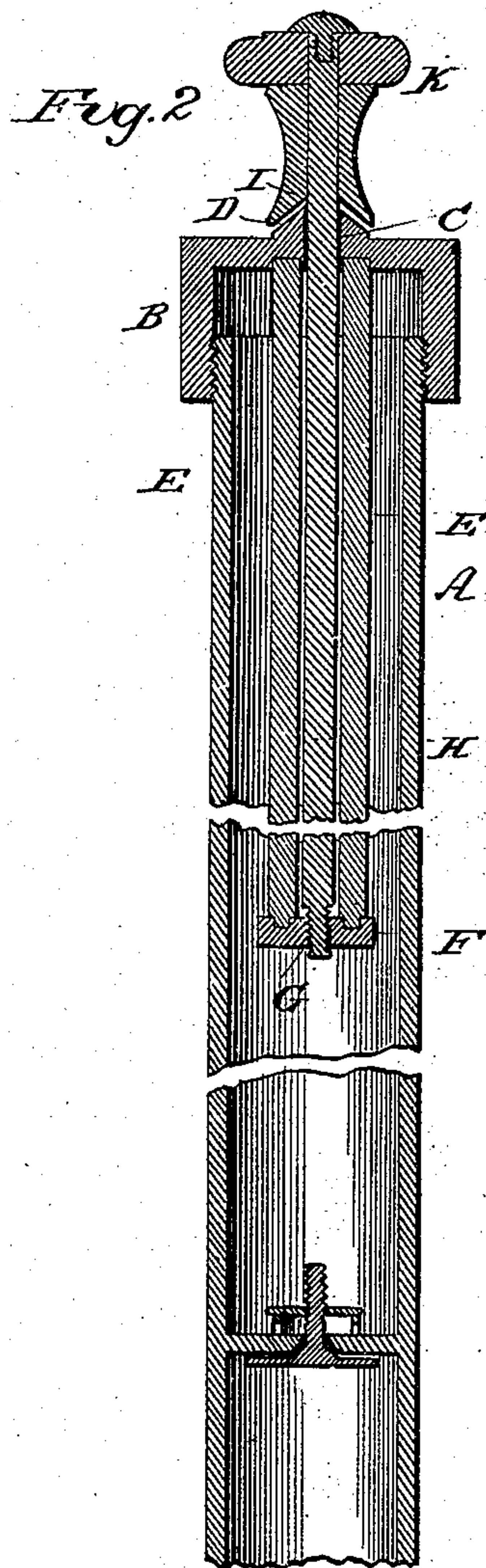
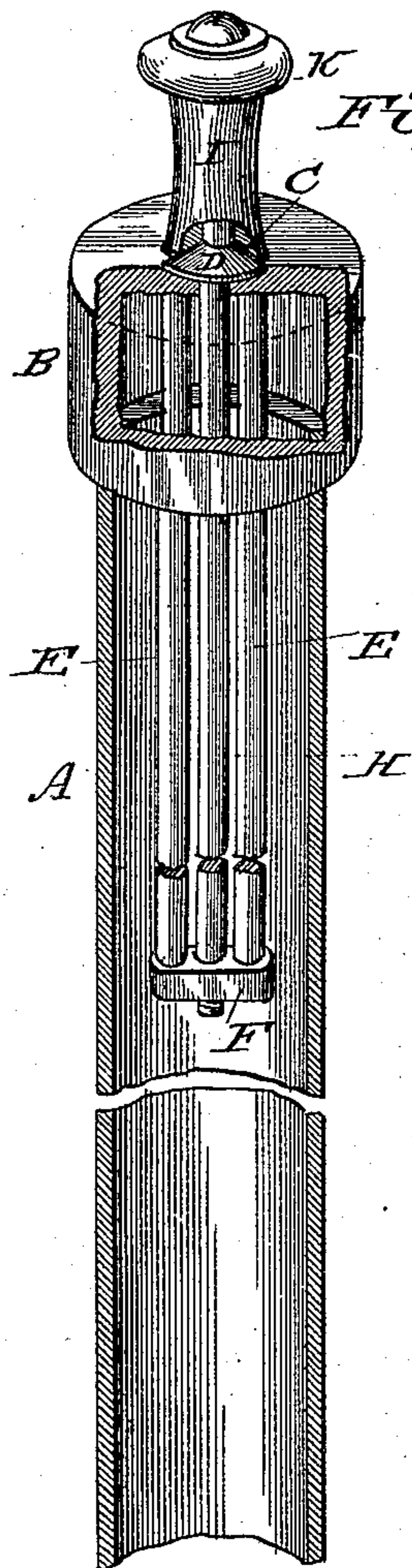


(No Model.)

