

**H. BONE.**  
**Cooling and Moistening the Air in Cotton-Factories**  
**to Condition the Cotton.**

No. 149,980.

Patented April 21, 1874.

FIG. I.

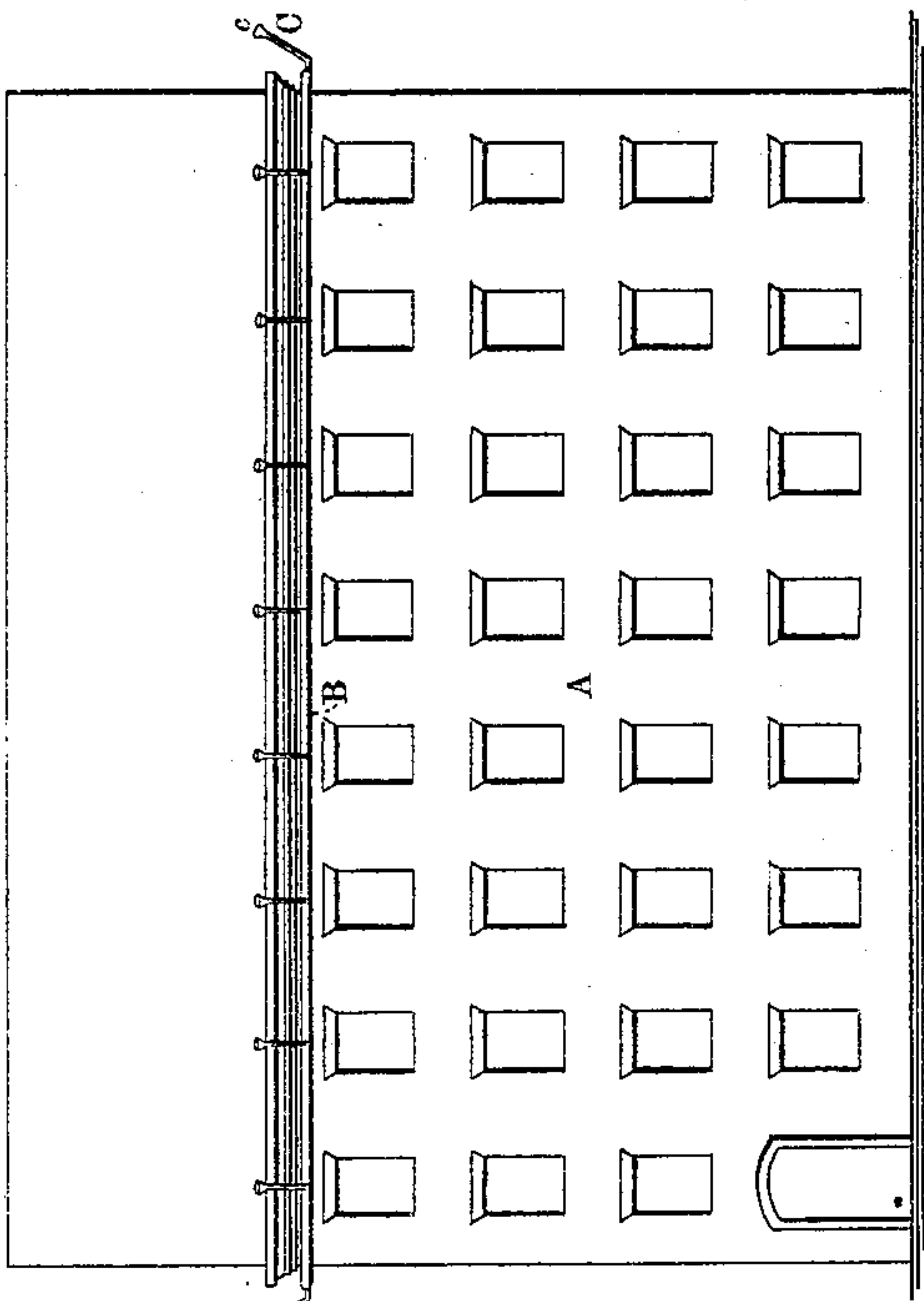


FIG. II.

