

(No Model.)

C. B. MANVILLE.

BOILER COVERING.

No. 378,372.

Patented Feb. 21, 1888.

Fig. 1.

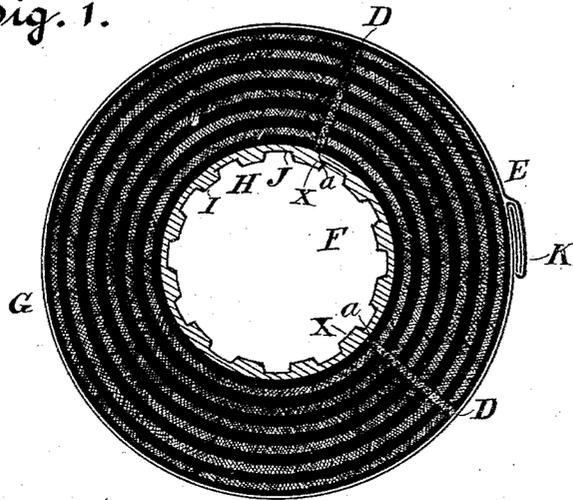
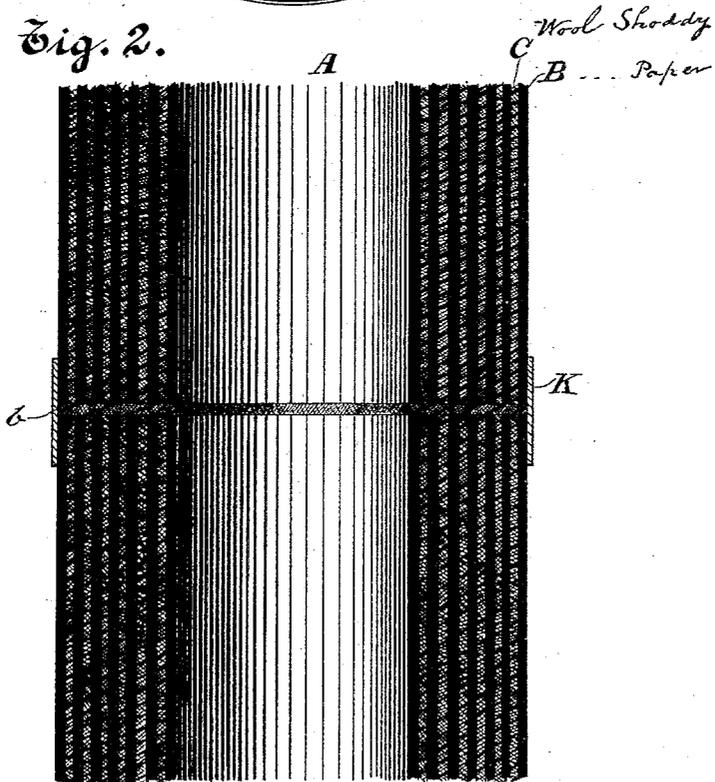


Fig. 2.



Witnesses.

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CHARLES B. MANVILLE, OF MILWAUKEE, WISCONSIN.

BOILER-COVERING.

SPECIFICATION forming part of Letters Patent No. 378,372, dated February 21, 1888.

Application filed December 20, 1886. Renewed January 30, 1888. Serial No. 262,470. (No model.)

To all whom it may concern:

Be it known that I, CHARLES B. MANVILLE, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Boiler-Coverings; and I do hereby declare the following to be a full, clear, and exact description of said invention, reference being had to the accompanying drawings, and to the letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings represents a cross-section, and Fig. 2 a longitudinal section, of my covering as it is formed preparatory to being attached to steam-pipes.

Like parts are represented by the same reference-letters in both views.

My invention relates, first, to the construction of the body of the covering; second, to the peculiar form of the sections of the covering, by which I am enabled to attach and remove the sections without bending or breaking the covering, and, third, to the manner of uniting the sections together.

