(No Model.)

S. D. STAUFFER.

INSULATOR FOR HEATING PIPES, TUBES, OR FLUES.

No. 509,963. Patented Dec. 5, 1893.

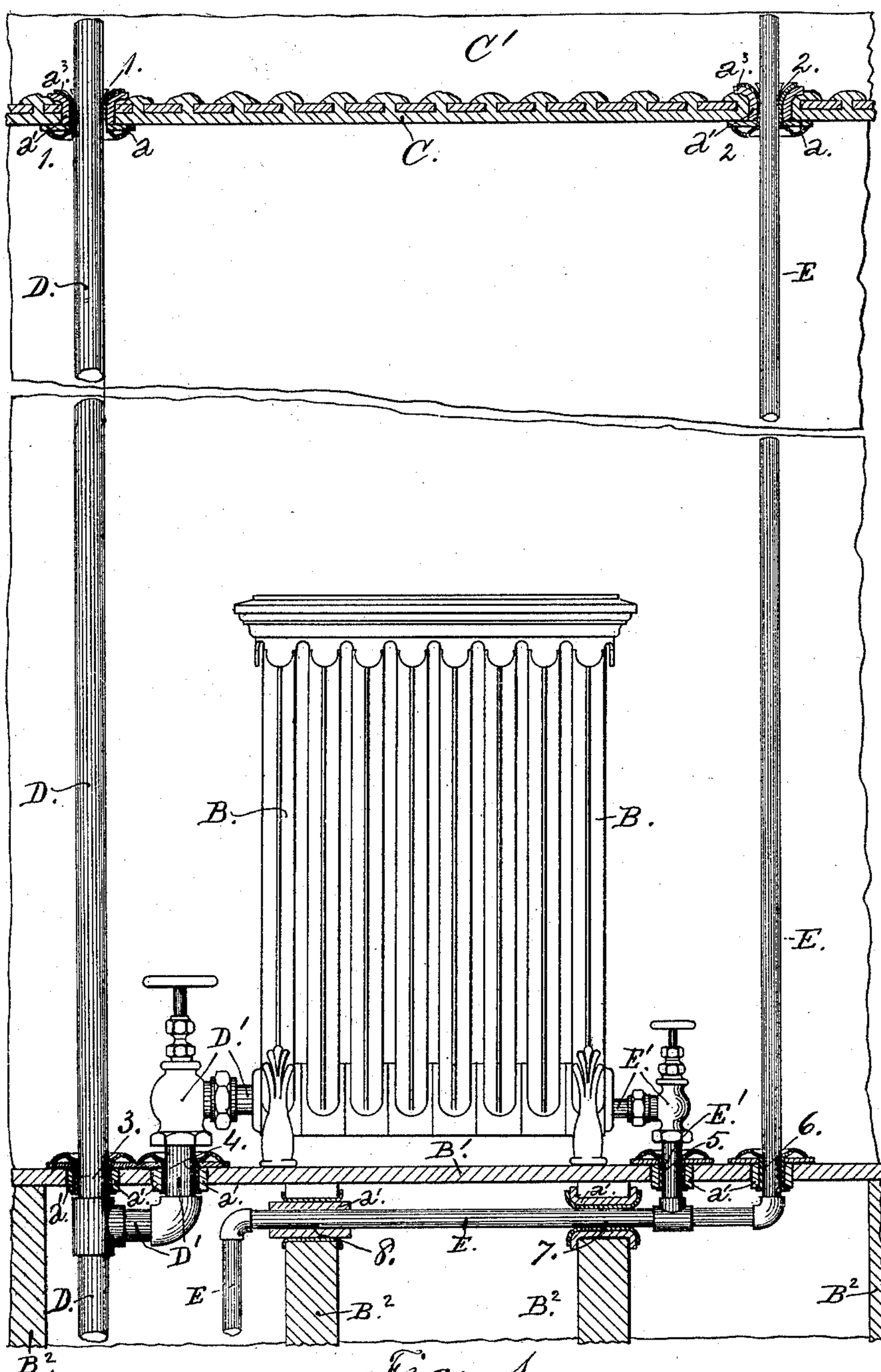

Fig. 1.

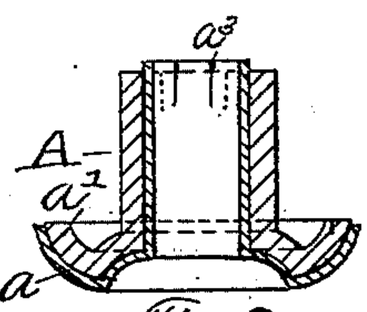

Fig. 2.

