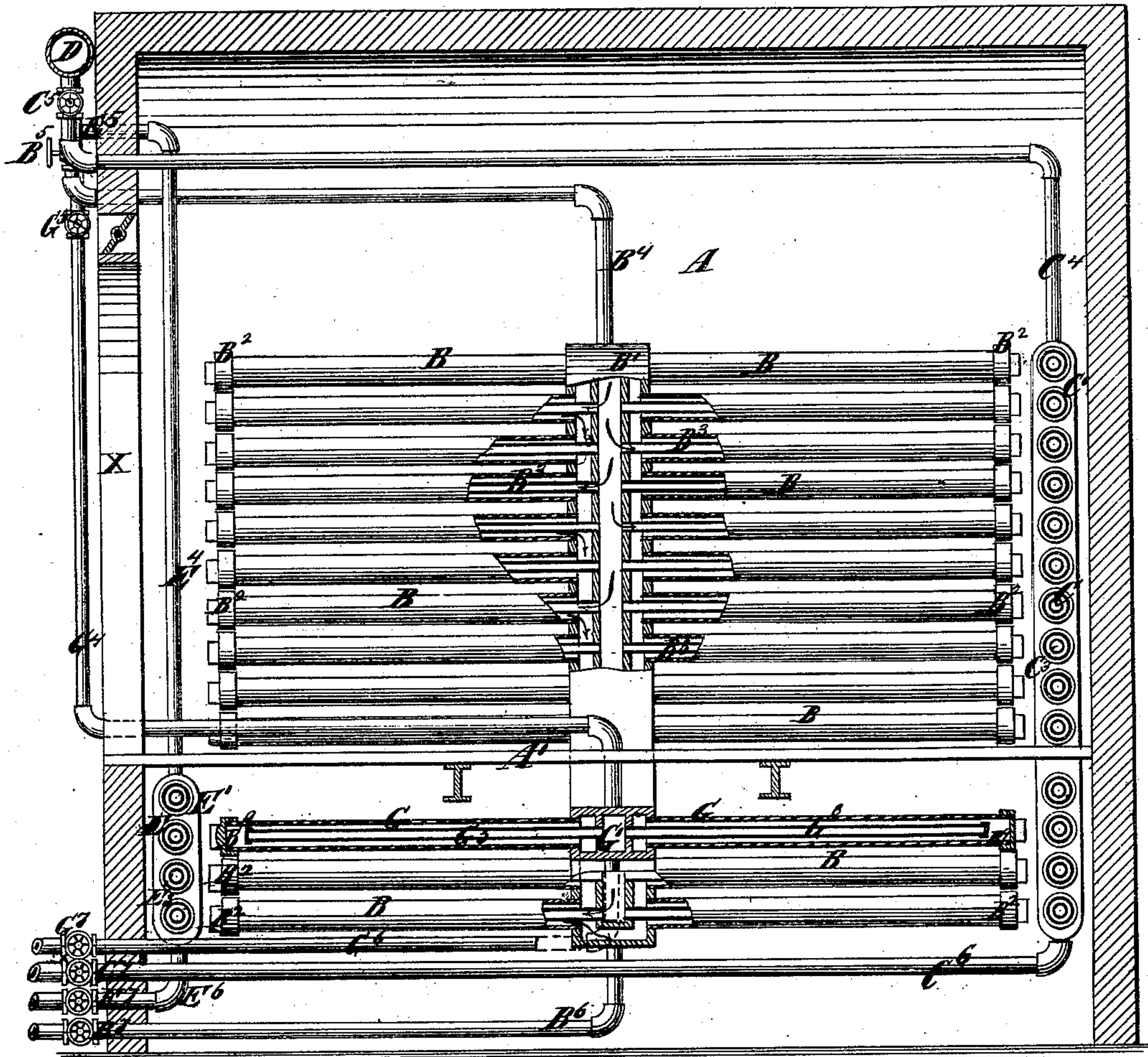


W. E. KELLY.
Vulcanizing-Chambers for Use in the Manufacture of
Articles of India Rubber.

No. 218,984.

Patented Aug. 26, 1879.

Fig 1.



Witnesses:
Fred. Haynes
Thomas E. Birch.

