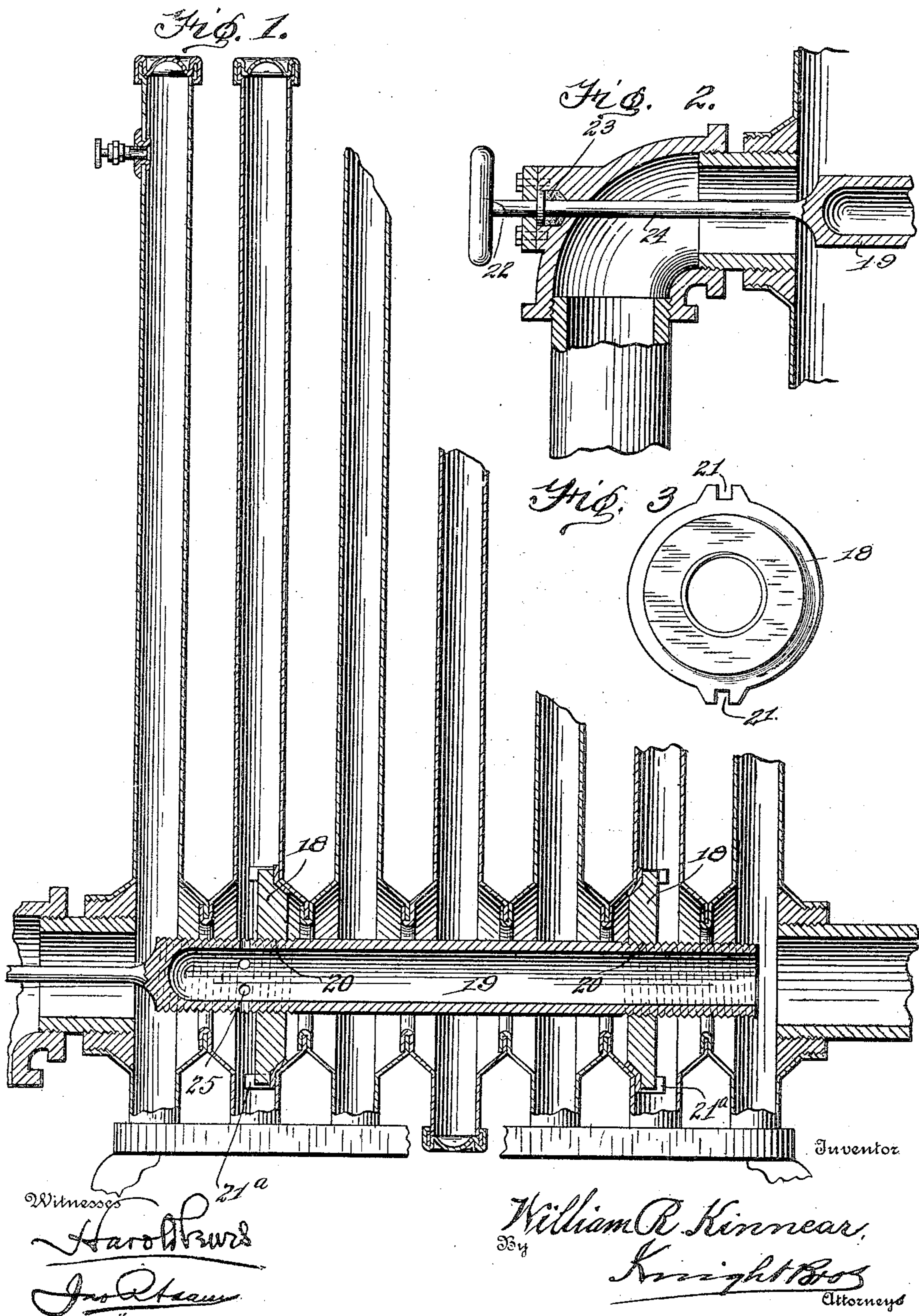


No. 822,613.

PATENTED JUNE 5, 1906.

W. R. KINNEAR.
SHEET METAL RADIATOR.
APPLICATION FILED JAN. 30, 1904.



UNITED STATES PATENT OFFICE.

WILLIAM R. KINNEAR, OF NEW YORK, N. Y.

SHEET-METAL RADIATOR.

No. 822,613.

Specification of Letters Patent.

Patented June 5, 1906.

Application filed January 30, 1904. Serial No. 191,329.

To all whom it may concern:

Be it known that I, WILLIAM R. KINNEAR, a citizen of the United States, and a resident of the city of New York, State of New York, have invented new and useful Improvements in Sheet-Metal Radiators, of which the following is a specification.

This invention relates to radiators.

It has for an object to provide means contained within the radiator for the purpose of cutting off a number of the units therein without interfering with the circulation of the heating medium through the remaining units in order that the heating capacity may be reduced or increased at will.

Other and further objects will appear in the following description and will be more particularly pointed out in the appended claims.

In the drawings, Figure 1 is a sectional detail view through a radiator having embodied therein the improved means for cutting off a plurality of units or a section of the radiator, while maintaining the circulation of the heating medium through the remaining units. Figs. 2 and 3 are detail views of parts shown in Fig. 1.

The radiator consists of a series of vertical units having horizontally-alined connecting or circulation passages at its bottom.

For the purpose of cutting off a plurality of units or a section in a radiator, while leaving the remaining units open to the circulation of a heating medium, I employ valves 18, Fig. 1, adapted to seat against the bosses 2, and an adjustable rod or hollow member 19, on which said valves are threaded, as shown at 20. The valves 18, as shown in Fig. 3, are provided with groove-lugs 21, which engage fixed studs 22 in the radiator to prevent said valves from turning. The adjusting-rod 19 may be turned by handle 22, passing through stuffing-boxes 23 and connected to the rod 19 by a stem 24. By turning the handle 22 in the appropriate direction valves 18 may be forced to or from their seats and cut off the circulation of the heating medium from the units beyond such valves. The rod 19 is hollow, however, and open or otherwise constructed to admit the circulating medium at one end, while near its other end or beyond

the valve adjacent thereto are provided perforations 25, through which the heating medium may flow.

The radiator illustrated in the drawings is a steam-radiator in which no circulation-passages are provided at top; but my invention is applicable to other types of radiators.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In combination with radiator units having circulating-passages connecting them at one of their ends, valves seating against two of said passages, an adjusting-rod upon which said valves are threaded, means for securing said valves against turning, and means extending to the outside of the radiator for turning said adjusting-rod.

2. In combination with radiator units having circulating-passages connecting them at one of their ends, valves seating against two of said passages, an adjusting-rod upon which said valves are threaded, means for securing said valves against turning and means extending to the outside of the radiator for turning said adjusting-rod, said adjusting-rod having a circulating-passage through it, communicating with the units beyond said valves and maintaining circulation independently of the units that are cut off.

3. In a radiator, the combination with a plurality of units provided with alined connecting-passages between adjacent units, of a pair of valves for cutting out a portion of the radiator, and a hollow member extending through the alined passages and forming a connection for the portions of the radiator on both sides of the cut-out portion.

4. In a radiator, the combination with a plurality of units provided with connecting-passages, of a pair of valves for cutting out a portion of the radiator, and an adjusting or controlling rod for the valves provided with a passage-way connecting portions on both sides of the cut-out portion.

The foregoing specification signed this 14th day of January, 1904.

WILLIAM R. KINNEAR.

In presence of—

W. M. HOOD,

RAYMOND H. KINNEAR.