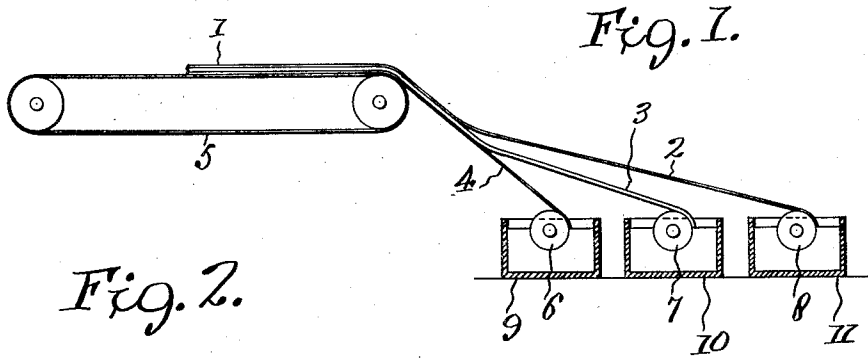
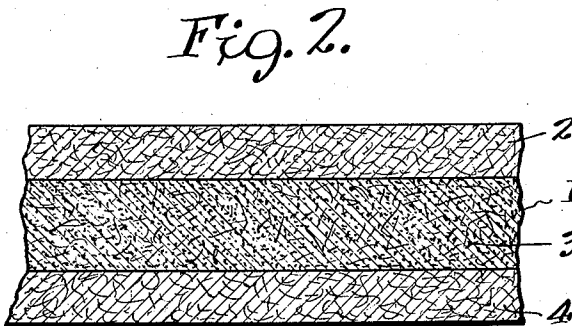
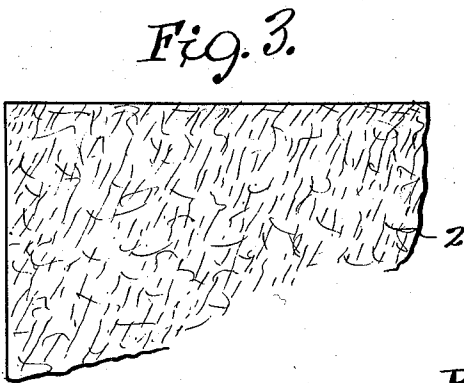
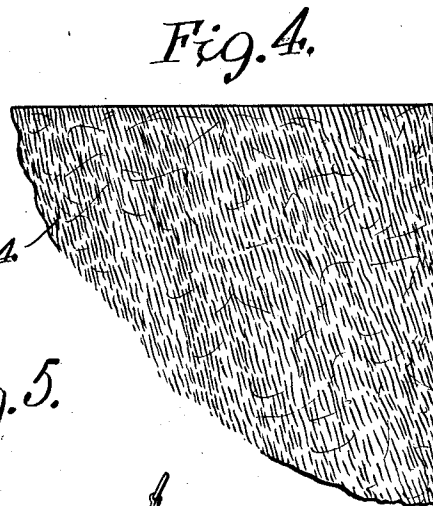
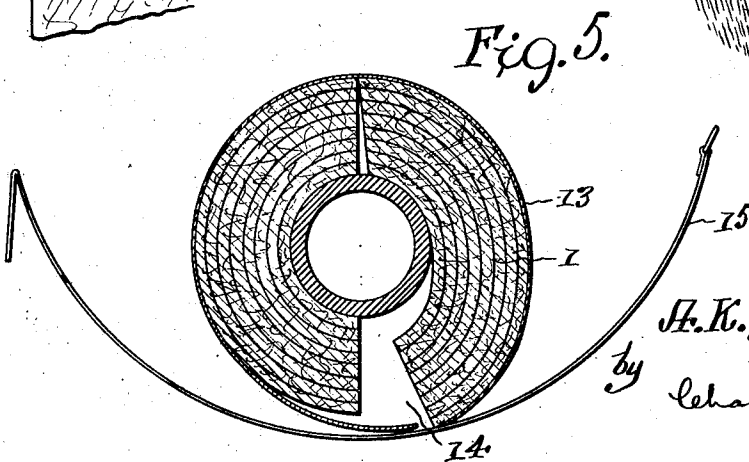


A. K. BURGSTRESSER.
 PIPE COVERING AND FABRIC FROM WHICH PIPE COVERINGS ARE MADE.
 APPLICATION FILED SEPT. 25, 1920.

1,387,348.

Patented Aug. 9, 1921.



Inventor
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UNITED STATES PATENT OFFICE.

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PIPE-COVERING AND FABRIC FROM WHICH PIPE-COVERINGS ARE MADE.

1,387,348.

Specification of Letters Patent.

Patented Aug. 9, 1921.

Application filed September 25, 1920. Serial No. 412,783.

To all whom it may concern:

Be it known that I, ABRAM K. BURGSTRESSER, a citizen of the United States, residing at Norristown, in the county of Montgomery and State of Pennsylvania, have invented certain new and useful Improvements in Pipe-Coverings and Fabric from Which Pipe-Coverings are Made, of which the following is a specification.

