

(No Model.)

W. J. MORROW

ARTICLE OF ARTIFICIAL STONE, &c.

No. 352,772.

Patented Nov. 16, 1886.

Fig. 1.

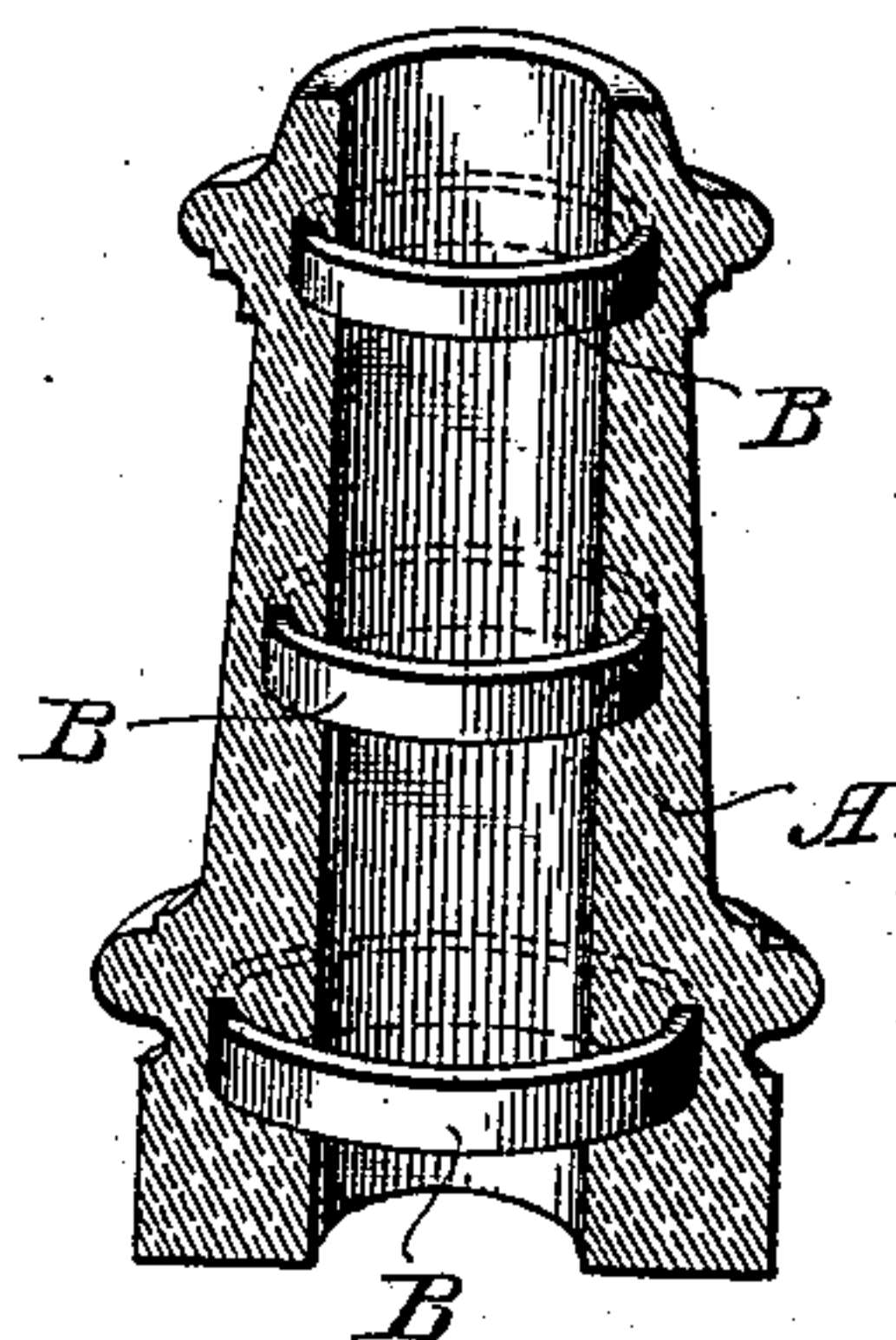


Fig. 2.

