

(No Model.)

J. MURTAGH.
Art of Burning Drain Pipe.

No. 236,066.

Patented Dec. 28, 1880.

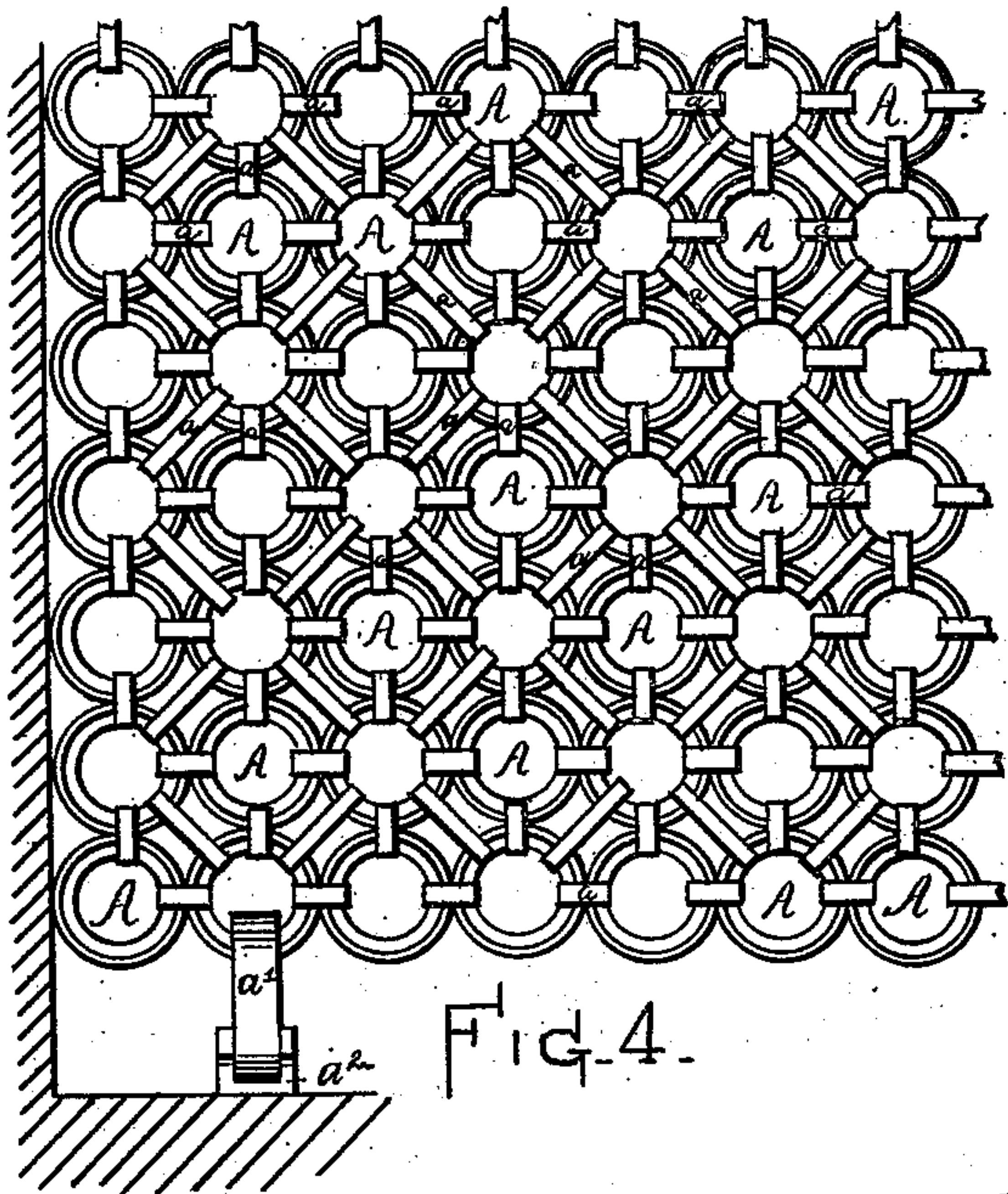


Fig. 4.