Witnesses:

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SAMUEL D. STAUFFER, OF LANCASTER, PENNSYLVANIA.

INSULATOR FOR HEATING PIPES, TUBES, OR FLUES.

SPECIFICATION forming part of Letters Patent No. 509,963, dated December 5, 1893.

Application filed May 9, 1890. Serial No. 351,190. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL D. STAUFFER, a citizen of the United States, residing at Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain new and useful Improvements in Insulating Devices for Heating Pipes, Tubes, or Flues; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in pipe or flue insulators of that class in which a ring, collar or tube is placed around heating pipes, tubes or flues, where said pipes, tubes or flues pass through ceilings or floors as in the various methods of heating buildings by the radiation of heat from steam, hot water or heated air.

The object of my invention is to combine with or attach to the collar, ring and tube now in general use by steam fitters, a washer and a tube made of some incombustible material that will be a complete non conductor of heat and thus prevent the chemical changes which take place in the materials of the floors and ceilings, and the joists between them, from the close contact with the heating pipes, tubes or flues passing through them and often cause fires from spontaneous combustion as has been clearly demonstrated in investigations by fire insurance companies as to the unknown causes of fires.

I attain the purposes of my invention by the devices illustrated in the accompanying drawings in which similar letters and figures refer to similar parts throughout both views.

Figure 1 is a side elevation of a radiator and sectional views of floor and ceiling showing pipe, tube or flue connections with the several elements of my invention in place; Fig. 2, a vertical section, enlarged, of my insulator as applied to ceiling or floor.

A designates my invention for use by steam fitters to cover the edges of the orifices where they pass the feed and return pipes of radiators through the ceilings and floors of the buildings they desire to heat by steam, hot water or heated air; while the horizontal pipes lie simply in recesses cut into the joists or floor beams across which said pipes pass.

The insulator comprises a metal tube *a*, and a tube *a'* of a packing or felt of asbestus or any other material of the same nature, and being absolutely non-inflammable, said tube *a* and tube *a'* are incombustible and positive non-conductors of heat or flame. The tube *a'*, is placed on the metal tube *a*, and said tube *a'*, surrounds the metal tube on the inside. The tubes may be secured together by having a metal prick punched into the body of the metal tube. The upper ends of both tubes have vertical cuts forming a number of longitudinal strips a^3 which may be pressed outward to hold the tube and collar to the ceiling.

In Fig. 1, of the drawings, B is a radiator of the ordinary pattern, placed in position on the floor B', laid on joists B^2, while C designates a plastered ceiling upheld in the usual manner by joists of which C' is one extending longitudinally.

D represents the feed and E the return pipe, while D' and E' are the connections with the radiator.

At 1 and 2 my device or insulator is applied to a ceiling, where the strips a^3 at the upper ends of the tubes are pressed outward over the plastering, securely holding said device in place, positively separating the metal from the ceiling, completely insulating the pipes D and E from said ceiling and preventing all contact therewith.

At 3, 4, 5 and 6, my device is applied to the floor. Here the lower edges of the metal tubes are curved slightly outward over the ends of the tubes *a'* to keep them in place, completely insulating the pipes D and E, and the connections D' and E' from said floor and preventing all contact therewith.

It may be readily seen that, by the application of my insulating devices as shown, the floors, ceilings and joists, will be entirely and completely separated from all metallic connection with the heating pipes passing through them; that said pipes, tubes or flues will be completely insulated from said floors, ceilings or joists, and, that the said floors, ceilings or joists will not be exposed to the disturbing effects of the friction resulting from the alternate expansion and contraction of said pipes, &c.

I am aware of the inventions: Walworth, No. 164,700, dated June 22, 1875, for stove

pipe thimbles; Harris, No. 71,300, dated November 26, 1867, same class; and, Linden, No. 145,579, dated December 16, 1873, for securing tubes together by bent over strips, and do not claim any thing they have in their patents; neither do I claim the metallic tube and collar ring (the well-known ceiling plate), but

What I do consider new, and desire to secure by Letters Patent, is—

An insulator for heating pipes composed of two tubular pieces adapted to fit one within the other, the outer piece made of asbestus and consisting of a tube or body portion provided at its lower end with a ring or washer integral therewith having annular grooves in its upper and lower faces, in combination with the inner metal piece, corresponding in shape to the inside contour of the said outer piece, and provided on the under side with an annular outwardly flaring recess, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

SAMUEL D. STAUFFER.

Witnesses:

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