T. L. McKEEN.  
STEAM RADIATOR.

No. 316,284.

Patented Apr. 21, 1885.



WITNESSES:

*Wm. S. Dietrich,*  
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INVENTOR.

*by: Louis Bagger & Co.*

ATTORNEYS.



# UNITED STATES PATENT OFFICE.

THOMAS L. McKEEN, OF EASTON, PENNSYLVANIA.

## STEAM-RADIATOR.

SPECIFICATION forming part of Letters Patent No. 316,284, dated April 21, 1885.

Application filed December 22, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS L. McKEEN, a citizen of the United States, and a resident of Easton, in the county of Northampton and State of Pennsylvania, have invented certain new and useful Improvements in Steam-Radiators; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of my improved valve for steam-radiators, and Fig. 2 is a vertical sectional view showing the same applied in position for operation.

The same letters refer to the same parts in both the figures.

This invention relates to valves for steam-radiators; and it has for its object to provide an automatic or self-acting valve which, while it shall offer no obstruction to the escape of cold air, shall be automatically closed so as to prevent the escape of steam as soon as the latter enters the radiator, but which may, however, be operated so as to admit of the escape of portions of the steam, and in such a manner as to avoid any possibility of scalding or otherwise injuring the hand of the operator.

With these ends in view the invention consists in the improved construction and arrangement of parts, which will be hereinafter fully described, and particularly pointed out in the claim.

In the drawings hereto annexed, A designates the steam-pipe of a radiator to which my invention is applied, and the upper end of which is provided with a cap, B, having a central perforation, C, surrounded by an upwardly-extending conical valve-seat, D.

Secured to the under side of the cap B, and extending downwardly through the steam-pipe A, are a pair of parallel rods, E E, the lower ends of which are connected by a cross-piece, F, having a screw-threaded opening, G, to receive the lower end of the valve rod or stem H, which is fitted loosely in and extends downwardly through the opening C in the cap B, and is provided at its upper end with an

inverted conical cap, I, adapted to fit tightly over the valve-seat D.

The upper end of the valve-stem is provided above the cap or valve I with a button or handle, K, which may be made of wood or of some other suitable non-conducting material, so as to enable the valve-stem to be conveniently handled without danger of scalding the fingers by radiating heat.

The connecting-rods E E are to be made of some metal—such as brass—which is considerably expanded by the application of heat, while the valve rod or stem H is made of some less expansive material—such as iron. It follows that the valve-cap being normally arranged a slight distance above its seat, the admission of steam into the radiator will cause the expansion of the rods E E, thereby tightening the valve against its seat and preventing the escape of the steam. When the radiator cools, the valve is by reverse action automatically opened, so as to admit cold air. When, during the presence of steam in the radiator, it is desired to permit any portion of the same to escape, this may be effected by partly opening the valve by unscrewing the valve-stem, when the escaping steam will strike the under inverted conical portion of the valve so as to be deflected outwardly and escape out before it can scald or injure the fingers of the hand by which the valve is operated.

From the foregoing description, taken in connection with the drawings hereto annexed, the operation and advantages of this invention will be readily understood.

The construction is simple. It may be easily applied to steam-radiators of ordinary construction, and the operation, except when it is desired to cause the escape of steam, is entirely automatic.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

In a valve for steam-radiators, the combination, with a cap having a conical seat provided with a vertical perforation, and having downwardly-extending rods connected at their lower ends by a cross-piece having a screw-threaded perforation, of a valve-stem con-

structed of less expansive metal than the supporting-rods, having its lower end screw-threaded and adjusted in the connecting-piece of the latter, and provided at its upper  
5 end with an inverted conical valve, and with a non-conducting handle, substantially as and for the purpose herein set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

THOMAS L. McKEEN.

Witnesses:

FLORENCE B. NOBLE,  
JOHN S. NOBLE.