

(No Model.)

R. T. CRANE.

STEAM RADIATOR ATTACHMENT.

No. 287,099.

Patented Oct. 23, 1883.

Fig. 1.

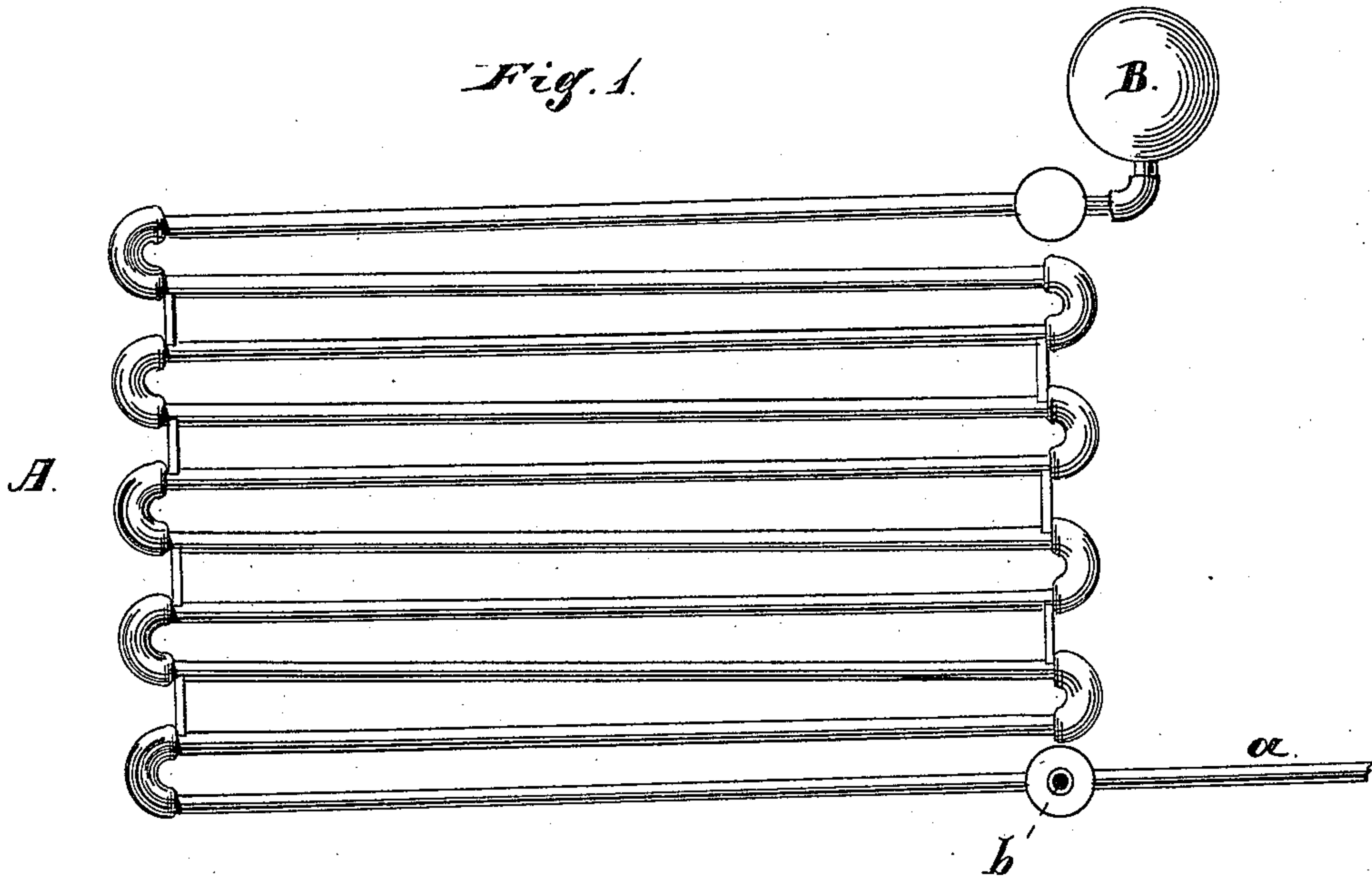
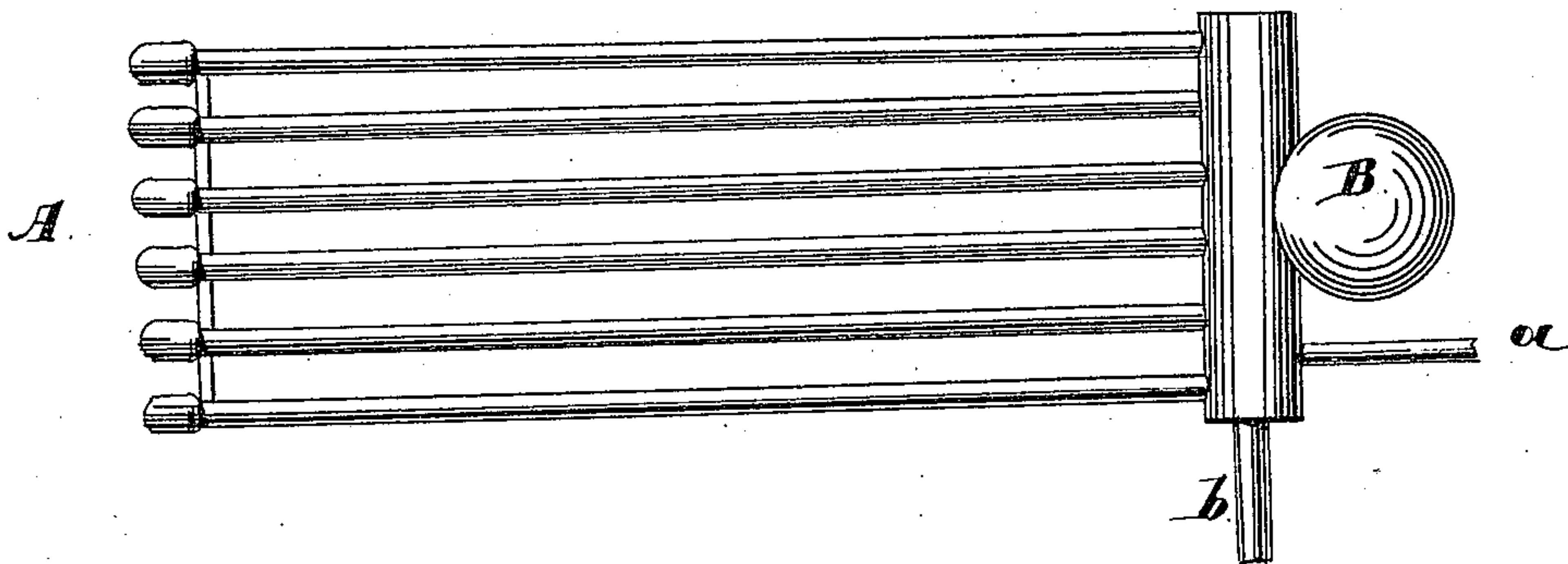


