A. G. McKEE.

BLAST FURNACE STOVE GAS BURNER.

APPLICATION FILED DEC. 11, 1909.

975,556. Patented Nov. 15, 1910.

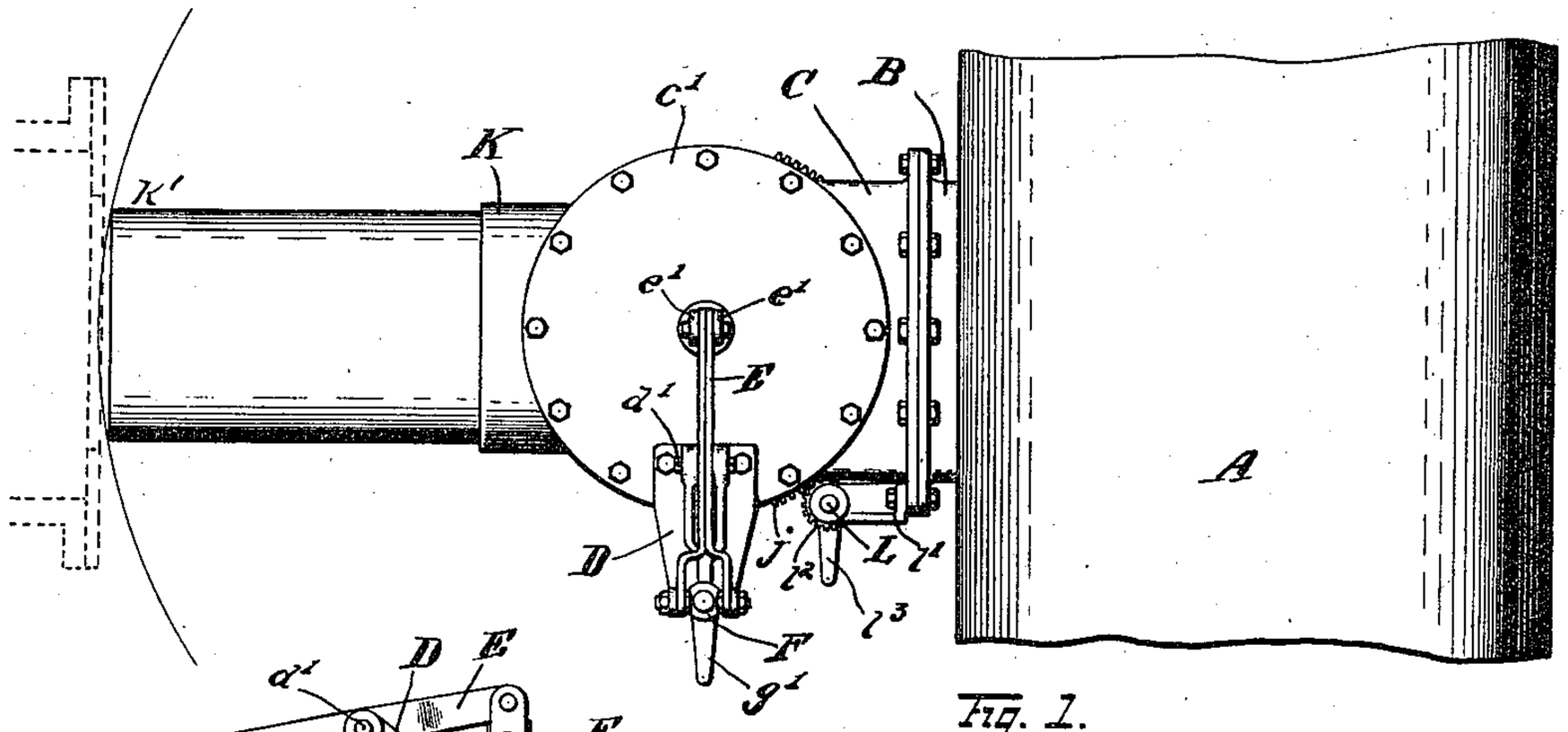

Fig. 1.

