

E. P. Eastwick

Bone Black Mill

N^o 88,700.

Patented Apr. 6, 1869.

Fig. 1.

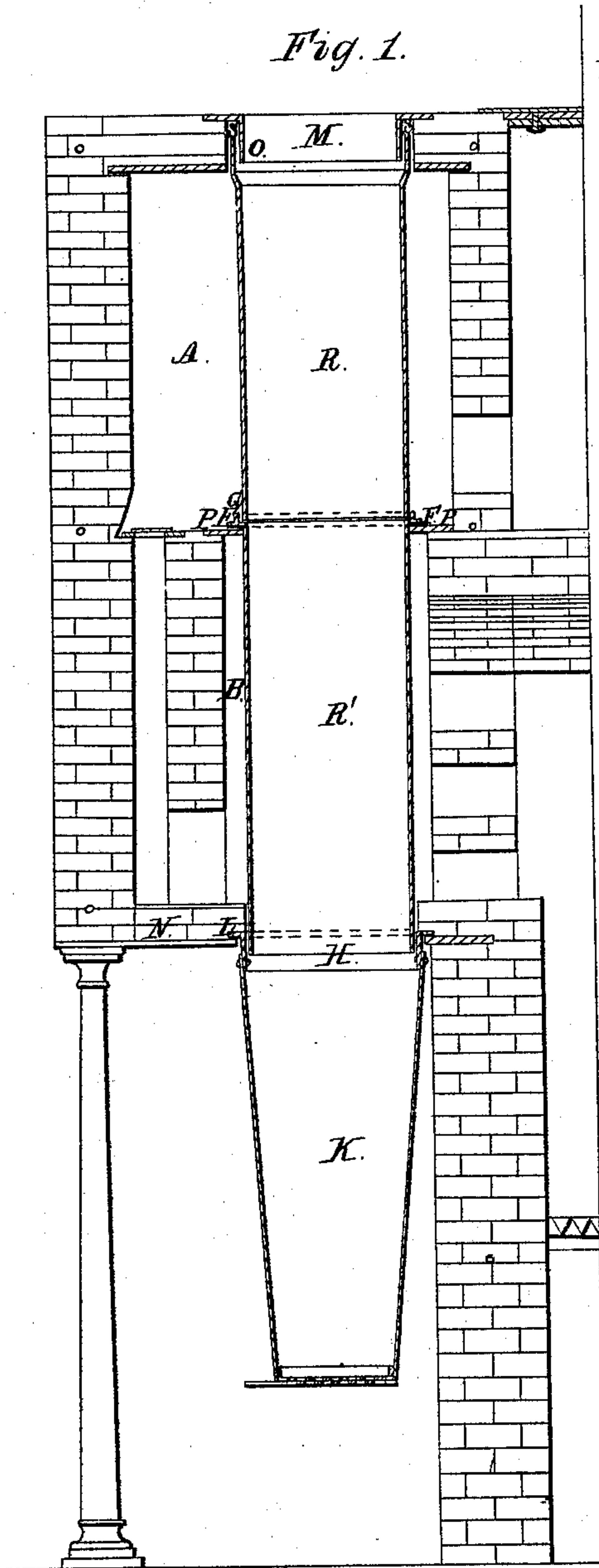


Fig. 2.

