

(No Model.)

R. H. MARTIN.  
COVERING FOR STEAM PIPES.

No. 245,083.

Patented Aug. 2, 1881.

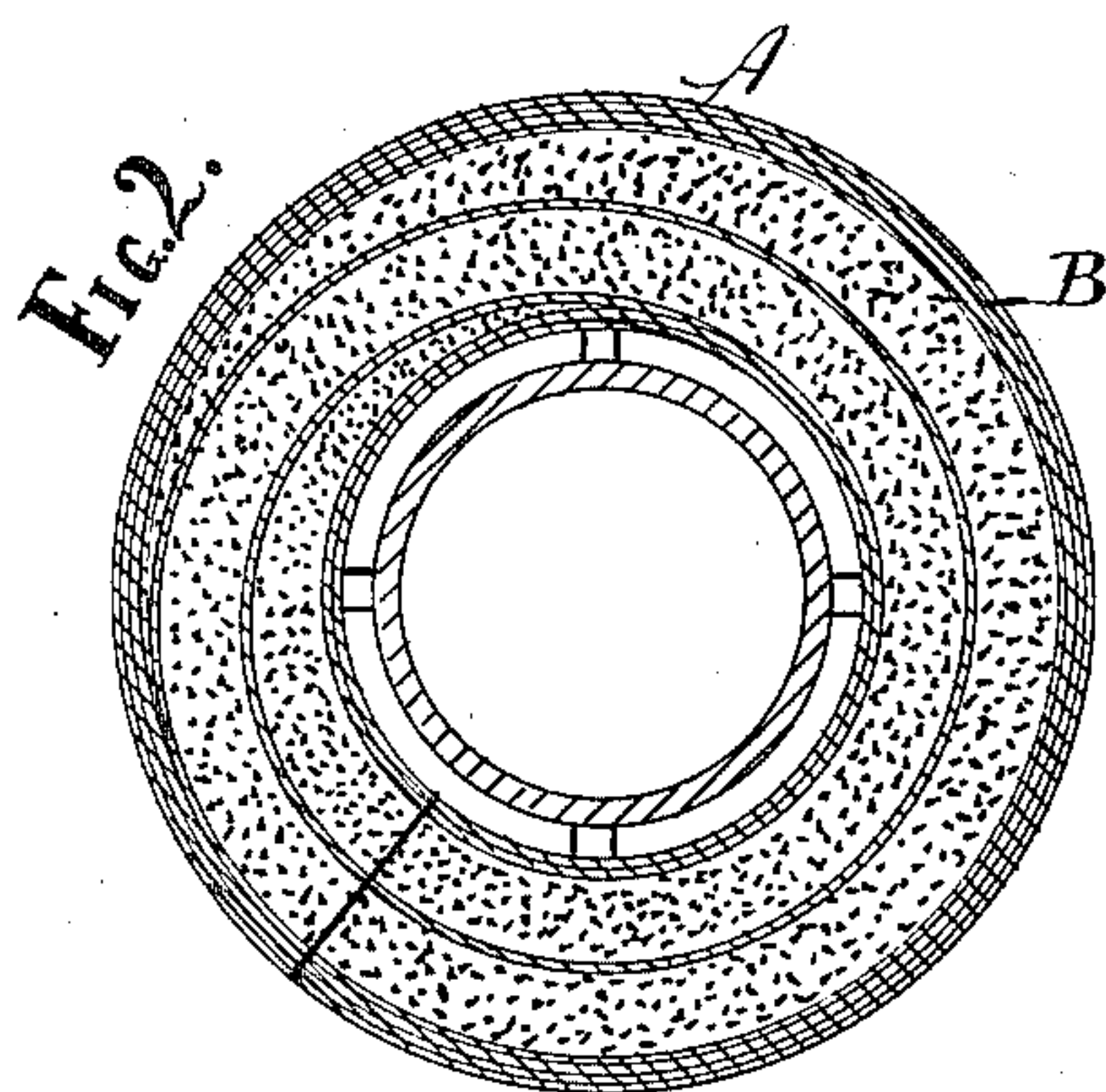
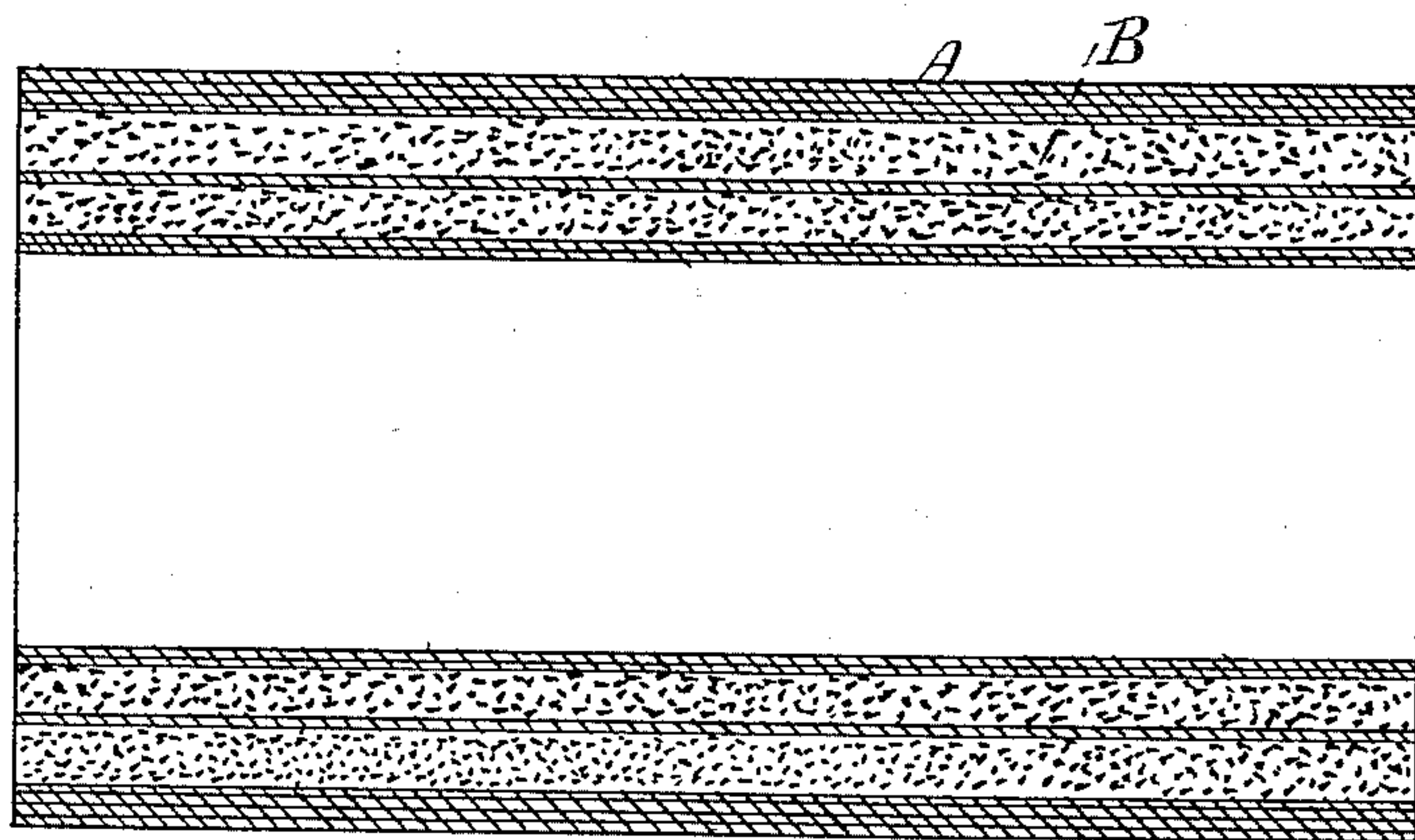


Fig. 1.



