

(No Model.)

A. LANTZKE.
NON-CONDUCTING COVERING.

No. 563,775.

Patented July 14, 1896.

Fig. 1.

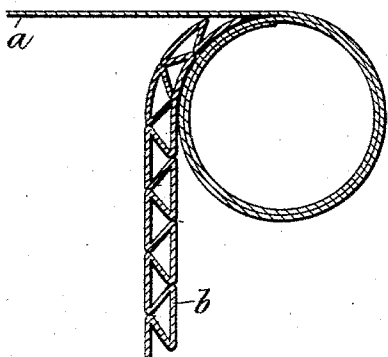


Fig. 2.

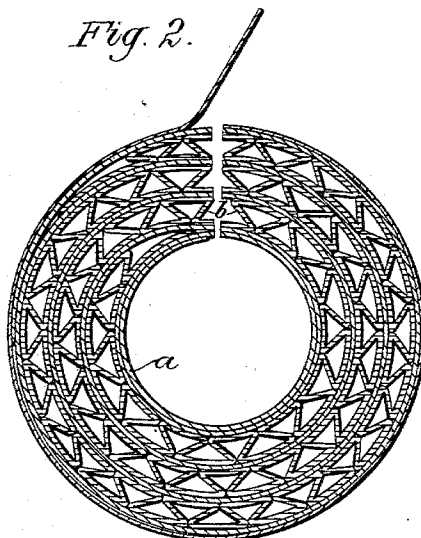


Fig. 3.

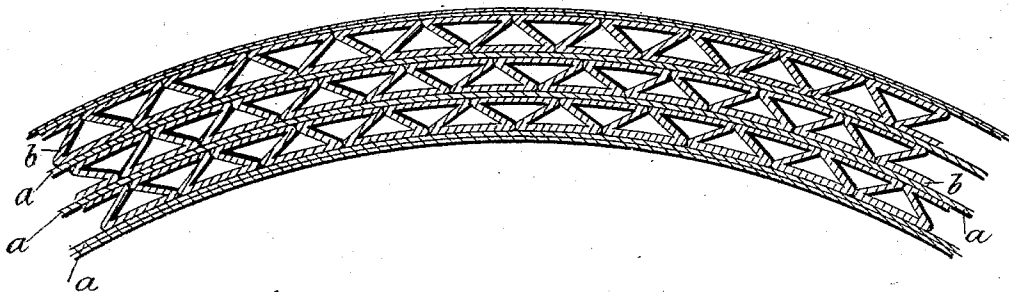
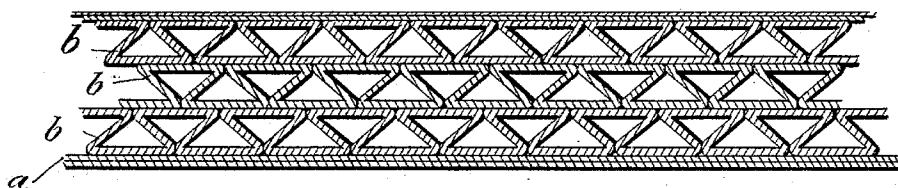


Fig. 4.



WITNESSES:

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NON-CONDUCTING COVERING.

SPECIFICATION forming part of Letters Patent No. 563,775, dated July 14, 1896.

Application filed December 26, 1893. Serial No. 494,721. (No specimens.)

To all whom it may concern:

Be it known that I, ALBERT LANTZKE, a citizen of the United States, residing at Bath Beach, in the county of Kings and State of New York, have invented certain new and useful Improvements in Manufacture of Non-Conducting Coverings, of which the following is a specification.

My invention relates to improvements in non-conducting coverings for steam-boilers, pipes, cylinders, and other receptacles and conductors of steam, hot air, water, &c.; and it consists of a light, flexible covering constructed of sheets of thin non-conducting material, previously folded in triangular folds, forming closed spaces containing dead air within the body of the covering. These sheets may be made of asbestos paper or some other non-conducting material and arranged in the covering, either in alternate layers of plain and folded or of superposed layers of folded sheets only.

Various tests have proven that stagnant air is the best non-conductor of heat. Therefore such covering which contains the greatest volume of air will be the most effective. Working upon this principle, I succeeded in constructing a covering which contains in itself a very large number of closed and isolated air-spaces. The covering is very light, easily applicable, requires a minimum of material, and its protecting efficiency is proved to exceed that of every other covering heretofore made.

The covering can be made either cylindrical for coverings of pipes, or flat, or curved in any form as may be required to fit the surface to be covered.

In the accompanying drawings, Figure 1 shows the start of the coiling of a cylindrical pipe-covering. Fig. 2 is a cross-section of such covering when finished. Figs. 3 and 4 are cross-sections of boiler-coverings, showing the arrangement of the folds and of the sheets in alternate and superposed layers.

The letters *a* and *b* designate, respectively, the layers of the flat and folded sheets.

In the manufacture of my improved covering I proceed as follows:

First. To make a pipe-covering, I place two rolls of asbestos paper (or of other non-con-

ducting material prepared in continuous sheet) in suitable positions and start by winding two or more flat coils upon a revolving mandrel. Then I cement between the coils, as shown in Fig. 1 of the drawings, the end of the second roll, from which the sheet, before reaching the revolving mandrel, passes through a device where it is folded so as to form triangular channels running the whole width of the roll. Because of the triangular form of the folds, each fold in itself is closed and forms an isolated air-space, and, moreover, it is therefore not necessary to insert a flat layer between the folds to complete the formation of isolated air-spaces. Both the flat and the folded sheets are then coiled in alternate layers and at the same time cemented together. When the required dimension of the covering is obtained, the folded sheet is cut off, and the covering is closed by one or two more coils of the flat sheet alone. It is not absolutely necessary that the layers be cemented together, and in construction of covering for flexible conductors and for train-pipes generally it is preferable that the coils be wound without any cementing between them. This will make the pipe still more yielding and will not at all impair its non-conductivity or its durability. The covering is then cut lengthwise, as shown in Fig. 2 in the accompanying drawings, and inclosed in a wrapper of suitable material, of which one end overlaps the cut and serves the purpose of closing the covering when it is set on the pipe.

Second. Coverings for boilers or other large vessels with flat or curved surface I construct either of alternate layers of flat and folded sheets, as shown in Fig. 3, or of superposed layers of folded sheets only. The coverings are made in similar manner as the pipe-covering by coiling the sheets upon a large drum. The finished covering is cut and flattened or bent to fit the surface to be covered.

Coverings for boilers and for larger or flat surfaces generally may also be constructed of material previously prepared upon a table, but the coiling upon a drum is preferable to any other method of manufacture.

I am aware that non-conducting coverings have been made of asbestos millboard or of

other non-combustible material, of concentric and alternately-arranged plain and fluted (corrugated) layers, whereby closed air-spaces are formed by the joining of the flat
5 and fluted layers and by sealing of the sections at both their ends, and I do not claim any such covering as my invention.

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

10 As a new article of manufacture, a non-conducting, flexible covering, constructed of successive layers of sheets of non-conducting

material, previously folded in triangular folds, each closed by itself and forming an isolated air-space within the body of the covering. 15

In witness whereof I have signed my name to this specification in the presence of the two subscribing witnesses.

ALBERT LANTZKE.

Witnesses:

J. NUSSBLATT,
M. TANZER.