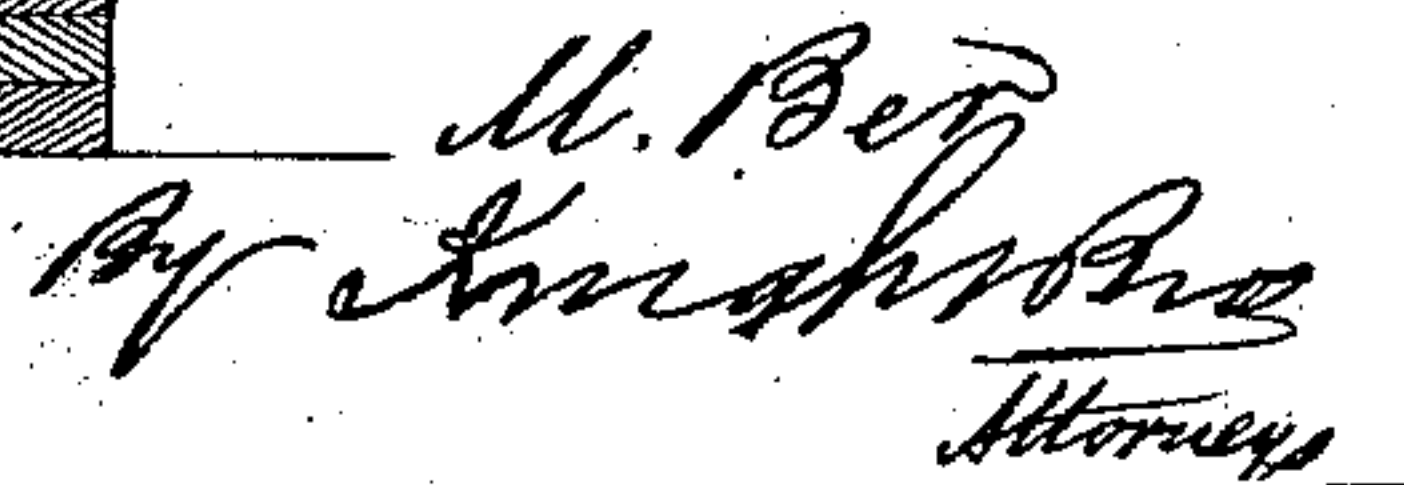


## Jacket for Furnace Pipes.

Patented Aug. 23, 1870.





# United States Patent Office.

MICHAEL BER, OF NEW YORK, N. Y.

Letters Patent No. 106,652, dated August 23, 1870.

## JACKET FOR HEATING-PIPES.

The Schedule referred to in these Letters Patent and making part of the same.

I, MICHAEL BER, of the city, county, and State of New York, have invented a new and useful Improved Heating Apparatus, of which the following is a specification.

### *Nature and Objects of the Invention.*

My invention consists in inclosing the main distributing pipe or pipes of a hot-air, hot-water, or steam apparatus for heating buildings, with a tubular jacket or jackets, supplied with external air, and adapted to conduct the same to one or more points of delivery, in contact with the said heating-pipe or pipes.

The results of the provision are—

First, the pipes are guarded, and any accident or injury from contact with them thus prevented.

Second, the radiated heat is conveyed to desirable points.

Third, a large additional amount of heat is absorbed from the highly-heated pipes, and utilized.

Fourth, the building may be supplied with fresh air in a heated and healthy condition.

### *Description of the Accompanying Drawing.*

Figure 1 is a longitudinal vertical section of a hot-air heating apparatus, illustrating my invention.

Figure 2 is a transverse vertical section of the same.

### *General Description.*

A represents the fire-chamber of a hot-air heating apparatus;

B B', the air-chamber of the same;

C, the grate of the furnace A;

D, the ash-pit, and

E the exit-pipe of the same.

b b represent openings for the admission of air to the air-chamber B B'.

F represents a pipe leading from the air-chamber B B' to a point where branches *f f* may lead from it to different rooms. This pipe F, which is often necessary, and is generally horizontal, or nearly so, has heretofore been a source of waste and danger, the heat radiated from it being lost, and its highly-heated surface exposed to contact.

I apply to said pipe F a jacket or casing, G, communicated with by a pipe, J, leading from a source of pure air, and discharging through one or more pipes,

K, or their equivalent, into a room or rooms to be heated.

The said jacket or casing G serves to protect the said pipe F, and to collect and convey to desirable points the heat radiated therefrom, while it also serves as a means for introducing and heating fresh air from without, and augments the heating capacity of the furnace by the absorption of heat from the highly-heated surface of the inclosed pipe F, by the comparatively cool air conducted by it, in contact with the said pipe F.

The jacket or casing G may, in this use, be enlarged to form a chamber, I, to inclose more or less of the branches *f* of the pipe F, where they separate.

It may also be clothed with a covering, H, of felt or other non-conducting substance, to prevent loss of heat by radiation.

In a heating apparatus thus provided with my appliance, the furnace may be located in a separate building, at any reasonable distance, without loss of heat.

It will be observed that any peculiarity of the primary heater has no essential effect on my appliance. It is equally applicable to steam-pipes and hot-water pipes as to those conducting hot air, its form being in either case substantially the same.

I am aware that air, for ventilating and other purposes, has been conducted in contact with the flue for carrying off the products of combustion from a stove or furnace. This forms no part of my invention. I am also aware that a jacket has been applied to a furnace, external to that forming the hot-air chamber, for the purpose of warming air by contact with the latter. I disclaim this. My invention relates exclusively to the distributing-pipes.

### *Claim.*

What I claim as new is—

The combination, with a distributing-pipe, F, of a hot-air or other heating apparatus, of a tubular jacket, G, having an air-supply, J, and one or more discharges, K, substantially as herein described, and for the purposes set forth.

Witnesses:

JOSEPH PAUDLER,  
EDWARD H. KNIGHT.

MICHAEL BER.