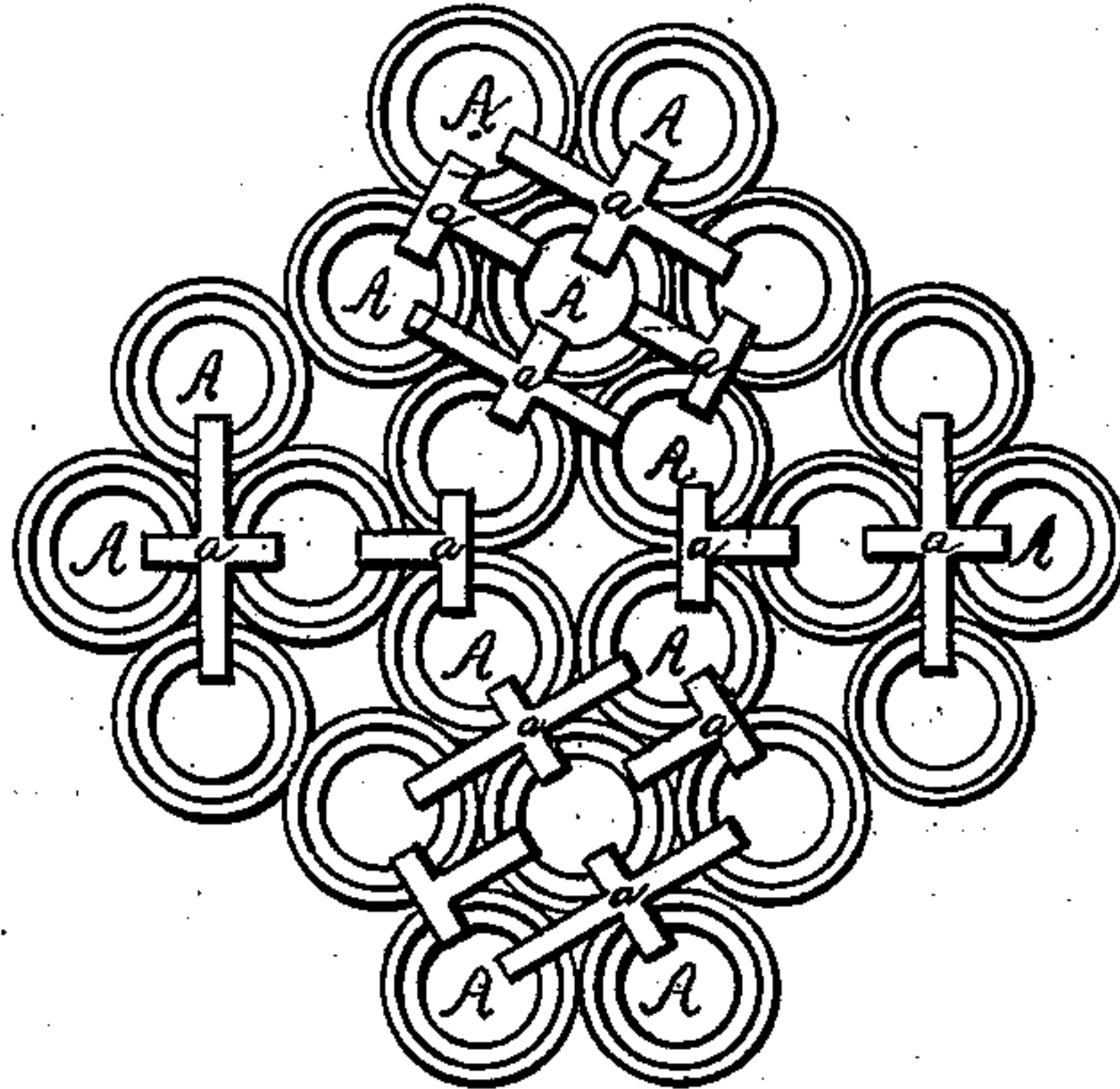


Fig. 5.