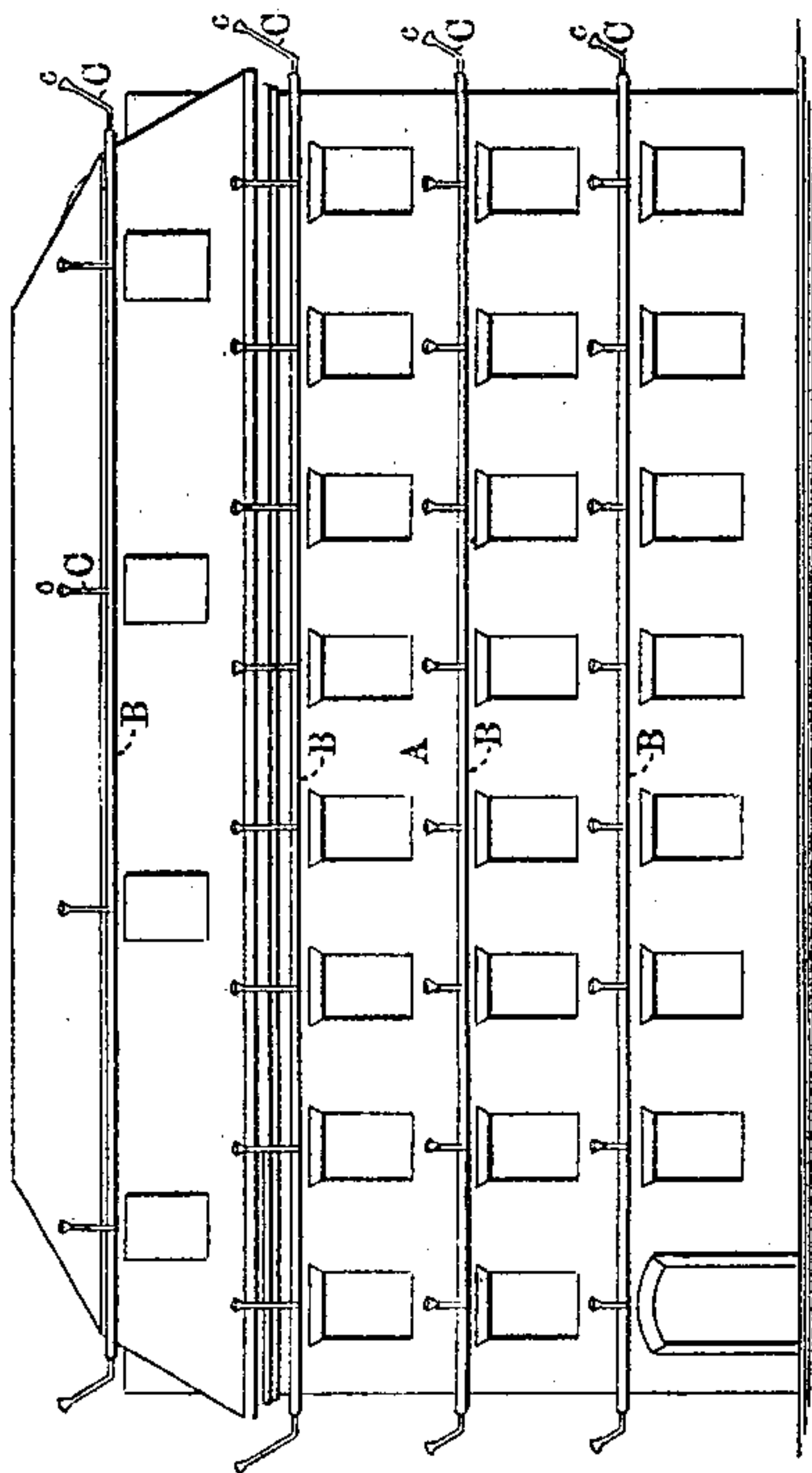