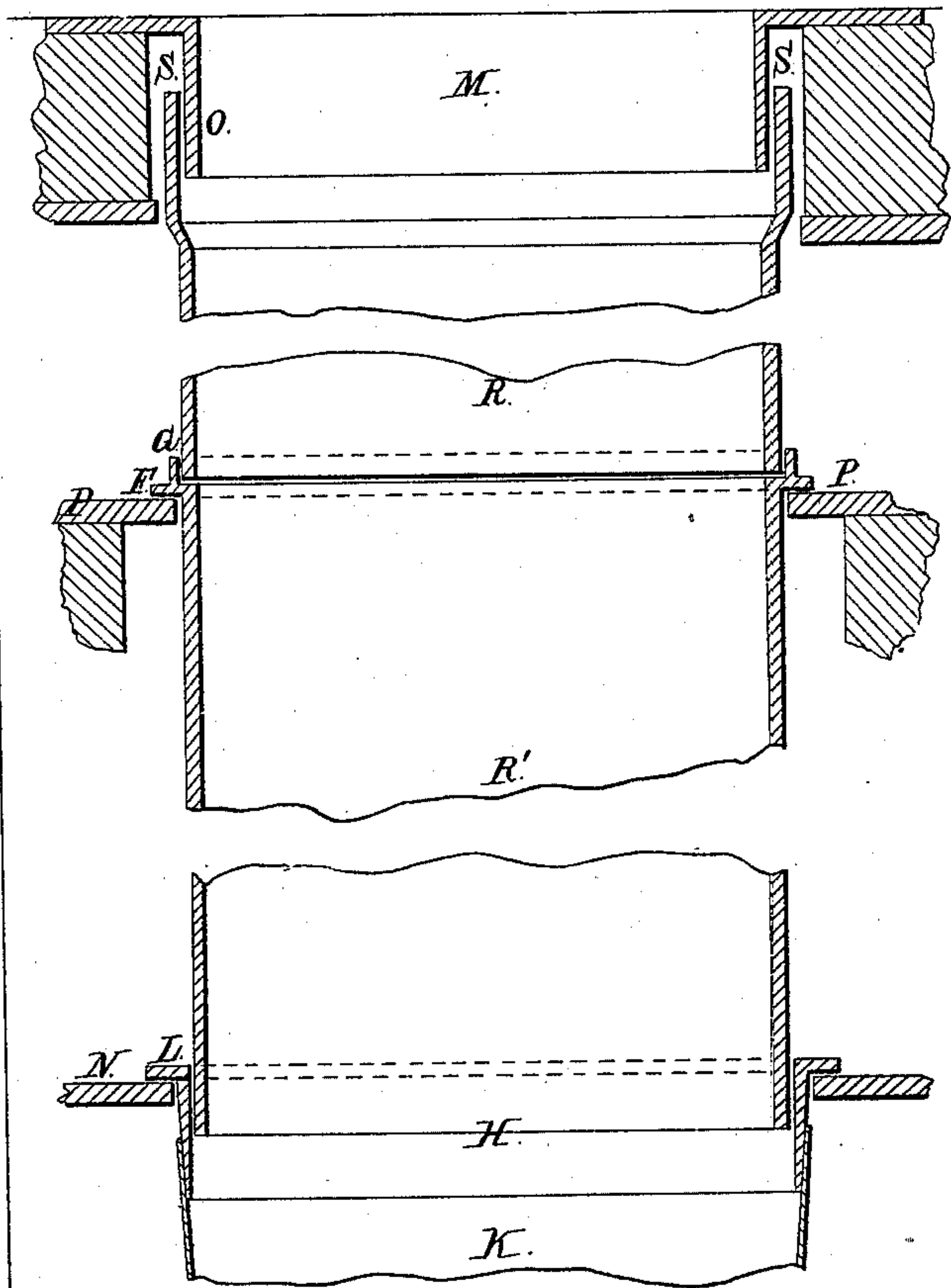


Fig. 3.