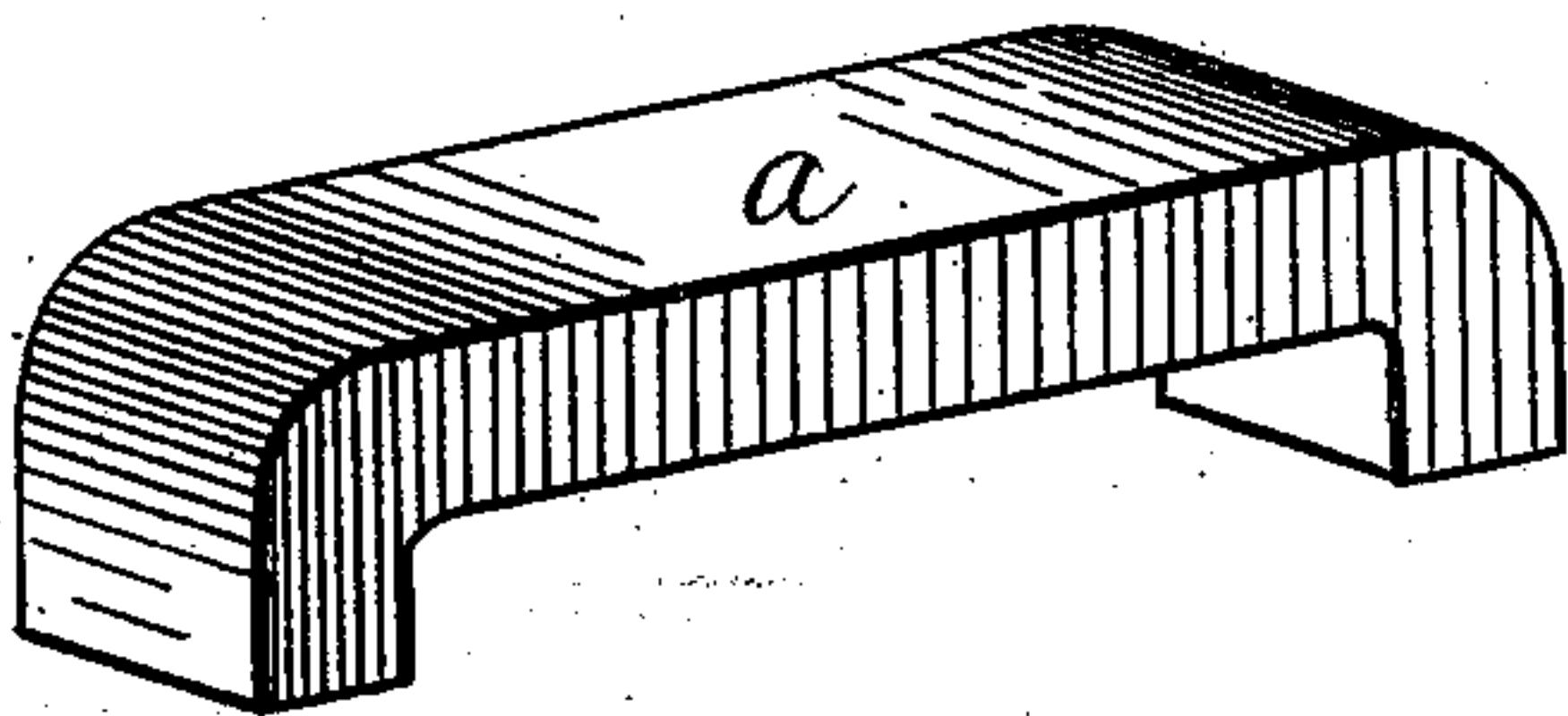


Fig. 1.