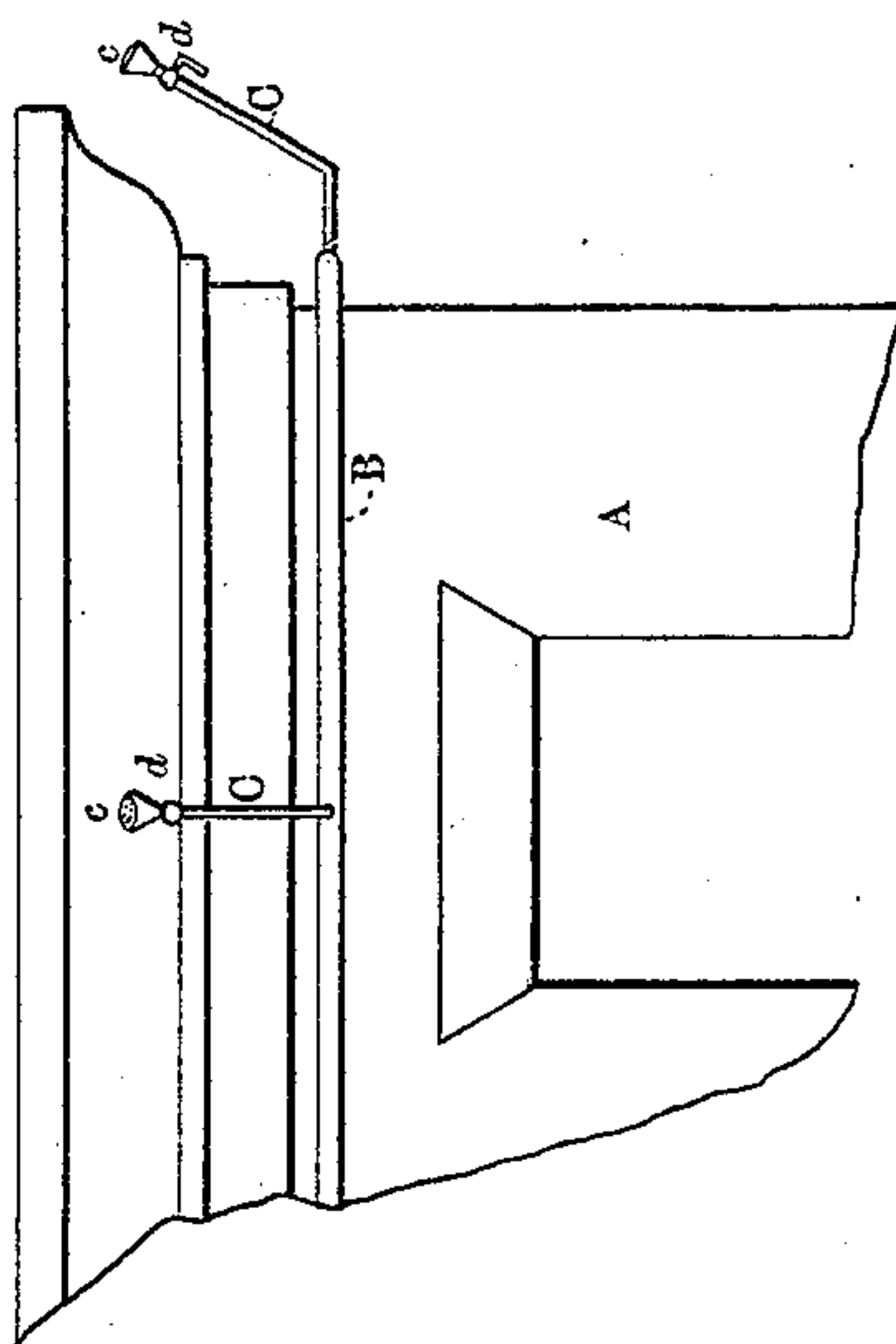