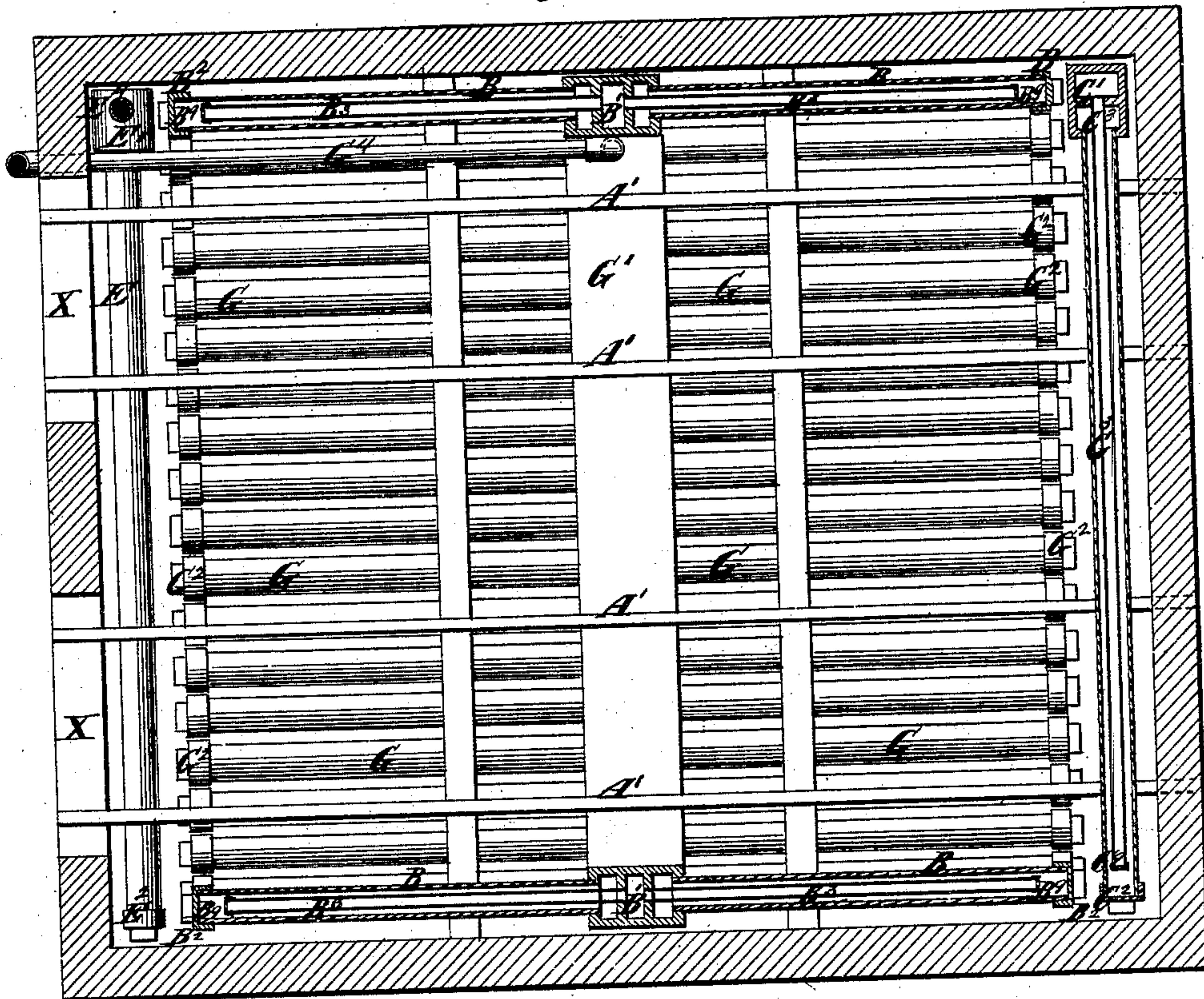
Inventor.
William E. Kelly.
by his Attorney.
Edwin H. Brown.

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Fig 2.



Witnesses:
Fred W. Heyner
Thomas E. Birch.

Inventor.
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Edwin W. Brown

UNITED STATES PATENT OFFICE.

WILLIAM E. KELLY, OF NEW BRUNSWICK, NEW JERSEY.

IMPROVEMENT IN VULCANIZING-CHAMBERS FOR USE IN THE MANUFACTURE OF ARTICLES OF INDIA-RUBBER.

Specification forming part of Letters Patent No. **218,984**, dated August 26, 1879; application filed June 25, 1879.

To all whom it may concern:

Be it known that I, WILLIAM E. KELLY, of New Brunswick, in the county of Middlesex and State of New Jersey, have invented certain new and useful Improvements in Vulcanizing-Chambers, of which the following is a specification.

This invention relates to vulcanizing-chambers for use in the manufacture of articles of india-rubber.

It consists in a chamber furnished with a series of pipes unconnected with and isolated from each other, though extending from a steam-receptacle common to all, whereby the liability of leakage is lessened, and facility afforded for repairing or replacing any of the pipes without detriment to the operation of the others.

It also consists in a chamber furnished with series of pipes connected to receptacles, so that the several series and their receptacles are independent of the others, are supplied with and exhausted of steam independently of the others, and may be controlled and repaired independently thereof.

It also consists in details hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a central vertical section of a vulcanizing-chamber embodying my invention, and Fig. 2 is a horizontal section of the same.

Similar letters of reference designate corresponding parts in both figures.

A designates a vulcanizing-chamber, which may be built of brick, wood, or other material, in the ordinary or any other suitable manner, and provided with a doorway, X, one or more, and tracks A', for carriages containing articles to be vulcanized.