The body A of the covering is formed of alternate layers of paper, B, and a compound consisting of wool shoddy and an adhesive paste or cement intermixed together, forming loose porous layers C. The body A is formed upon a mandrel or former conforming in size and shape to the pipes or other surface to be covered, when it is removed and dried. When dry, the cylindrical sections for pipes are severed longitudinally by two radial cuts, D D, thus forming a wedge-shaped piece, E, which, as it is pressed inward toward the pipe or central opening, is brought in close contact with the part G. The converging ends of the cuts D D terminate at the inner surface of the cylinder at such a distance apart as will permit the pipe to enter the aperture F without bending the part G.

In forming the covering the paper B is drawn through a paste which is made of clay and such other adhesive substances as are ordinarily used for like purposes. From the paste-containing receptacle the paper is drawn upon or wound around a mandrel or former, and as the paper is being thus drawn from the paste-receptacle, with its surfaces covered with the adhesive substance, a quantity of loose wool shoddy is evenly distributed over its surface

of such a depth as will form a layer of the desired thickness. The wool thus distributed adheres to the paste, and is wound in layers around the mandrel between the paper, thus forming the layer C referred to. If desired, the shoddy may be mixed with the paste and the two thoroughly ground together before applying the same to the paper, the result produced being the same by both methods. I preferably mix with the adhesive paste and shoddy a non-combustible solution, which penetrates the shoddy and paper and prevents them from becoming ignited. The layer C thus interposed serves a threefold function: first, by its use the desired thickness of covering is produced with a much less quantity of paper than would otherwise be required; second, a non-combustible wall is thereby formed between each layer of paper, which being a poor conductor of heat, it serves to shield the paper and lessens the liability of its becoming injured by high temperature, to which it is subjected, and, third, it serves to cement the layers together, thereby forming a substantial structure, which may be manufactured in various sizes and shapes and put up by the trade without danger of injury and without requiring the skilled labor of the manufacturer. When the sections have been thus formed, dried, and severed, as shown, a thin layer of clay, H, is applied to their inner surface, and an instrument is then applied to the layer of clay, by which it is grooved or furrowed, thus forming a series of ribs or elevations, I, and a series of furrows, J. The ribs I serve as bearings or contact-points, which bear against the pipes, and thus support the covering at a slight distance therefrom, while the furrows J serve as air-spaces.

When attaching the covering, all the joints and contiguous surface of the covering are covered with the adhesive substance and shoddy intermixed, as shown at *a a* and *b*. To insure greater strength, a metallic band, K, is drawn firmly around the sections, preferably at the joints, as shown in Fig. 2, whereby the covering is held firmly in place and the sections prevented from being disengaged.

I am aware that felt has previously been used in layers between layers of paper in boiler-covering, and I make no claim to such use as my invention, nor to the use of the dry wool

shoddy alone with paper; but instead I use a novel compound consisting of paste and wool shoddy ground or intermixed together, as described, and interposed when thus mixed before drying between the layers of paper, which compound thus applied when dry adheres to the paper and adds great strength to the covering.

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

1. The boiler-covering herein described, composed of alternate layers of paper and a compound composed of an adhesive paste and wool shoddy intermixed and applied before drying between said paper and adapted when dry to adhere to said paper, substantially as set forth.

2. In covering for steam-pipes, the combination of the cylindrical section G, adapted to nearly surround the pipe, and the wedge-shaped section E, respectively composed of paper and a compound consisting of paste and

wool shoddy ground or intermixed together and applied between and adapted to adhere to the layers of paper forming said sections, substantially as set forth.

3. In steam pipe and boiler covering, the combination of the alternate layers of paper and layers composed of adhesive paste and wool shoddy, with the inner bearing clay surface, H, formed in ridges and grooves, substantially as and for the purpose specified.

4. In steam-pipe covering, the combination of the circular section G, wedge-shaped section E, adhesive paste *a a*, interposed between the contiguous ends of said sections, grooved clay-bearing surfaces H, and metallic band K, all substantially as and for the purposes specified.

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

CHARLES B. MANVILLE.

Witnesses:

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