FIG. III.



— WITNESSES —

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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN COOLING AND MOISTENING THE AIR IN COTTON-FACTORIES TO CONDITION THE COTTON.

Specification forming part of Letters Patent No. 149,980, dated April 21, 1874; application filed  
June 30, 1873.

*To all whom it may concern:*

Be it known that I, HUGH BONE, of Ellicott city, Howard county, Maryland, have invented a certain Improved Process and Apparatus for Moistening or Conditioning Cotton in Factories while in course of manipulation in dry and hot seasons of the year; and I do hereby declare that in this specification of my invention is contained a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon.

The means employed consist in a water-sprinkling pipe connected with some method of forcing the water through the said pipe at a pressure, placed around the walls of a cotton mill or factory, in such relation to the windows or doors, or other apertures affording ventilation and light to the building, as to cause a series of minute streams to be ejected in a spray to the ground, for the purpose of moistening the air passing into the building. The intention of this moistening of the atmosphere of the mill, whether resulting from its contact with the falling spray and its absorption of the vapor therefrom previous to its entering the building, or from the direct passage of the spray into the mill through the windows or other ventilating or lighting apertures, is to produce a beneficial effect upon the cotton during the process of manufacture. This invention is specially designed for constant use during the summer or other months when great dryness in the atmosphere exists.

It is a fact well known to cotton manufacturers that in certain electrical conditions of the atmosphere the moistening thereof operates advantageously upon the cotton; and such is the necessity of a moist atmosphere in cotton-mills that manufacturers resort to watering the floors of the factory, thus creating an artificial moist atmosphere, but by a process at once laborious, imperfect in the results obtained, and detrimental to the health of the operatives.

In the accompanying drawing, forming a part of this specification, Figure I is an elevation of a cotton-mill, having the sprinkling mechanism applied thereto. Fig. II is a sim-

ilar elevation, showing my invention differently arranged with respect to the building. Fig. III is an enlarged view of a corner of the building and cornice, a portion of the invention being also shown.

Similar letters of reference indicate similar parts of the invention in the different views.

A is the building; B, a water-pipe, which encircles the building near the cornice; or one or more pipes may be placed with reference to one or more stories of the building. The pipe B may be formed of lengths of gas-pipe coupled together, and is connected with either a reservoir of water, a pump driven by the mill machinery, or other means for causing the water to be forced through the pipe under pressure. Sprinkling-pipes C, with sprinklers *c c*, are secured to the pipe B at certain distances apart. As shown in Fig. I, the pipe B is placed near the cornice of the building. In Fig. II different pipes are arranged with reference to the several stories of the building, the sprinkling-pipes and sprinklers being placed in each pipe where it crosses the several windows or doors. The sprinklers are of a character similar to those upon the ordinary watering-cans—that is, they are conically formed, with the ends, which are rounded, perforated. By rounding the ends of the sprinklers greater area of perforated surface is obtained, and the divergence of the streams or jets increased. Cocks *d* are placed in the sprinkling-pipes, by which cocks the flow of water to the sprinklers may be regulated or entirely shut off.

I am aware that perforated pipes have been placed around the exterior of buildings with a view to the extinguishing of fires by either deluging the building with water or interposing a sheet of water between a burning building and the one which it is desired to protect, and to pipes so placed, when provided with large apertures or nozzles, for these or other purposes, or for pipes capable of scattering anything but minute streams or spray constantly around the building, as herein set forth, I make no claim of invention; but

What I claim as new, and wish to secure by Letters Patent of the United States, is—

1. A process for conditioning cotton in fac-



tories in dry and hot seasons of the year, consisting in admitting an artificial spray from the exterior of the building through windows or openings into contact with the cotton under manipulation, as set forth.

2. A spray-causing apparatus, consisting of a continuous pipe leading to water under pressure placed around the exterior of the factory, and provided with stop-cocks and sprinklers or apertures, through which water

may constantly be ejected to the ground in the condition of spray or minute streams, substantially as specified.

The foregoing specification of my invention signed by me this 28th day of June, A. D. 1873.

HUGH BONE.

Witnesses:

THOS. MURDOCH,  
WM. T. HOWARD.