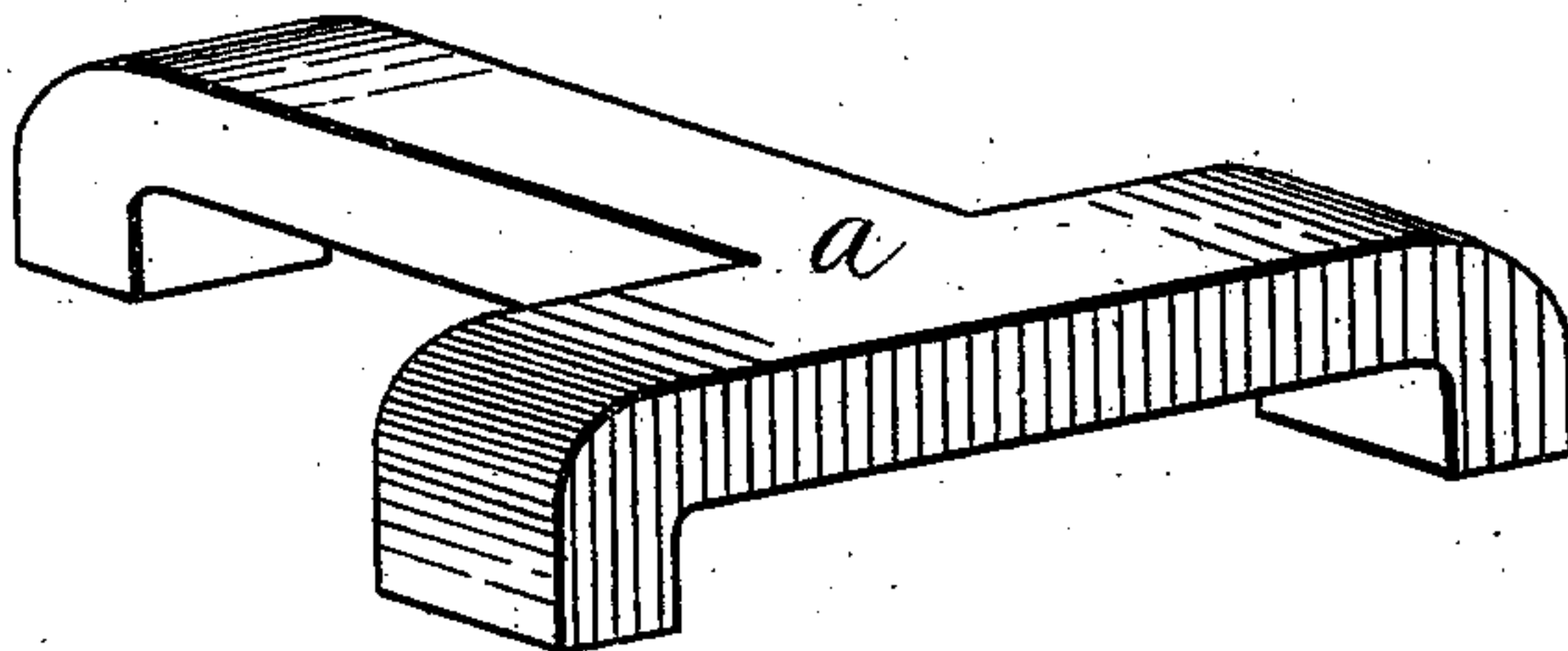


Fig. 2.

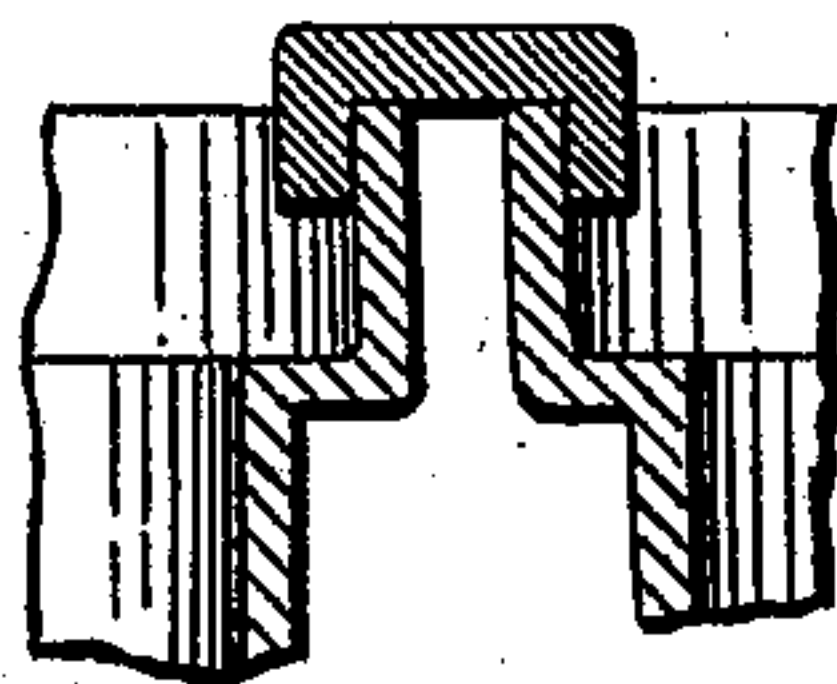


Fig. 7.