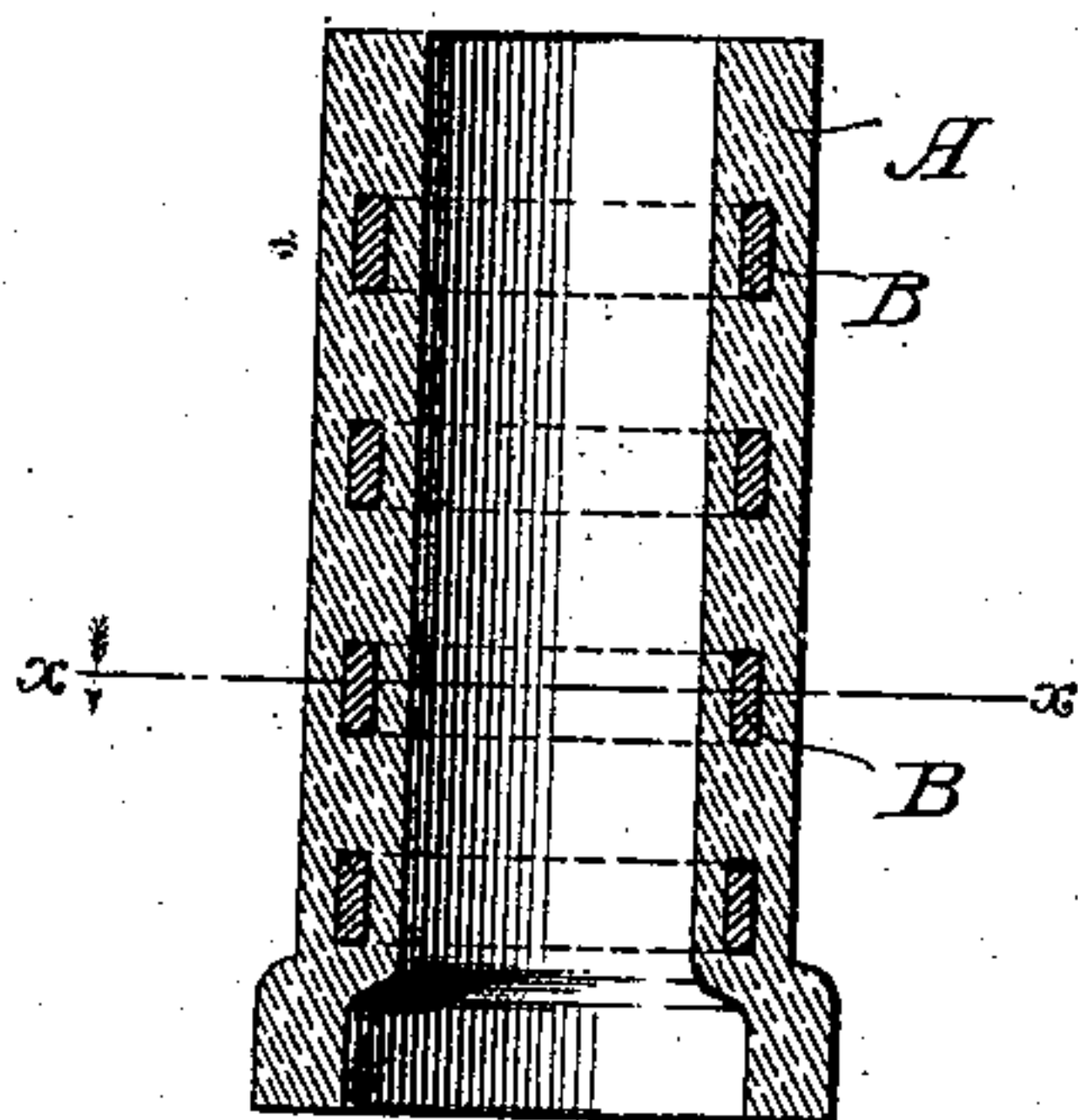
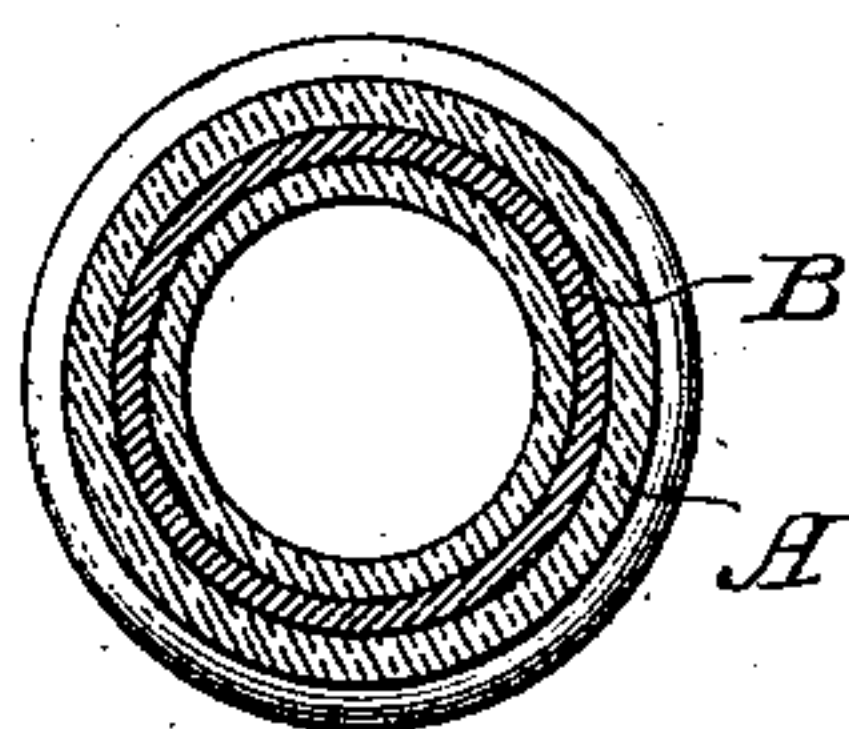


