

No. 646,289.

Patented Mar. 27, 1900.

J. JONES.

NON-CONDUCTING COVERING.

(Application filed May 25, 1899.)

(No Model.)

Fig. 1.

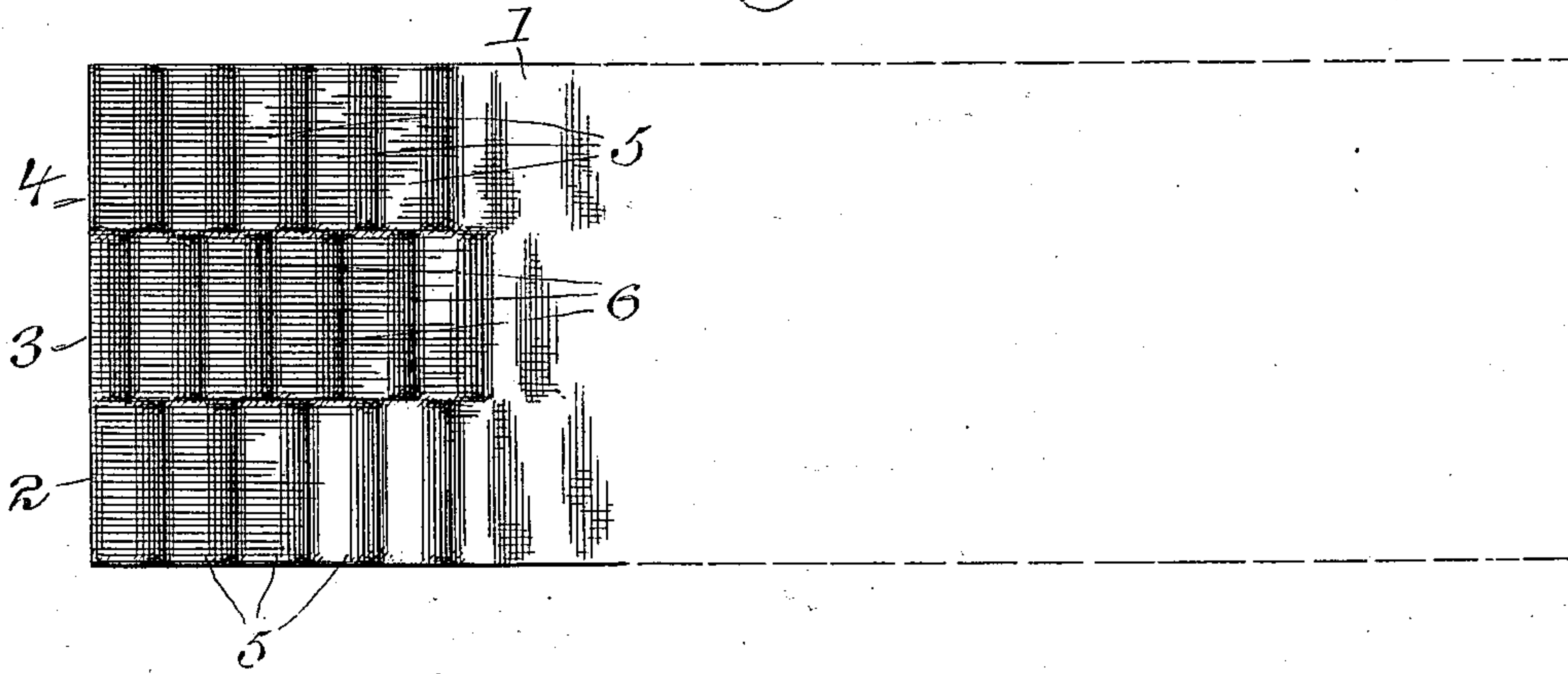


Fig. 2.