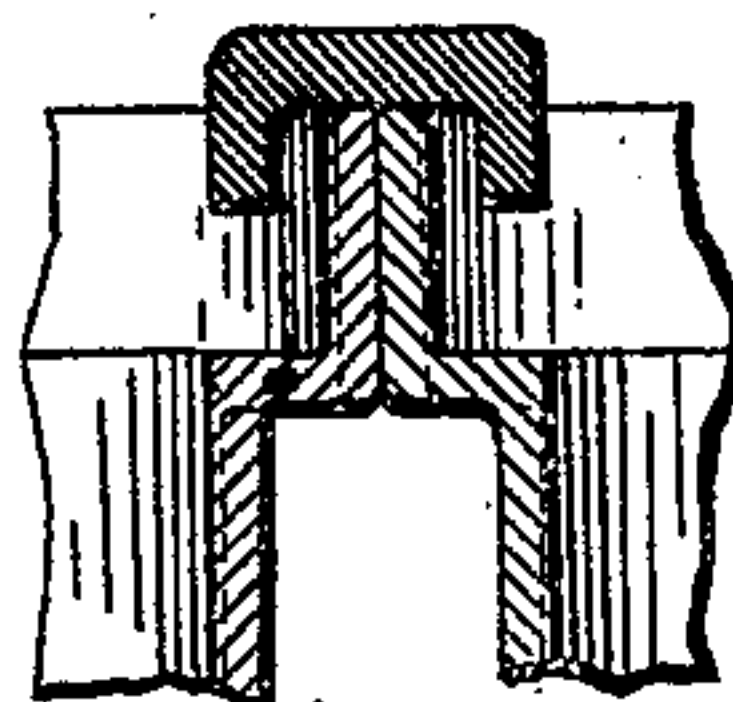


Fig. 6.

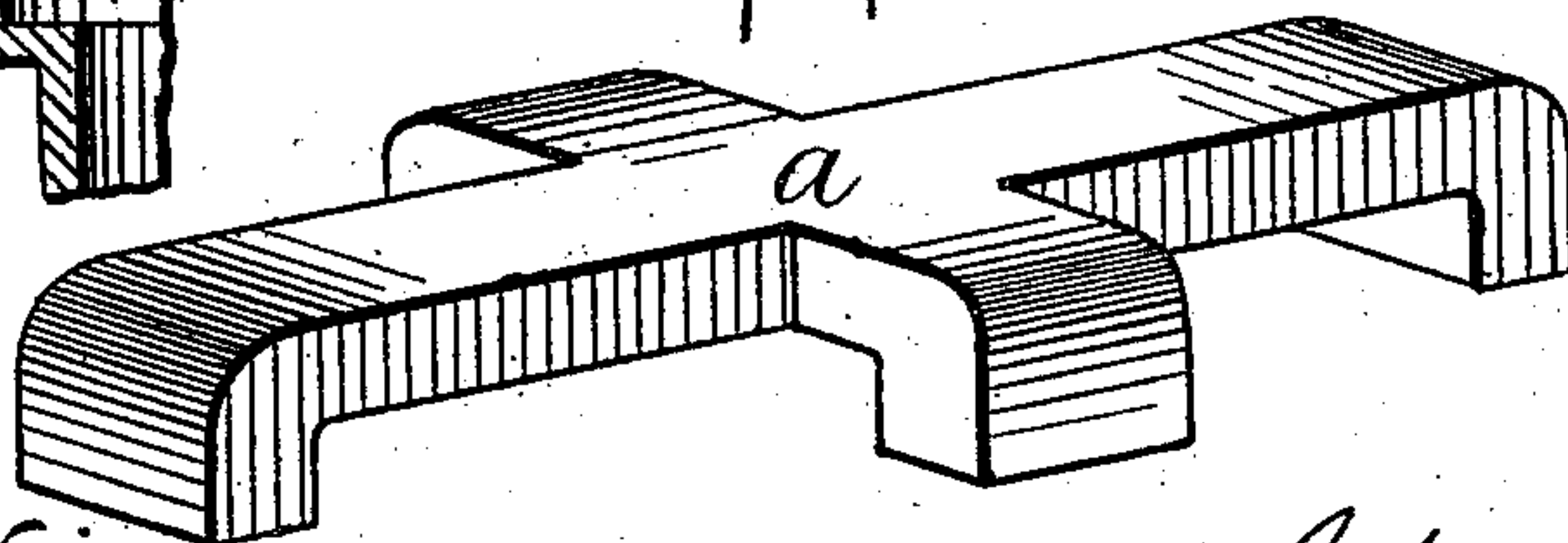


Fig. 3.