B designates series of pipes extending laterally from a receptacle, B¹, composed of an inner and outer compartments, and arranged in proximity to the side walls of the chamber A. The several pipes are isolated from and independent of each other, and are furnished at the outer ends with caps B². In these pipes are smaller pipes B³, open at the inner ends, receiving steam from the inner compartment of the receptacle B¹, and extending therefrom to near the outer ends of the pipes B. At

the outer end they are closed by caps B³, provided with an opening much smaller than their interiors.

Steam circulates from the inner compartment of the receptacle B¹ through the pipes B³, and back through the pipes B into the outer compartment of the receptacle B¹ again. The caps B³ on the outer ends of the pipes B³, owing to the smallness of the openings therein, serve to check the flow of steam, so that it will not flow mainly through the pipes adjacent to its source, but will flow uniformly, or nearly so, through the whole of the series.

The inner compartment of the receptacle B¹ is supplied with steam by a pipe, B⁴, provided with a stop-cock, B⁵, and leading to its upper part from a drum, D, or a steam-generator arranged outside the chamber A, and it is exhausted of steam by means of a pipe, B⁶, leading from the lower part of the receptacle, and provided with a stop-cock, B⁷.

It is obvious that any one of a series of pipes isolated and independent of each other, as are those described, can be removed, and the hole in its receptacle plugged, so as to permit of the use of the other pipes when necessary, or fitted with a new pipe; and, furthermore, that pipes so combined, being destitute of connections, will be less liable to become disarranged and leaky than if connected to form a coil or circuit.

C designates a series of pipes furnished with caps C², containing smaller pipes C³, fitted with perforated caps C³, and connected with a receptacle, C¹. This receptacle comprises inner and outer compartments, is supplied with steam by a pipe, C⁴, provided with a stop-cock, C⁵, communicating with the drum D or a steam-generator, and is exhausted of steam by a pipe, C⁶, provided with a stop-cock, C⁷. All these parts are similar to analogous parts before described, save that the pipes C and C³ extend from one side only of the receptacle C¹, and they are arranged in proximity to the back of the chamber A.

E designates a series of pipes extending from a receptacle, E¹, and furnished with caps E². Within these pipes are small pipes E³, furnished with perforated caps.

E⁴ designates a pipe provided with a stop-

cock, E⁵, leading from the drum D or a steam-generator, and E⁶ designates a pipe provided with a stop-cock, E⁷, whereby steam is exhausted from the receptacle. All these parts are similar to corresponding parts before described, and are in proximity to the front of the chamber A, below the doorway. The pipes here extend from one side of the receptacle E¹ only.

G designates pipes fitted with caps G², extending in horizontal rows from opposite sides of a horizontally-arranged receptacle, G¹, and containing smaller pipes G³, fitted with perforated caps G⁴. This receptacle is supplied with steam by a pipe, G⁴, leading from the drum D or a steam-generator, and provided with a stop-cock, G⁵, and it is exhausted of steam by a pipe, G⁶, provided with a stop-cock, G⁷. All these parts are like those corresponding to them, and before described, and are arranged below the tracks A' in the chamber A, and near the floor of the latter.

It will be seen that any of these series of pipes B, C, E, and G may be controlled by means of the supply-pipes B⁴, C⁴, E⁴, and G⁴, with their stop-cocks B⁵, C⁵, E⁵, and G⁵, and the exhaust-pipes B⁶, C⁶, E⁶, and G⁶, with the stop-cocks B⁷, C⁷, E⁷, and G⁷, independently of each other series, and hence that the heat may be regulated at different parts of the chamber, as may be desirable, and that if either series of said pipes needs repairs the others are not necessarily rendered inoperative.

It is obvious that, in lieu of the pipes containing smaller pipes for securing circulation of steam, pipes containing longitudinal partitions extending to within a short distance from their outer ends may be used.

The steam-receptacles B¹, C¹, E¹, and G¹ and the pipes communicating with them may be arranged in various positions other than those illustrated and described with good results.

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

1. A chamber furnished with series of pipes unconnected with and independent from each other, extending from a receptacle, substantially as specified, whereby liability to leakage is lessened, and any pipe of any series may be repaired or replaced by another without interfering with the others of the series.

2. A chamber furnished with series of pipes unconnected with and independent from each other, extending from a receptacle, and containing within them smaller supply-pipes furnished with caps having small openings, so as to check the flow of steam through them, substantially as and for the purpose specified.

3. A chamber furnished with series of pipes connected to receptacles supplied with steam by pipes leading from a drum or steam-generator, and provided with stop-cocks, and exhausted of steam by other pipes, also provided with stop-cocks, substantially as specified, whereby heat may be directed to different parts of the chamber, and they may be repaired independently of other series.

4. A chamber provided with series of pipes and appurtenances arranged severally in vertical rows in proximity to the sides, front, and back, and a series of pipes and appurtenances arranged in a horizontal row near the floor of the receptacle, and severally supplied with steam independently of the other series by pipes leading to them from a drum or steam-generator, and provided with stop-cocks, substantially as specified.

WILLIAM E. KELLY.

Witnesses:

CHANDLER HALL,
E. P. JESSUP.