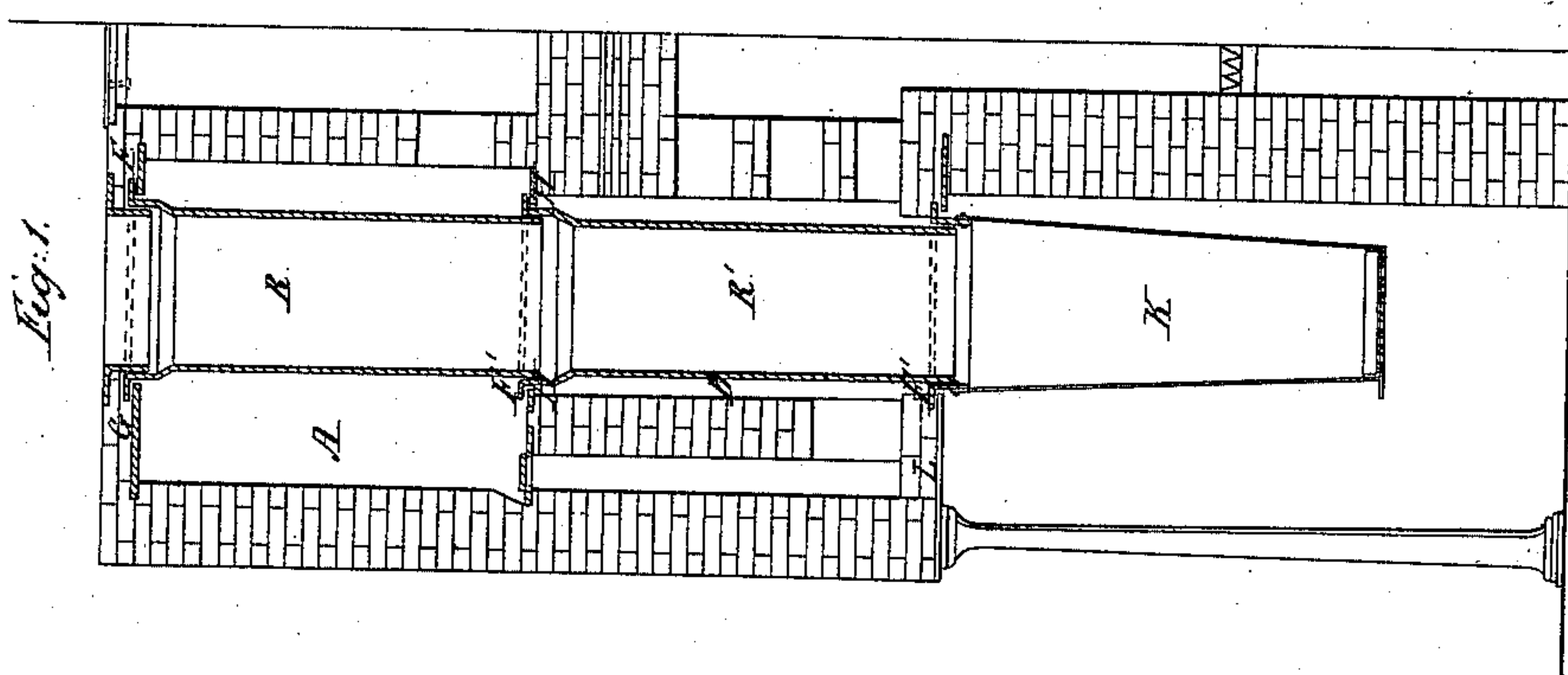
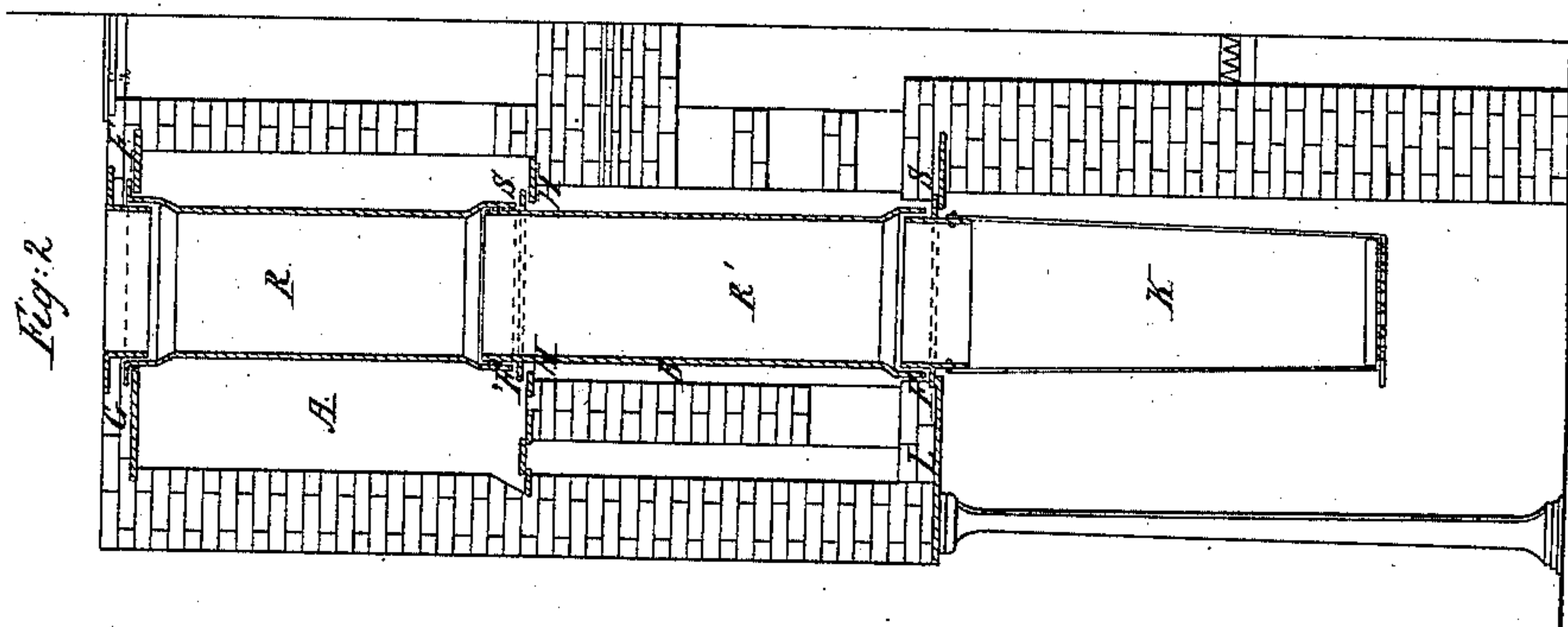
