom face, with which the conical seat 10 of the lower section 2 engages, so as to form a steam-tight joint, this lower section having the form of an elbow, so that connections can be made with the valve in any direction, the lower section having the threaded outlet 11. By this construction it is seen that connections can be made with the valve on lines on the same plane with its body and that the two ports of the two sections—namely, the port 5 of the upper section and the port 11 of the lower section—can be brought so close to each other that there is practically no loss of space, and if the upper section is connected directly to the radiator the radiator need be supported only a short distance above the floor, making it possible to make connections with radiators in difficult positions and overcoming the necessity of the radiator standing so high within the room.

In the making of the connections I find it preferable to carry the swivel-nut 3 upon the upper section, this being desirable in order to bring the two openings of the valve as near on the same level as possible, and especially where the form of lower section illustrated in Figs. 4 and 5 is used. Where the side outlet 11 is raised above the seat 10, it is practically necessary that this swivel-nut shall be car-

ried by the upper section. To secure it in place and also provide for the easier finishing of the parts of the valve, I form the regular valve-seat 6 and the bottom seat 9 of the upper section 2 of a separate lining-ring 12, which screws into the upper section, the lower portion of which is threaded to receive it, this ring having inwardly-projecting lugs 13, with which the wrench engages in screwing it to its place, and of course making a permanent steam-tight joint with the body of the upper section. The ring carries the annular flange 14, with which the inwardly-projecting flange 15 of the swivel-nut 3 engages, and such swivel-nut is placed around the ring 12 before it is screwed into the valve-body. In this way the swivel-nut is permanently secured in place, and I am enabled to reduce the height of the valve-body by reducing the space necessary for the connecting-joint between the two sections, this being specially to be noted in connection with the form of lower section illustrated in Figs. 4 and 5, where the body of the lower section just below the valve is flattened and widened, as at 16, and the seat 9 and threaded face 17 formed above such widened portion, while the body is raised, as at 18, to form the port 11 to engage with the pipe, provision being thus made for connection with the lower sections of the valve on a level practically even with the joints between the two sections.

In the use of the valve the lower section is screwed upon the pipes leading in any direction to the valve, while the upper section is screwed to the radiator-body or part connected therewith, and the two sections of the valve-body can therefore be connected by means of the swivel-joint, it being practicable, as above stated, to connect up the parts on lines on almost the same horizontal plane, and therefore to reduce the space between the radiator-body proper and the floor. Steam-tight joints can of course be made between the two sections, while all the parts are easy of access for cleaning or repair. Where the special form of lower section illustrated in Figs. 4 and 5 is employed, connections can be made between the parts on nearly the same level as above stated, though the connection is made with the valve-body on the same level as the joint between the two sections, and through the widening of the body of the lower section when it is flattened the same interior area or capacity is provided, and as the lower edge of the outlet of the lower section is practically on a level with the base of the same there is no liability of the gathering of water and clogging of the valve.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a radiator-valve, the combination of a valve-body formed in two sections, the upper section containing a valve-chamber, valve, and valve-seat, and also provided with a seat on the bottom face thereof, and the lower section having the form of an elbow

and having a seat fitting against the bottom seat of the upper section and forming a swivel-joint therewith, and a swivel-nut uniting the two sections.

2. In a radiator-valve, the combination of a valve-body formed of two sections, the upper section containing a valve-chamber, valve, and valve-seat, and also provided with a seat on the bottom face thereof with an annular flange around the same, and the lower section having the form of an elbow and having a seat fitting against the bottom seat of the upper section and a threaded face surrounding such seat, and a swivel-nut engaging with the flange of the upper section and the threaded face of the lower section to unite the two sections.

3. In a radiator-valve, the combination of a valve-body formed of two sections, the upper section containing a valve-chamber, valve, and valve-seat, and also provided with a seat on the bottom face thereof and an annular flange around the same, and the lower section having the form of an elbow and having a seat fitting against the bottom of the seat of the upper section and a threaded face surrounding the same, and having a side outlet, the upper edge of which extends above such seat, and a swivel-nut engaging with the flange of the upper section and the threaded face of the lower section to unite the same.

4. In a radiator-valve, the combination of a valve-body formed of two sections, the upper section containing a valve-chamber, valve, and valve-seat, and also provided with a seat on the bottom face thereof with an annular flange around the same, and the lower section having the form of an elbow and having a seat fitting against the bottom seat of the upper section, and a threaded face surrounding the same, and having its body flattened and widened below such seat and provided with a side outlet extending above such flattened and widened portion, and a swivel-nut engaging with the flange of the upper section and the threaded face of the lower section to unite the same.

5. In a radiator-valve, the combination of a valve-body formed in two sections, the upper section containing a valve-chamber, a lining-ring screwing into said upper section and forming the valve-seat and a bottom seat for the lower section, said ring having a flange surrounding said seat, a valve mounted in the valve-chamber and adapted to seat on the valve-seat formed by the ring, a lower section having a seat fitting against the bottom seat of the ring and a threaded face surrounding the same, and a swivel-nut engaging with the flange of said ring and the threaded face of the lower section.

In testimony whereof I, the said JOHN T. KELLY, have hereunto set my hand.

JNO. T. KELLY.

Witnesses:

J. S. MATTIMORE,
JOHN J. MCGEE.