Fig. 3.



Witnesses:-

*Louis H. Whitehead.*

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# UNITED STATES PATENT OFFICE.

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## ARTICLE OF ARTIFICIAL STONE, &c.

SPECIFICATION forming part of Letters Patent No. 352,772, dated November 16, 1886.

Application filed May 11, 1886. Serial No. 201,828. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM JOHN MORROW, of Gainesville, in the county of Alachua and State of Florida, have invented certain  
5 new and useful Improvements in Articles of Artificial Stone, Cement, Terra-Cotta, and Similar Materials; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to  
10 the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The object of this invention is to provide an improvement in the construction of drain-  
15 age or sewer pipe, pipe-chimneys, ornamental chimney-tops, or other hollow articles made of artificial stone, cement, terra-cotta, or similar material; and it consists in the matters hereinafter described, and pointed out in the  
20 appended claim.

An article constructed in accordance with my invention is provided with one or more strengthening rings or bars of metal located within and inclosed by the walls or body of  
25 the article, said bands serving to give additional strength to the article, while at the same time the rings or bars are entirely covered and protected from the air or moisture, so that oxidation thereof is prevented.

30 The invention may be more readily understood by reference to the accompanying drawings, in which—

Figure 1 is a sectional perspective view of a chimney-top of artificial stone or cement,  
35 showing metal strengthening-rings in place within the walls of the article. Fig. 2 is a longitudinal sectional view of a drain-pipe containing rings inserted as proposed by me. Fig. 3 is a cross-section of the drain-pipe  
40 shown in Fig. 2, taken upon line *xx* of said figure.

As shown in the said drawings, A indicates the body of the article, made of artificial stone, cement, or other similar material; and BB indi-  
45 cate metal rings or bands inserted in the body of the article in such manner as to be entirely covered or inclosed within the walls of the latter, said rings being circular in the case

of a cylindric article or one circular in cross-sectional shape, but of other form when re- 50  
quired by the shape of the article to which they are applied.

In making articles of the character mentioned the rings such as are shown may be inserted therein in any manner found convenient 55  
or desirable. A method of inserting them in the process of molding the article successfully practiced by me consists in first filling the bottom of the mold up to a point at which it is desired to insert a ring, then placing a ring 60  
upon the top of the material within the mold and filling around and above the ring until the mold has been filled to a point at which it is desired to insert another ring, a second ring being then placed in position and the ma- 65  
terial packed around and above it, and the same steps repeated until the desired number of rings have been inserted and the mold is full. The article, when taken from the mold, is dried or otherwise finished in the same 70  
manner as with articles as commonly constructed.

It is entirely obvious that in carrying out my invention the strengthening rings or bars may be roughened, perforated, corrugated, 75  
or otherwise adapted for the better adhesion thereto of cement or other material of which the article is made, and that the rings or bars will be conformed to the shape of the article whatever be the form of the latter. 80

I am aware that it has been proposed heretofore to employ in fire-bricks a number of metal rods or wires placed transversely and longitudinally in the fire-brick, with a view of strengthening the same. 85

I am also aware that blocks of terra-cotta or fire-brick have been secured against the surface of iron columns by means of wire bands or hoops laid in grooves or rabbets in the blocks and covered by cement or mortar. 90

I am not aware, however, that pipe or other tubular articles have ever heretofore been made with strengthening-rings embedded in the walls thereof in the manner hereinbefore described, and, inasmuch as important advan- 95  
tages are obtained by this construction, an ar-



ticle thus made is herein claimed as my invention.

I claim as my invention—

5 A tubular article of cement, artificial stone, terra-cotta, or similar material, said article being made in a single piece and provided with one or more strengthening - rings embedded in its walls, substantially as described.

In testimony that I claim the foregoing as my invention I affix my signature in presence of two witnesses.

WILLIAM JOHN MORROW.

Witnesses:

CHARLES O. HAMPTON,  
B. F. HAMPTON.