Fig. 2.



Witnesses.

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RICHARD T. CRANE, OF CHICAGO, ILLINOIS.

STEAM-RADIATOR ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 287,099, dated October 23, 1883.

Application filed May 12, 1883. (No model.)

To all whom it may concern:

Be it known that I, RICHARD T. CRANE, residing at Chicago, in the county of Cook and State of Illinois, and a citizen of the United States, have invented a new and useful Improvement in Steam-Heaters, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation; Fig. 2, a top view.

The object of this invention is to provide new means for regulating the amount of heat radiated from a steam-heater, which I accomplish by providing an air-chamber connected with the steam-heating coil or pipes, into which the air from the coil or pipes can be forced and therein confined or imprisoned by the steam, either wholly or partially, according to the pressure under which the steam is admitted, so that a portion only of the coil or pipes will be filled with steam when the pressure is low; but when the pressure is great steam will fill all the coil or pipes.

In the drawings, A represents a steam heating coil. B is an air-chamber connected with the coil at any suitable point. *a* is the steam-inlet pipe; *b*, the return-pipe.

The operation is as follows: When steam is first admitted to the coil, it and the air-chamber will both be full of air. If the steam-pressure below, the air in the coil will be somewhat compressed and forced from the lower portion thereof into the upper portion and into the air-chamber B, where such air will be confined or imprisoned. If the pressure be increased, a greater portion of the air will be displaced by the steam, and hence a greater portion of the coil will be filled with steam.

If the steam pressure be sufficient, all the air in the coil will be forced into and compressed in the air-chamber B, and then the whole coil will be filled with steam.

Heretofore when steam has been admitted into a coil or pipes, all the air therein has been allowed to escape therefrom, so that the whole coil or all the pipes will be filled with steam whenever there is any pressure. With my improvement the air in the coil or pipes and in the air-chamber offers a resistance to the steam-pressure, so that when the pressure is small only a portion of the coil will be filled with steam; but when the pressure is great all the coil will be filled with steam. Thus while the coil or the number of pipes remains the same, the amount of heating-surface actually in use varies according to the pressure of the steam.

In some cases, if desired, a number of coils may be connected with a single air-chamber by means of pipes running from the header of each coil to the air-chamber. This arrangement would, I think, be especially desirable in heating by indirect radiation.

What I claim as new, and desire to secure by Letters Patent, is as follows:

A closed air-chamber connected with a steam-heating coil or pipes, and into which the air in the coil or pipes is more or less forced, according to the steam-pressure, such air being confined or imprisoned in the air-chamber by the steam-pressure, substantially as described.

RICHARD T. CRANE.

Witnesses:

E. A. WEST,
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