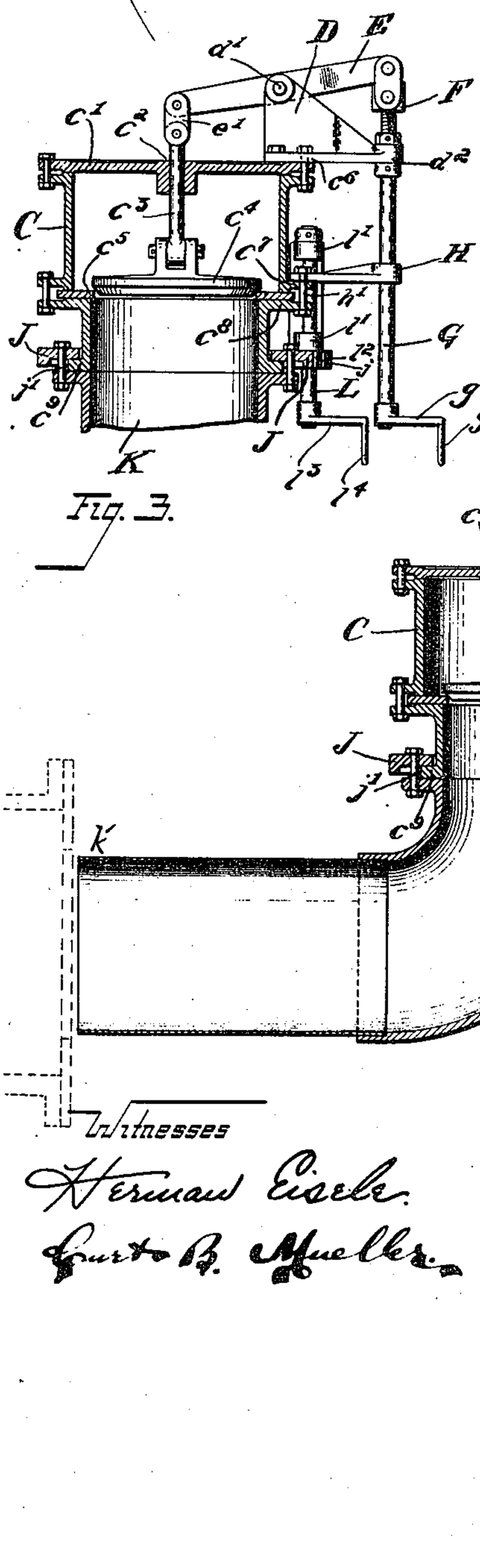

Fig. 3.

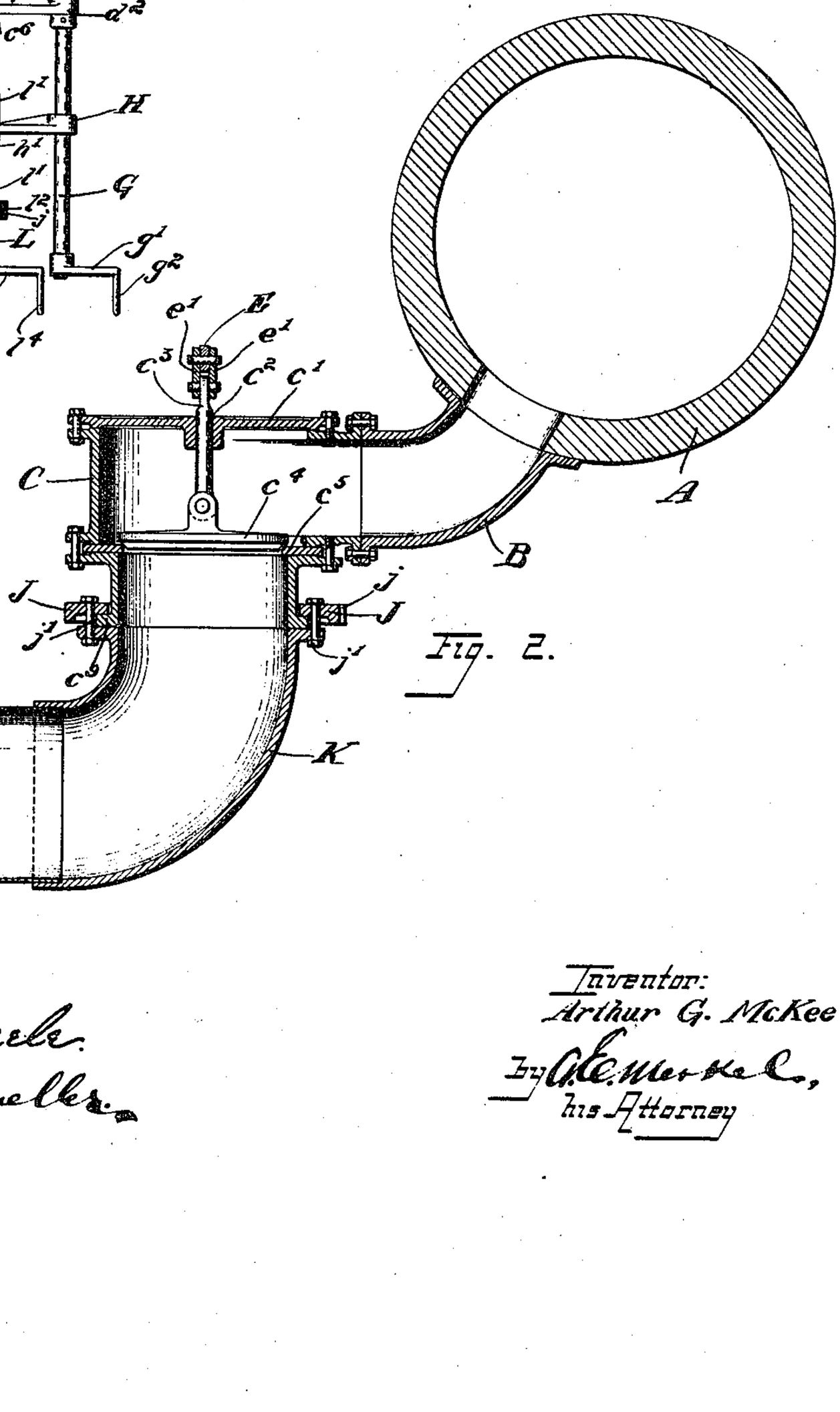

Fig. 2.