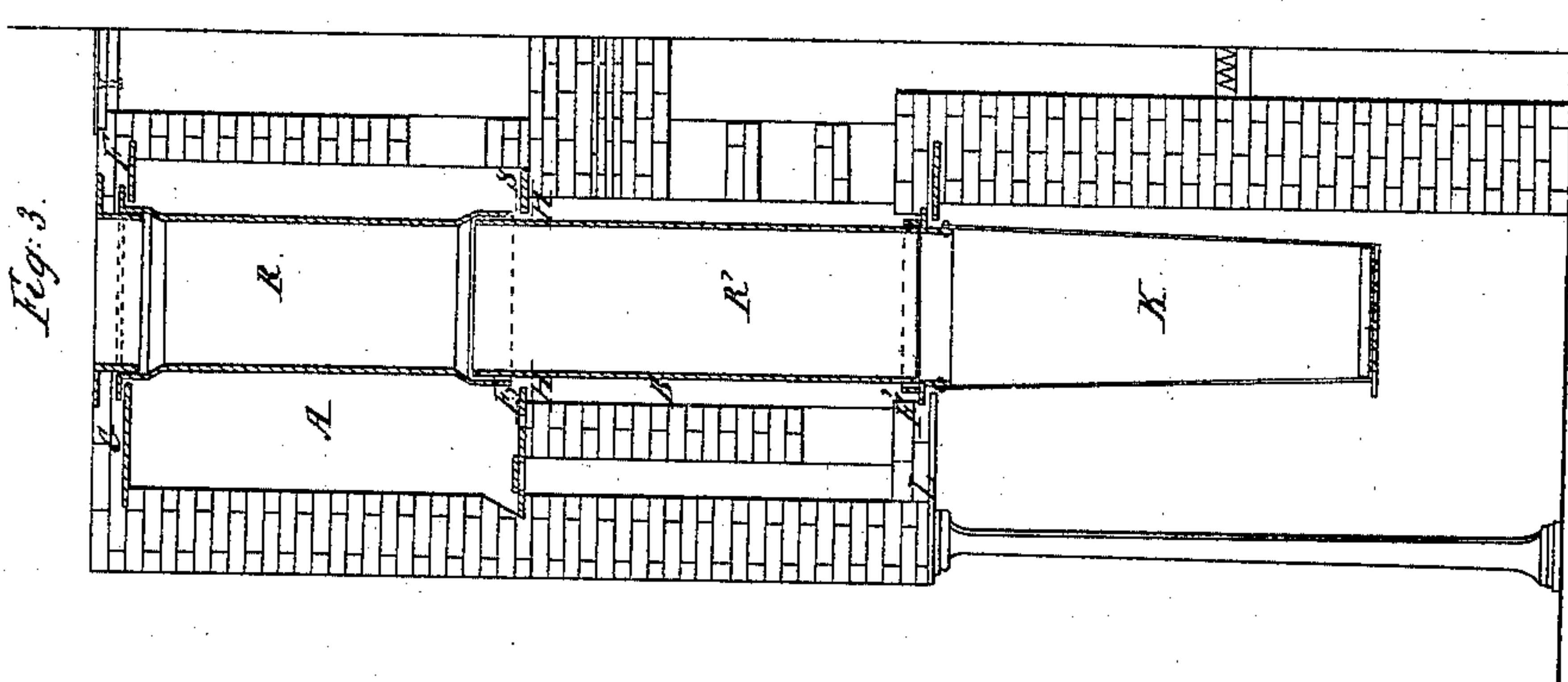