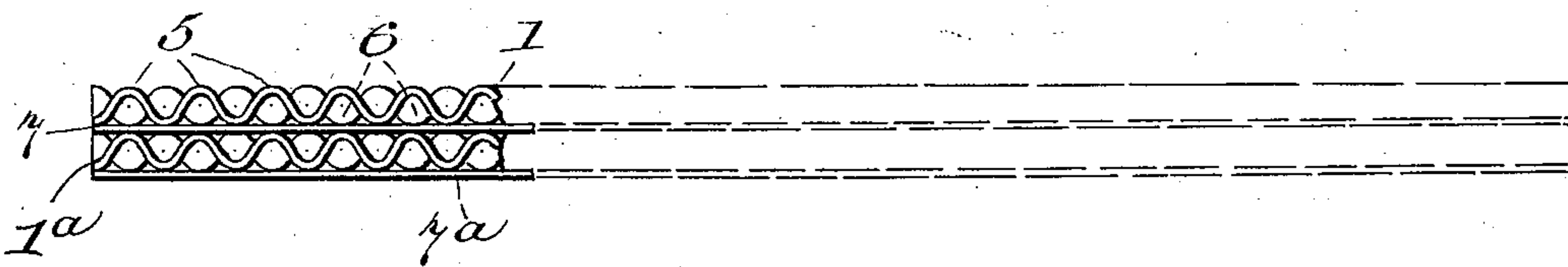
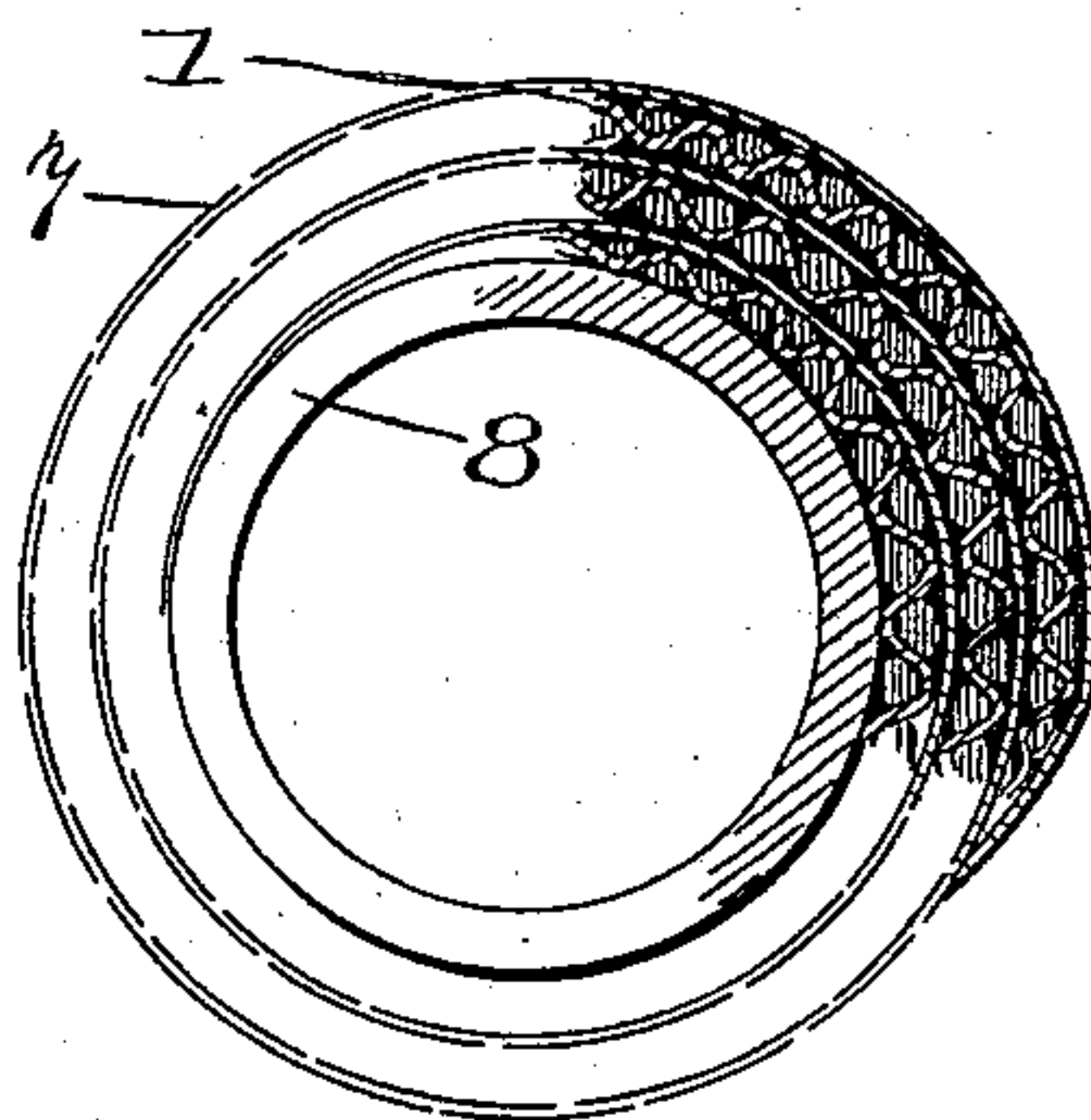


Fig. 3.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JAMES JONES, OF NEW YORK, N. Y.