Witnesses

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UNITED STATES PATENT OFFICE.

ARTHUR G. McKEE, OF CLEVELAND, OHIO.

BLAST-FURNACE-STOVE GAS-BURNER.

975,556. Specification of Letters Patent. Patented Nov. 15, 1910.

Application filed December 11, 1909. Serial No. 532,515.

To all whom it may concern:

Be it known that I, ARTHUR G. McKEE, a citizen of the United States, resident of Cleveland, county of Cuyahoga, and State of Ohio, have invented a new and useful Improvement in Blast-Furnace-Stove Gas-Burners, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

My invention relates to gas burners for use in conjunction with blast furnace stoves, and particularly to an improved means for moving burners away from the doors of stoves of this general character.

The said invention consists of means hereinafter fully described and particularly set forth in the claims.

The annexed drawing and the following description set forth in detail certain means embodying the invention, the disclosed means, however, constituting but one of various mechanical forms in which the principle of the invention may be applied.

In said annexed drawings: Figure 1 is a top plan of my construction during use, the stove opening being shown in dotted lines. Fig. 2 is a vertical longitudinal section of the same. Fig. 3 is a front end view, partly in section, and more clearly showing the operable parts.

Like letters and numerals of reference refer to similar parts throughout the several views.

Leading from the gas main A is a fixed outlet tube B, which after extending a short distance in a substantially horizontal direction, leads into and supports a valve casing C, to which it may be secured in any approved manner. This casing comprises the usual cap c' provided with an opening c^2 for the admission of the valve stem c^3. Interiorly the valve proper c^4 is adapted to rest upon or be raised from the seat c^5 in the following manner. Secured to the cap in any way desired at c^6 is a standard D. This is provided on its upper end with a pin d' adapted to serve as a pivotal support for the forked lever E. The latter is connected at one end to the valve stem by means of the connecting links e', while its forked end incloses a nut F, the purpose of which will hereinafter more clearly appear.

A crank shaft G, having the usual arm g' and handle g^2, is threaded on its other end, and passes upwardly through a suitable guide bracket H, which is secured by bolts h' or any other approved means to the annular flanges c^7 c^8 on the casing. Continuing in a substantially vertical direction, the shaft G passes through an overhanging bearing d^2 of the standard D, after which it screws into the nut F. As will be readily understood, the stem c^3 may by turning this crank be either raised or lowered to respectively open or close the valve.

The lowermost edge of the casing is provided with an annular flange c^9. Resting upon this flange so as to be freely rotatable, is a ring J provided with a gear segment j. Suspended from this segment in any desired manner, as by bolts j', so as to be rotatable with it, I provide a right angled nozzle K having an interior diameter corresponding to the lower portion of the valve casing with which it connects. Suspended upon suitable brackets l' which are secured to the casing C, is a second vertically extending crank shaft L. Upon this shaft, at a point opposite the segment j, and in mesh with it, I provide a pinion l^2. This shaft is likewise provided with an arm l^3 and handle l^4. The turning of the crank rotates the pinion, which in turn rotates the segment, the latter then swinging the nozzle K away from the stove door, to describe the arc indicated in Fig. 1.

The operation of my device is as follows:—Assuming the door of the stove closed, and the nozzle K of my burner out of position, the door of the stove will first be opened, after which the crank L is turned, until the mouth k' of the nozzle has swung around to a position directly in front of the stove opening. The crank G may now be turned to open the valve, and permit the gas to flow out through the nozzle, where it is ignited and projected into the stove. After the stove has become sufficiently heated, a reversal of the cranks G and L respectively closes the valve, and again swings the mouth of the nozzle around and away from the stove opening, so that the door thereafter may be more easily approached and closed.

Having fully described my invention, what I claim therefore and desire to secure by Letters Patent is:—

1. In a device of the character described, the combination of a gas main; a valve cas-

ing fixedly connected with said main; and a nozzle suspended from said casing, and movable about an axis.

2. In a device of the character described, the combination of a gas main; a valve connected with said main; means for opening and closing said valve; a nozzle connected with said valve, and comprising two legs having their axes at right angles; and means for causing said nozzle to swing about one of said axes.

3. In a device of the character described, the combination of a gas main; a valve connected with said main; means for opening and closing said valve; a nozzle connected with said valve, and comprising two legs having their axes at an angle; and means comprising a gear segment and pinion, adapted to swing said nozzle about one of said axes.

4. In a device of the character described, the combination of a gas main; a valve connected with said main; means for opening and closing said valve; a gear segment rotatably mounted upon said valve; a right angled nozzle having one end connected with said valve, and fixedly suspended from said segment; and means for rotating said segment.

Signed by me, this 3d day of December, 1909.

ARTHUR G. McKEE.

Attested by—
CURT B. MUELLER,
WINIFRED WALTZ.