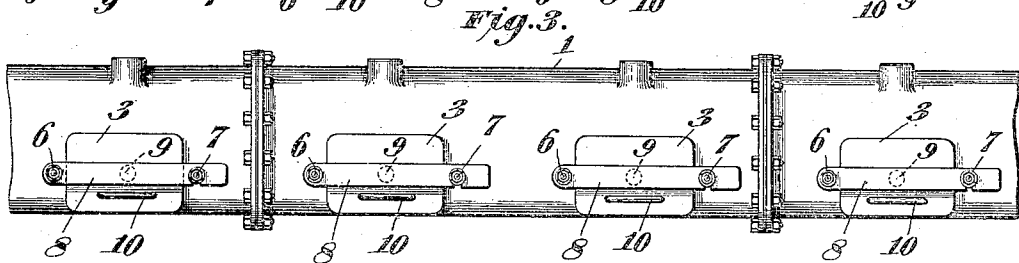
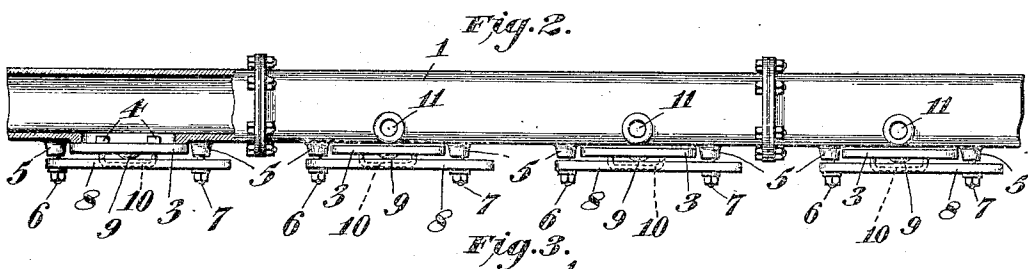
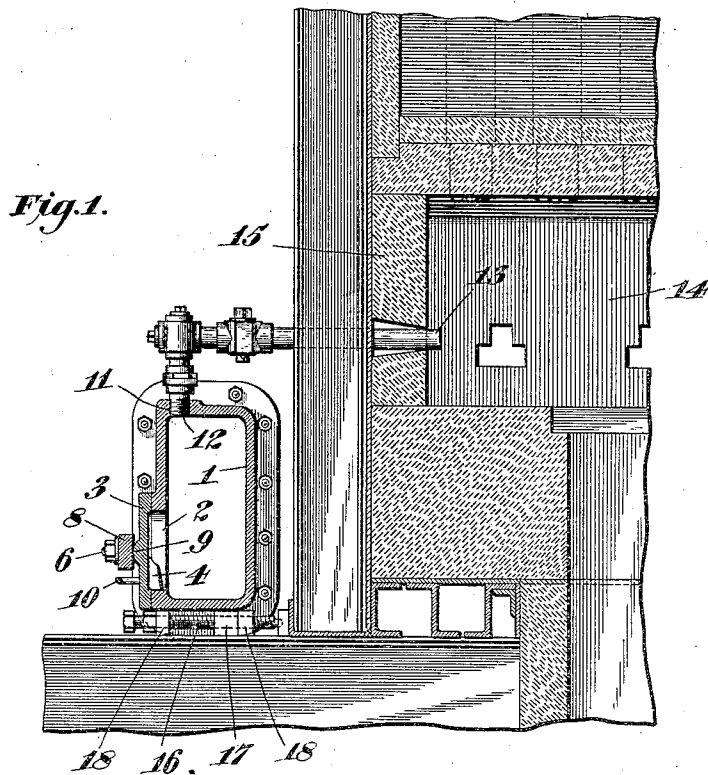


M. G. MOORE & R. C. GLAZIER.
GAS MAIN.

APPLICATION FILED JUNE 25, 1907.

936,013.

Patented Oct. 5, 1909.



WITNESSES,

Elmer Seavey
Lynne E. Brown

INVENTORS.

Marshall G. Moore
Ralph C. Glazier and
by Geo. E. Packray
their ATTORNEY.

UNITED STATES PATENT OFFICE.

MARSHALL G. MOORE AND RALPH C. GLAZIER, OF JOHNSTOWN, PENNSYLVANIA.

GAS-MAIN.

936,013.

Specification of Letters Patent.

Patented Oct. 5, 1909.

Application filed June 25, 1907. Serial No. 380,683.

To all whom it may concern:

Be it known that we, MARSHALL G. MOORE and RALPH C. GLAZIER, citizens of the United States, residing in the city of Johnstown, county of Cambria, and State of Pennsylvania, have invented certain new and useful Improvements in Gas-Mains; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates in general to the construction of gas mains and more especially to such as are used in distributing gas to coke ovens.

The object of the invention is to provide a main of the above described class of substantially rectangular form in cross section and of considerable depth as compared with the width. The purpose of this construction is to allow deposits which form in such pipes to accumulate in the lower portion thereof, still leaving sufficient area above to carry the gas supply. A number of holes are arranged on one side of the pipe near the bottom, which are opened at intervals for the withdrawal of the accumulated deposits. These holes have cover-plates which are secured by means of a flat bar hinged at one end by a bolt, and having a notched or slotted opening at the other end to pass over the corresponding bolt, the central portion of the bar pressing upon a rounded boss at the center of the cover.