## NON-CONDUCTING COVERING.

SPECIFICATION forming part of Letters Patent No. 646,289, dated March 27, 1900.

Application filed May 25, 1899. Serial No. 718,141. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES JONES, a citizen of the United States of America, and a resident of New York city, New York county, State of New York, have invented certain new and useful Improvements in Non-Conducting Coverings, of which the following is a specification.

My invention relates to non-heat-conducting coverings; and it consists of a single or composite sheet of flexible materials so shaped or assembled as to form several series of dead-air cells in which the air is trapped, the indisposition of said trapped air to conduct heat contributing largely to the non-conductivity of the covering or structure as a whole.

The preferred form of my invention is illustrated in the accompanying sheet of drawings, in which—

Figure 1 is a perspective view of the corrugated sheet which forms the main feature of my invention. Fig. 2 is an edge view of a composite sheet embodying my invention. Fig. 3 is a cross-section of a pipe with my invention applied thereto.

Throughout the drawings like reference-figures refer to like parts.

A sheet of any fibrous tough material 1, somewhat flexible and preferably made of a non-combustible substance, such as asbestos paper or millboard, is bent into such form as to produce several separate series or rows of short corrugations 2 3 4, &c. These several rows of corrugations are each so disposed relative to the others that the depressions 6 6, &c., of any one row, as row 3, come in line with or opposite the projections 5 5, &c., of the adjacent rows. To one face of the corrugated sheet 1 is attached by silicate of soda or other adhesive substance a second flat sheet 7 of suitable material. The structure so formed will have a succession of short closed air-spaces formed by the depressions in the corrugations, covered by the flat sheet 7, closed at the sides by the adjacent corrugations of that row and at the ends by the projections of the adjacent rows of corrugations. By placing another corrugated sheet 1<sup>a</sup> on the other side of the flat sheet 7, as shown in Fig. 2, a double series of air-cells is formed. A second flat sheet 7<sup>a</sup> may also be added, as in Fig. 2.

The composite sheet formed by the two sheets 1 and 7 may be coiled on itself in a spiral, as shown in Fig. 3, to serve as a covering for the pipe 8.

The mode of operating my invention is as follows: The corrugated sheet 1 is formed by any suitable machine. It may be handled as a separate article, but preferably is pasted to the flat sheet 7 in the factory. The composite sheet thus formed is sold to the trade and may be used singly or in the double construction shown in Fig. 2 for covering flat surfaces, or may be coiled around a pipe 8 or other object to be insulated, as appears in Fig. 3.

The advantages of the invention reside in its cheapness, lightness, simplicity, portability, and in the effective trapping of the air, so that a closed or dead-air cell covering is produced, which may be built up to any thickness and adapted to any form of object. The manufacturer turns out one or two staple sizes and thicknesses of sheet. The workman who applies the covering can adapt these to any size of pipe or to any kind of flat surface.

It is evident, of course, that other materials than asbestos paper might be employed that corrugations of different shape and proportions than those shown might be employed, &c.; but so long as the principle of operation disclosed in the specification or the relative arrangement of parts shown in the drawings is preserved the resulting structure would still be within the spirit and scope of my invention.

Having therefore described my invention, what I claim as new, and desire to protect by Letters Patent, is—

1. As an element in a non-conducting covering, a sheet of suitable material having separate rows of short corrugations, the ends of the series of corrugations in any one row abutting against those of the adjacent rows, and the projections of any one row of corrugations being disposed in line with the depressions in the adjacent rows of corrugations, whereby a plurality of series of air-cells are formed, which are closed when the sheet is in use.

2. A non-conducting structure composed of a sheet of suitable material having separate rows of short corrugations, the ends of the

series of corrugations in any one row abutting against those of the adjacent rows, and the projections of any one row of corrugations being disposed in line with the depressions in  
5 the adjacent rows of corrugations, together with a flat sheet of material attached to one face of the corrugated sheet, whereby a plurality of series of closed air-cells are formed.

3. A non-conducting structure composed of  
10 a sheet of suitable material having separate rows of short corrugations, the ends of the series of corrugations in any one row abutting against those of the adjacent rows, and the projections of any one row of corruga-

tions being disposed in line with the depressions in the adjacent rows of corrugations, together with a flat sheet of material attached to one face of the corrugated sheet, and a second sheet of similarly-corrugated material on the opposite side of said flat sheet, whereby  
20 a plurality of series of closed air-cells are formed.

Signed by me at New York city, New York, this 5th day of May, 1899.

JAMES JONES.

Witnesses:

A. PARKER SMITH,  
LILIAN FOSTER.