My invention relates to a fireproof covering for hot steam pipes, one which is efficient in preserving the heat of the steam which passes through the pipe, one which is resistant to practically any temperature to which steam can be heated and one which by reason of its peculiar structure holds its shape, is not liable to sag or bag into the muslin covering, can be removed whenever desired and replaced without loss of fabric and one which keeps its good qualities indefinitely. In the drawing herewith I have shown in—

Figure 1, in diagram, the three vats from which my three ply fabric is procured;

Fig. 2 shows on a greatly enlarged scale a section through my fabric;

Fig. 3 shows the appearance of one side of the fabric;

Fig. 4 another, and

Fig. 5 is a section of a steam pipe showing also my pipe covering split and in cross section and the means for holding it in place.

In the drawing 1 represents my complete fabric. This fabric is composed preferably of three layers 2, 3 and 4. These layers are brought together upon wire 5 of a paper machine forming three cylinders, 6, 7 and 8; some of these cylinders being typical of any proper source of material which is supplied to the tanks 9, 10 and 11. The material which I supply to my tanks 9 and 11 and which makes the inner and outer layers of my fabric is preferably asbestos pulp, mainly or entirely. The intermediate or core layer 3, which comes from the tank or tanks 10, is made of a granular porous material held together by enough asbestos fibers to give it sufficient coherence to be taken from the cylinder to the wire.

Pulp then in the tank 10 is composed of the granular porous matter which may be and

preferably is diatomaceous earth or kieselguhr with a certain proportion of asbestos. Instead of the diatomaceous earth other things like magnesia or other porous heat resistant materials may be employed. The object is to provide in the exterior layers the necessary strength-giving qualities and in the intermediate layers 3, which I preferably make somewhat thicker than the outer layers, as great ability as possible to resist the passage of heat.

In taking the three surfaces which constitute my fabric from the machines I preferably roughening the opposite outer faces of the finished fabric. This roughening is preferably more marked on one side of the fabric than on the other, though it is seen on both sides, the under side having also the marks of the wire. I have illustrated the difference in these two sides in Figs. 3 and 4 wherein Fig. 3 represents the less strongly marked and Fig. 4 the more strongly marked faces of the fabric. My fabric after completion is wound in the usual way upon mandrels so as to make the pipe covering as thick as desired and the different layers are united by a heat resistant adhesive, preferably a silicate such as sodium silicate in solution. The adhesive may be applied by any suitable apparatus, but such apparatus is not a part of my present invention and it will be unnecessary to describe same herein. This adhesive is put on lightly and the winding or coiling upon the mandrel is also done rather lightly so that the whole thickness of the pipe covering is permeated with layers or zones of either cells or entrapped air. The roughening effect produces certain ridges in the fabric on which the adhesive takes and the fabric being coiled under rather light pressure the spaces between the ridges become more or less the cells of which I have spoken above.

The product thus made is provided with the usual muslin covering 13, is split as shown at 14 to be easily put around the pipe and at certain given distances along its length the whole is united by the usual brass straps or bands 15.

It will be seen that I have thus made a fabric which is composed of alternating layers

of porous heat resistant material, fabric heat resistant material, air cells and fibrous heat resistant materials. I have found this fabric very efficient in conserving heat and economical in use.

I wish to be understood in the above description as reserving the right to all substantial equivalents of the material herein indicated.

10 Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a fabric for heat insulating in combination, outer layers of asbestos fabric, and
15 between said layers, an intermediate layer of infusorial earth and asbestos fiber.

2. In a fabric for heat insulating in combination, outer layers of paper composed principally of asbestos and an intermediate
20 layer composed principally of heat insulating non-fibrous material.

3. In a heat insulating fabric in combination, outer layers of strong fireproof fibrous material and an intermediate layer composed
25 principally of granular, porous fireproof material.

4. In a heat insulating fabric in combination, outer layers of asbestos paper and an

intermediate layer of infusorial earth and asbestos, the outer faces being roughened. 30

5. In a heat insulating fabric in combination, outer layers of asbestos paper and an intermediate layer of infusorial earth and asbestos, the outer faces being roughened, and the whole wound into a tube with layers of
35 sodium silicate to hold the other layers together.

6. A covering consisting of alternating layers of asbestos three-ply fabric roughened on the outer faces and silicate adhesive uniting the layers, the adhesive arranged to take
40 upon only the prominent parts of the roughened surfaces whereby layers of air cells are distributed in alternation with the layers of fabric throughout the pipe covering. 45

7. In a pipe covering in combination, spiral layers of a three-ply fabric made of two layers of roughened asbestos paper and an intermediate layer of infusorial earth and asbestos, and layers of silicate adhesive, the
50 adhesive taking on prominent parts of the surface of the three-ply fabric whereby layers or zones of air cells are left between the layers or zones of three-ply fabric.

In testimony whereof I affix my signature. 55
ABRAM K. BURGSTRESSER.