The ordinary round mains of small diameter soon become filled with a deposit which cannot be steamed or washed out, but must be scraped out with difficulty, on account of their length and inaccessibility, whereas with our improved main the cleaning doors can be easily taken off and the deposits removed with but very little trouble or delay, and the gas need not therefore, be shut off from the coke ovens, but for a comparatively short time. When the bottom of the main has been filled with deposit, even to the extent of one-third of its capacity, or more, the pipe will supply all the gas required for use at the burners. This main may be made of cast iron, which is more durable than one of wrought iron or steel.

Referring to the accompanying drawings, forming a part of this specification in which similar letters of reference indicate corresponding parts in all the figures:—Figure 1

is a transverse sectional view of the gas main on a line of the center of one of the holes in the sides, showing also the burner and connection and a portion of a coke oven in section. Fig. 2 is a top plan view of the gas main with a portion broken away to show more clearly the construction of the hole in the side and the cover-plate. Fig. 3 is a front elevation of a portion of our improved gas main.

In the drawings the gas main 1 is composed of lengths of piping, having holes 2 arranged on one side of the pipe near the bottom. These holes are closed by means of covers 3 each having two lugs or brackets 4 on their interior which rest upon the surface of the boundary of the hole itself, in order to maintain the cover in position and keep it from slipping down, as will be readily seen by referring to Fig. 1.

On each side of the holes and cast integral with the gas main are stud projections 5 into which stud-bolts 6 and 7 are secured. A flat bar 8 is hinged at one end to the bolt 6 and the other end of said bar is notched or slotted to catch under the head of the bolt 7, the central portion of the bar passes over a boss 9 on the outside central portion of the hole cover, so that when the nuts on bolts 6 and 7 are screwed up tight, the cover is securely held in position. The cover is provided with a handle 10. In the top of the main is a threaded opening 11 into which the connection 12 for the gas burner 13 which passes into the combustion chamber 14 of the coke oven 15, is screwed.

Our improved gas main is made up of sections which have outwardly extending flanges at both ends, which are bolted together in the usual manner. The mains are supported on lugs 17 and 18 which act with set screws 16 to restrain the expansion of the oven wall, which device however, is part of the oven and is not included in the present application.

In order to remove one of the covers it is only necessary to unscrew the nut on the stud-bolt 7 when the flat bar 8 can be thrown back, thus releasing the cover, which can be lifted away by means of the handle 10, and the deposit removed in a very short time. The cover can then be replaced, the bar thrown back in its former position and the nut on stud-bolt 7 tightened. It will be observed that the lower edge of the opening is substantially coincident with the base

of the main, thus facilitating the operation of cleaning. This is a feature of great importance.

Although we have shown and described our improved gas main in considerable detail, we do not wish to be limited to the exact and specific details set forth, but may use such substitutions, modifications or equivalent thereof, as are embraced within the scope of our invention, as pointed out in the claims.

Having thus described our invention, what we claim and desire to secure by Letters Patent is:

1. As an article of manufacture, a pipe section rectangular in cross section, the depth being greater than the width thereof, said section being provided with openings in the sides, the lower edges of which are substantially coincident with the inner surface of the base of the pipe, a supporting lug, and external removable mechanical means for closing said openings.

2. As an article of manufacture, a pipe section provided with openings in the sides below the central portion thereof, the lower edge of the openings being substantially coincident with the inner surface of the base of the pipe, a supporting lug, projections on the outer surface of the pipe adjacent to the openings, and covers secured by bars revolvably mounted on the said projections.

3. A pipe or main provided with openings in the sides thereof, the lower edge of which is substantially coincident with the inner surface of the base of the main, covers for the openings provided with bosses which

are spherical segments on their central portion, pivoted bars engaging said bosses and means for securing the bars at their free ends.

4. A pipe section rectangular in cross section, the depth being greater than the width thereof, said section being provided with openings in the sides, the lower edge of the openings being substantially coincident with the base of the main, the height of said openings not exceeding one half the height of the main, flanges at the ends of said pipe section, covers for said openings, each provided with a spherical boss on its central portion, handles on the covers, projections formed on the outer surface of the pipe sections on the sides of each opening, and a bar bolted to one of said projections, the opposite end of the bar being provided with a slot to engage the bolt on the projection at the opposite side of the opening, said bar engaging the boss on the cover.

5. A pipe section rectangular in cross section, the depth being greater than the width thereof, said section being provided with openings in the sides, the lower edges of which openings are substantially coincident with the base of the main, covers for the openings, flanges at the ends of the pipe section, and a supporting lug secured to the base or platform.

In testimony whereof we hereto affix our signatures in the presence of two witnesses.

MARSHALL G. MOORE.
RALPH C. GLAZIER.

Witnesses:

WM. E. CARNEY,
ELMER SEAVEY.