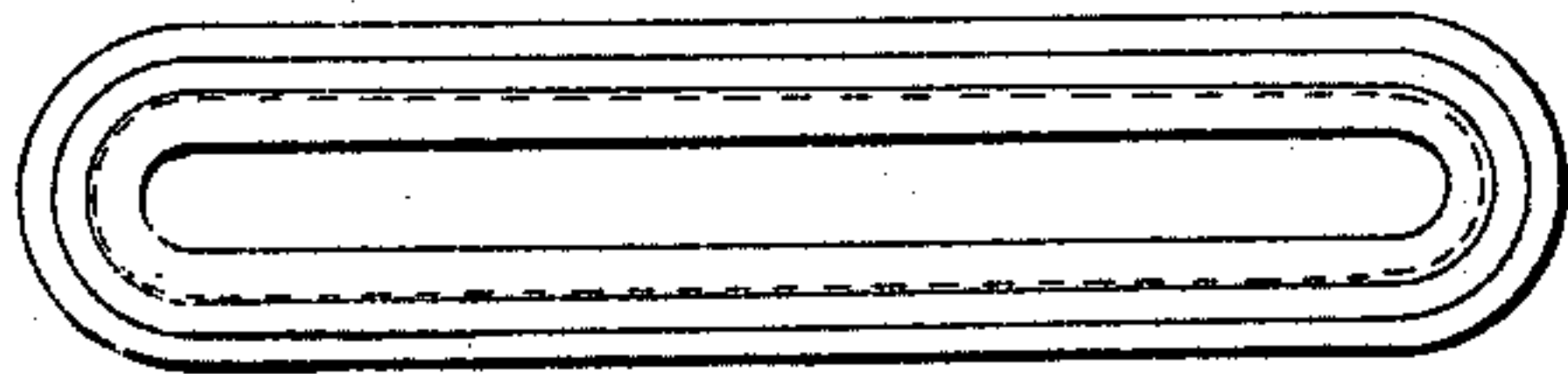
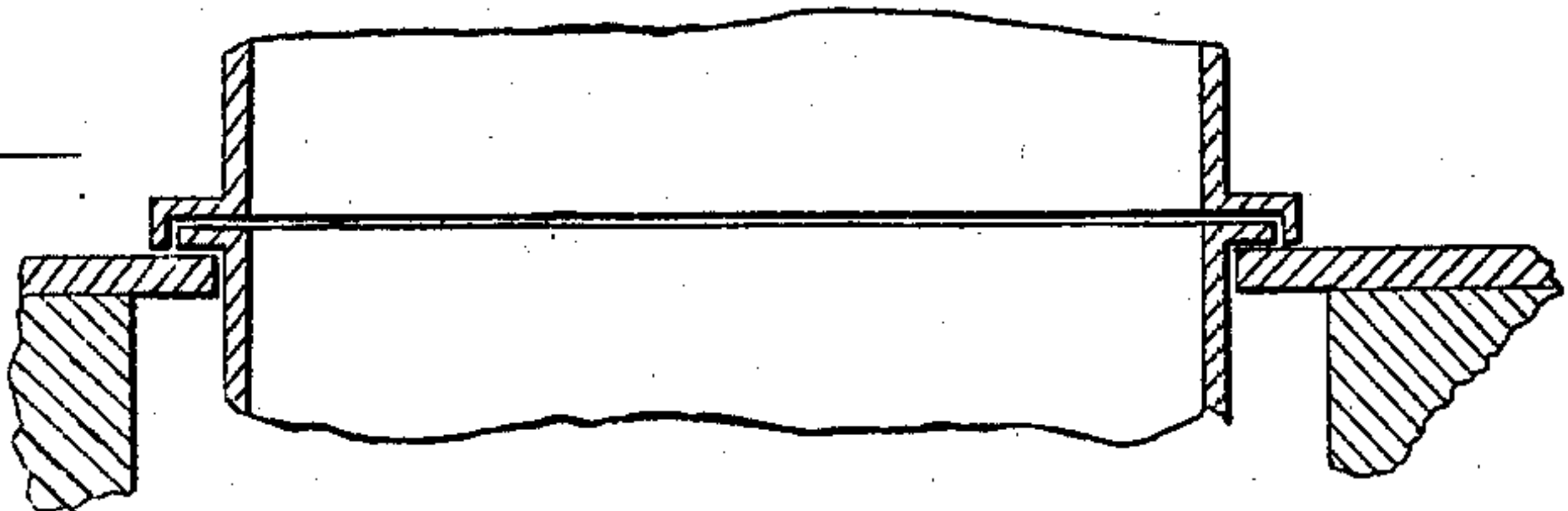


Fig. 5.



Witnesses:

Geo. S. West.
Andrew Longacre

Inventor:

Edw. P. Eastwick.

United States Patent Office.

EDWARD P. EASTWICK, OF BALTIMORE, MARYLAND.

Letters Patent No. 88,700, dated April 6, 1869.

IMPROVED BONE-BLACK KILN.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, EDWARD P. EASTWICK, of the city of Baltimore, in the State of Maryland, have invented a new and useful Improvement in Bone-Black Kilns, or kilns for similar purposes.

