(No Model.)

H. CROW.

MILLING SPOUT FOR CONDUCTING GRANULAR PULVERIZED MATERIAL.

No. 321,888. Patented July 7, 1885.

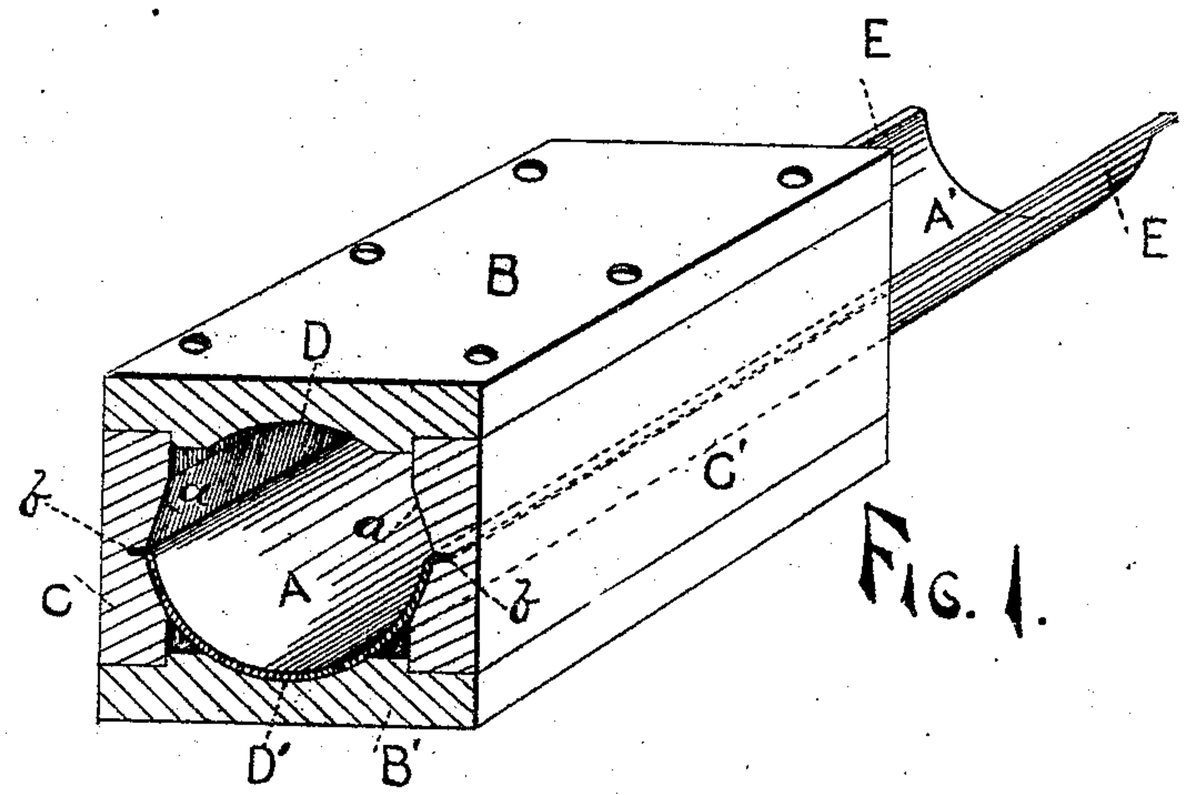

FIG. 1.

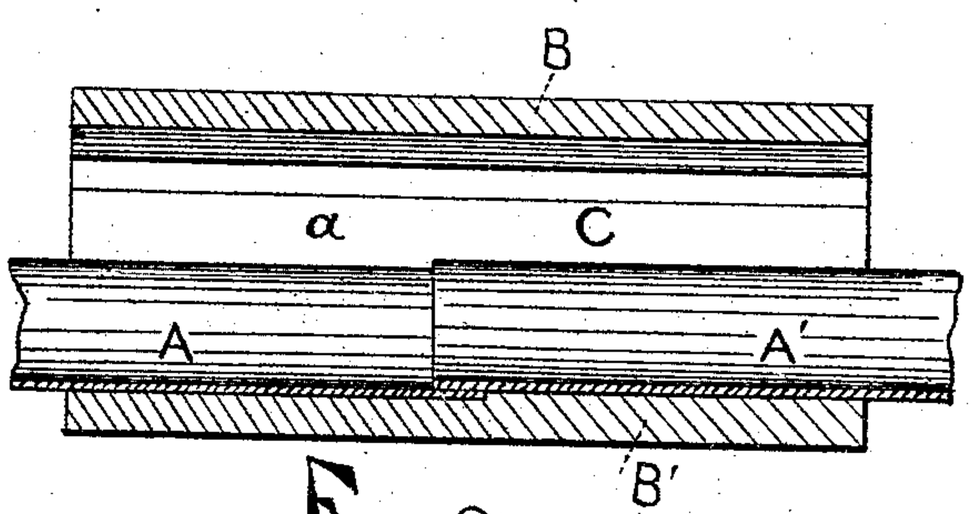

FIG. 2.

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HENRY CROW, OF GRAND RAPIDS, MICHIGAN.

MILLING-SPOUT FOR CONDUCTING GRANULAR PULVERIZED MATERIAL.

SPECIFICATION forming part of Letters Patent No. 321,888, dated July 7, 1885.

Application filed February 5, 1885. (No model.)

To all whom it may concern:

Be it known that I, HENRY CROW, a citizen of the United States, residing at the city of Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Milling-Spouts for Conducting Granular, Pulverulent, or Similar Materials, of which the following is a full, clear, and accurate specification, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of the spout, and Fig. 2 a longitudinal sectional view.

A A′ is a lining, which may be made of tin, sheet metal, paper, or other suitable material, and is provided with the flanges E, Fig. 1. The bottom B′ of the spout has its inner surface, D′, concave, being hollowed out to fit the form of the lining. The inner surface of the sides C and C′ are also cut away to receive the lining, and have the longitudinal slits or grooves *b*, Fig. 1, adapted to receive the flanges E of the lining. Before the top B is fastened on the spout the lining A A′ is put in place, the flanges E being readily sprung into the grooves or slits *b*. Each section of the lining slightly overlaps the next lower section, as shown in Fig. 2. The concave surface D′ serves to keep the sections of the lining in perfect alignment.

By the means described I secure a spout of simple construction, which will conduct granular, pulverulent, and similar materials at a much smaller angle of inclination than the ordinary milling-spout.

I am aware that tin-lined spouts have been heretofore used, but the methods of securing the lining to the spout have been such as to cause indentations and irregularities in the lining, so that, when the angle of inclination is small, pulverulent and granular materials will not as readily pass through as in my spout.

What I claim, therefore, as my invention, and desire to secure by Letters Patent, is—

1. In a spout for conducting granular, pulverulent, or similar substances, the lining A A′, having the flanges E inserted in the slits *b*, substantially as and for the purpose described.

2. In a spout for conducting granular, pulverulent, or similar substances, the bottom B′, having its inner surface, D′, concave, and the sides C and C′ cut away to receive and hold the lining A A′, substantially as described.

3. In a spout for conducting granular, pulverulent, or similar substances, the combination of the bottom B′, having the inner concave surface, D′, the sides C and C′, having their inner surfaces cut away and provided with the slits *b*, and the lining A A′, having the flanges E, all inclosed by cover B, having concave inner surface, D, substantially as described, and for the purpose set forth.

HENRY CROW.

Witnesses:
MARK NORRIS,
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