E. P. Eastwick.

Bare Black-Hin.

N^o 88,701.

Patented Apr. 6, 1869.



Witnesses
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EDWARD P. EASTWICK, OF BALTIMORE, MARYLAND.

Letters Patent No. 88,701, dated April 6, 1869.

IMPROVEMENT IN KILNS FOR BURNING BONE-BLACK

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 method of supporting one, two, or more vertical retorts, which, with the cooler below, form on the inside, the continuous chamber in the bone-black kiln, or kilns for similar purposes, so that the retort above, being independently supported, shall hang over and enter into, or overlap the mouth of the retort or cooler immediately below it, where it is allowed a separate and independent expansion.

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, with 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 the upper retort, overlapping the under retort, as within described.

Figure 3 represents the lower retort, supported from below, and the upper retort hanging over and around its upper mouth.

The upper retort R is hung, by a flange, F, or other well-known device, from the upper support or top of the kiln G, over and entering into the mouth of the retort R', immediately below, which retort R' is supported by a like flange, F', or other similar device, from the central support, or floor H, of the upper chamber, and hangs, in like manner, over and enters into the mouth of the cooler K, below, which in turn may be suspended similarly by its flange F'', or other similar device upon the bed-plate, or lower floor L of the kiln, or other support.

The top of each retort may be bell-shaped, or otherwise, to admit the hanging retort above it, and should be sufficiently roomy to allow the free expansion into it of the retort immediately above it.

The upper hanging retort may be constructed bell-shaped, or otherwise, at bottom, to overlap the upper part of the retort immediately beneath it, as seen in fig. 2, with expansion-space S, on the outside.

I, however, prefer that the upper retort should hang over and enter into the mouth of the retort immediately below, as above described.

If deemed advisable, the lower retort may rest upon a support at its base, which may be the floor of the lower chamber, as seen in fig. 3, or otherwise; while the upper retort, suspended from the top of the kiln, as seen in the same fig. 3, or from any other well-known support, as desired, may either surround the top of the lower retort and expand into the space S, as seen in fig. 3, allowing the upper retort to expand into the lower retort, or *vice versa*, the upper retort may enter the mouth of the lower retort and expand, as described, the lower retort being allowed to expand into a corresponding space on the outside; care being taken always to form as continuous a chamber as practicable, from the top of the upper retort to the bottom of the cooler.

Where the upper and lower retorts are thus connected, the joints thus made and the space S should be carefully luted and bricked around on the outside.

By the above-described arrangement, double-chambered kilns with their vast saving of fuel are rendered more practicable, as an independent expansion for each retort downward into or on the outside of the retort, or cooler immediately below it is provided for, which is not the case with kilns in common use, and the disadvantages of one long retort, or two, or three retorts fastened firmly and rigidly together with the attendant communicated expansion and contortion from below, where the greater heat is sustained, and to which the length but adds a leverage, are avoided, thus obviating the wear and tear incident to other double-chambered kilns, admitting of a cheaper construction, and rendering the kiln more durable and economical.

I do not claim the well-known method of inserting one pipe within or around another; but

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

The method of supporting one, two, or more vertical retorts, which, with the cooler below, form on the inside, the continuous chamber in the bone-black kiln, or kiln for similar purposes, so that the retort above, being independently supported, shall hang over and enter into or overlap the mouth of the retort, or cooler immediately below it, where it is allowed a separate and independent expansion, as herein substantially set forth and described.

EDW. P. EASTWICK.

Witnesses:

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