Witnesses:

Wm. Fittell
John Rednow.

Inventor.

John Murtagh
by J. I. Maynardier
his atty

UNITED STATES PATENT OFFICE.

JOHN MURTAGH, OF BOSTON, MASSACHUSETTS, ASSIGNOR OF ONE-HALF
TO THOMAS W. CARTER, OF SAME PLACE.

ART OF BURNING DRAIN-PIPE.

SPECIFICATION forming part of Letters Patent No. 236,066, dated December 28, 1880.

Application filed November 4, 1880. (No model.)

To all whom it may concern:

Be it known that I, JOHN MURTAGH, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in the Art of Burning Drain-Pipe, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, in which—

Figures 1, 2, and 3 show three forms of binders. Figs. 4 and 5 illustrate two modes of arranging the upper tier of pipes in the kiln. Figs. 6 and 7 illustrate the relation of the pipes and binders before and after burning.

In the manufacture of drain-pipe it not unfrequently happens that much of the pipe comes out of the kiln in which it is burned in a greatly-damaged condition, the pipes having got out of place during the burning, and becoming bent or adhering together in masses.

The object of my invention is to prevent the displacement of the pipes when in the kiln; and my invention consists in securing each pipe of the top tier in the kiln to its neighbors by means of binders made of clay like that of which the pipes are made, and baked or burned in the manner usual in this art. Three forms of these binders are shown in Figs. 1, 2, and 3 of the drawings. Figs. 4 and 5 are diagrams, Fig. 4 illustrating my new mode of securing the top tier of pipes in one way, and Fig. 5 in another way, both ways of arranging the top tier being in common use.

The binders *a* are formed of the clay used in making the pipe, or of other suitable clay, with a body-piece, from which project two or more legs, as shown in Figs. 1, 2, and 3, and then burned in a proper kiln, as the pipes are burned. The mode of forming and burning them will be well understood by all skilled in the art without further description. When thus made they are hard, and although brittle, like other crockery or pottery ware, are yet abundantly strong for the purpose. They may be used again and again in the kiln, the heat of which has no effect, except to harden them more each time they are used; but they

stand the heat of the kiln well, and are in all respects admirably adapted for their intended use. One set of them can be used from twenty to thirty times before they become too much vitrified.

In filling the kiln the unburned pipes are put in in the usual way; but the upper tier of pipes are connected each with its neighbors by these binders, as illustrated in Figs. 4 and 5, where *A* represents the pipes, and *a* the binders. This makes the upper layer of pipes one compact mass, and does away completely with all danger of the pipes getting out of place in burning. Binders *a'* are used to connect the tier of pipes with the wall of the kiln, special bricks *a²* being built into the wall to engage with the end of the binders.

It is customary to place elbows and other connecting-pipes on top of the upper tier in filling the kiln, and my binders make a floor much better adapted for receiving these elbows and connections than the upper ends of the upper tier of pipes.

The practical use of my invention has demonstrated that the waste from this source, which has heretofore been one of the most serious sources of loss in this manufacture, is entirely done away with. So far as I know, I am the first to devise any practical remedy for this evil.

The pipes shrink in burning, so that the binders should fit loosely when the kiln is set, as shown in Fig. 6. Fig. 7 shows the position of the pipes after they are burned.

What I claim as my invention is—

1. The mode of securing the pipes in the kiln, consisting in connecting the upper tier of pipes together by binders made of burned clay, substantially as described.

2. The binders *a*, made of clay and burned, composed of a body-piece with two or more legs, as shown, and adapted to bind together the upper layer of pipes while baking in the kiln.

JOHN MURTAGH.

Witnesses:

FRANCIS M. LEARNED,
WILLIAM DOOLEY.