My invention consists in the manner of supporting upper and lower vertical retorts in bone-black kilns, or kilns for similar purposes, so that both upper and lower retorts are sustained on a central support, and allowing the lower retorts to be suspended over and enter into the mouth-pieces of the coolers below, which coolers are independently supported.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same.

In the accompanying drawing—

Figure 1 represents a vertical section of one-half of a bone-black kiln, having an upper chamber, A, and lower chamber, B, the former containing a series of upper retorts, one of which is represented by R, and the latter a corresponding series of lower retorts, one of which is represented by R', with a corresponding series of coolers below, one of which is represented by K.

Figure 2 represents a section of an upper and lower retort and cooler on an enlarged scale.

Figure 3 represents a top view of the lower retort.

Figure 4 represents the upper and lower retorts, immediately sustained upon the central support with-in referred to.

The lower retort, R', is constructed at the top with a flange, F, of suitable width and thickness, or other similar well-known device, which rests upon the support P, which, in the accompanying drawing, forms the floor of the upper chamber of the kiln, but this flange F may rest upon any other well-known permanent, central, support, as desired. I prefer the floor of the upper chamber of the kiln however.

Upon the top of the flange F is a rim, G, of suitable height, and set sufficiently back from the mouth of the retort to allow of the insertion of the upper retort R, which thus rests upon the lower retort R', the flange F, of the lower retort R', thus supporting both the upper and lower retorts. Thus arranged, the interior of the connected retorts forms one continuous chamber from the top of the upper retort to the bottom of the cooler beneath.

Other well-known methods may be used for resting the upper retort upon the lower, as desired, as by rims or other supports placed inside or outside the lower retort.

The upper retort may also rest, by a flange, or similar device, on the central support, in which case the lower retort may be suspended by any well-known mode from the upper retort, over and into the cooler, and both upper and lower retorts be thus supported at the same time by this flange, or similar device, upon this central support; or the upper retort may rest immediately upon the floor above described, or other central support, and the lower retort hang from this floor or central support, care being taken, however, to form the continuous chamber from the top of the kiln to the bot-

tom of the cooler, as may be seen in fig. 4; but I prefer the method of resting the upper retort upon the lower, and supporting both by the flange on the lower retort, supported in its turn upon the central support or floor, as above described.

The lower retort R' is thus hung over and enters into the mouth-piece H of the cooler K below, which cooler K is supported by the flange L of the mouth-piece, resting, in the accompanying drawing, in the bed-plate N, which forms the floor of the lower chamber B of the kiln, but which may be otherwise independently supported.

At the top of the upper retort R, and the under side of the top covering-plate M of the kiln, the space S is left for the expansion of the upper retort.

The covering-plate M, at the top of the kiln, may be formed with neck O, which is inserted in the mouth of the upper retort R, which may be bell-shaped, or otherwise, acting as a covering.

The space S, at the top of the kiln, and the upper and lower retorts, where they connect, should be well luted and bricked around upon the outside, as also the lower retort, where it enters the mouth-piece of the cooler K, below.

Double-chambered kilns, which utilize the large amount of heat lost in single-chambered kilns, and secure other well-known advantages, have been liable to the objection that one long retort, or two or more vertical ones, fastened firmly and rigidly together, communicate their expansion and contortion to the upper retort, or, if one retort were used, to the upper part thereof, on account of the greater heat to which the lower part of the long retort, or the lower retort, is submitted, and to which the length contributes also as a leverage, thus rendering double chambers in a great measure impracticable, unless an independent expansion were allowed for.

My invention is a mode of construction which admits of this independent expansion of the upper retort R into the space S, and the lower retort R' into the mouth-piece H of the cooler K, avoiding the disadvantages above referred to, and being a different method and direction of expansion of the upper and lower retorts, as described in my patent, No. 60,492, dated December 18, 1866, and allows a cheaper mode of construction.

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

The method of supporting upper and lower retorts in the bone-black kiln, or kiln for similar purposes, so that both upper and lower retorts are sustained on a central support, and at the same time allowing the lower retort to be suspended over and enter into the mouth-piece of the cooler below, which cooler is independently supported, as herein substantially set forth and described.

EDWD. P. EASTWICK.

Witnesses:

ANDREW LONGACRE,
GEO. S. WEST.