Witnesses.

James Fenwick  
William H. Barr

INVENTOR

Robert H. Martin



# UNITED STATES PATENT OFFICE.

ROBERT H. MARTIN, OF BROOKLYN, NEW YORK.

## COVERING FOR STEAM-PIPES.

SPECIFICATION forming part of Letters Patent No. 245,083, dated August 2, 1881.

Application filed May 13, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT H. MARTIN, of the city of Brooklyn, in the county of Kings and State of New York, have invented new and useful Improvements in Non-Conducting Coverings for Steam and Hot Pipes and Boilers, &c., of which the following is a description, reference being had to the drawings, wherein—

10 Figure 1 is a longitudinal section of a pipe-covering. Fig. 2 is a cross-section of the same.

Similar letters denote corresponding parts.

15 The nature of my invention consists in the manner of employing loose fibrous material conveniently and effectually as a non-conductor.

20 The object of my invention is to employ successfully loose fibrous materials so as to obtain the most perfect non-conductor of heat known. The conduction of heat depends upon a medium through which it may progress from molecule to molecule, and the rate of progression will depend in a large measure upon the amount of contact between the molecules.

25 It is well known that confined air is an excellent non-conductor of heat, and the excellence of a covering depends largely on the character of the material used and the amount of air-space which is permitted either by the nature of the material or its condition. Felt and fibrous coverings, such as paper or woven fabrics, depend mainly for their bad conducting property on the interstices between fibers. The looser the felt or web the greater the interstices for air and the air-spaces. The combustibility, too, of the material used is important, in that the life of the covering is determined by it.

40 I have found the most advantageous covering to consist in the use of loose fiber of asbestos, because with it I obtain absolute indestructibility by carbonization, with approximately the greatest amount of air-spaces. To avail myself of this feature I have invented the following-described method of applying it.

45 In the drawings, A is a continuous sheet of asbestos or felted, woven, or compressed fabric, as paper, which is rolled as a coil. As rolled I feed between the coils loose asbestos or other non-conducting fibrous or porous material, B, of similar character, in such manner that when a roll of the desired thickness is

obtained a pipe of alternate layers of felted, woven, or compressed material and loose fibrous or porous material results.

55 The ends of the pipe, as well as the inner and outer ends of the coiled roll, may be securely closed by any suitable cement or adhesive material, such as silicate of soda.

60 The same or other adhesive material might be applied to the sheet as rolled; but the quantity used should be as small as possible, for such material is in a degree a good conductor of heat.

65 The roll when made may be finished by any desired covering of paper, canvas, or other material ordinarily used for such purpose, and may be split longitudinally for convenience of application.

70 In cases where the covering is to be applied to other than cylindrical surfaces, the covering should be made in sheets, of three or more alternate layers of sheet and loose fibrous material, sealed at its edges by adhesive material or by sewing or metal fastenings of approved character.

The method of coiling or rolling is not important.

80 I am fully aware that coverings have been made by coiling alternate sheets of different materials, but not by an alternate sheet and loose fiber.

85 I use the word "loose" in this specification in contradistinction to the term "fabricated," whether referring to woven, felted, compressed, or other fabric.

90 I am aware that loose asbestos fiber has been applied as a covering when confined by and contained in a receptacle of wire cloth or gauze surrounded by a non-conductor; but my invention does not contemplate such an application of fibrous material.

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

95 As a new article of manufacture, a non-conducting covering for steam and hot pipes, &c., composed of a coil of alternate sheet and loose asbestos or similar material in fiber, so as to be placed around pipes or other surfaces to be covered, substantially as described.

ROBERT H. MARTIN.

Witnesses:

JAMES DEMAREST,  
WILLIAM A. BARR.