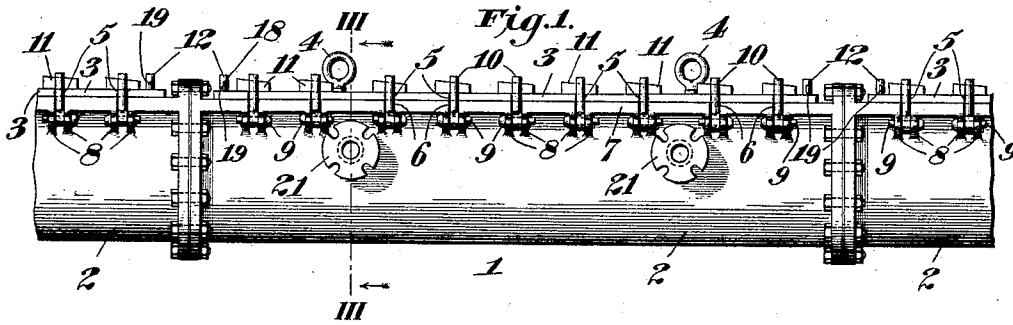
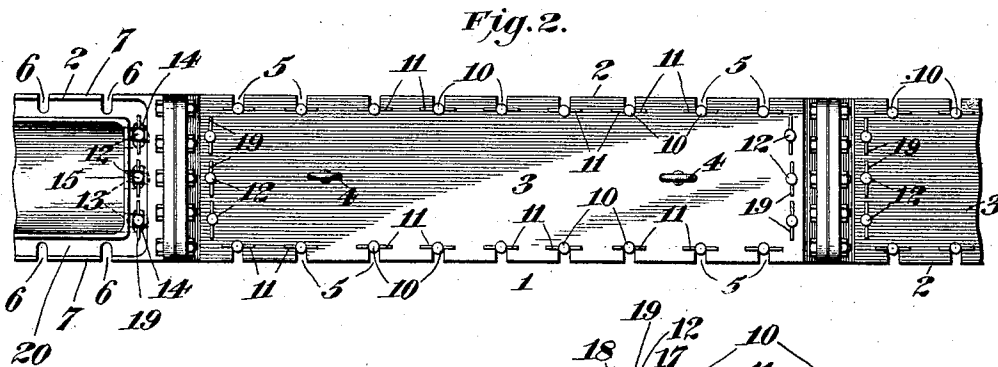
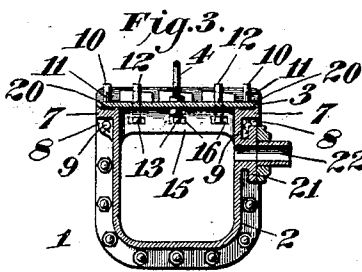
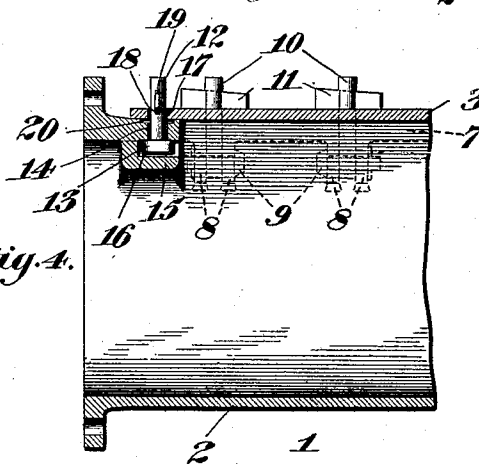


M. G. MOORE & R. C. GLAZIER.
GAS MAIN CONSTRUCTION.
APPLICATION FILED JUNE 25, 1907.

912,147.

Patented Feb. 9, 1909.



WITNESSES,

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UNITED STATES PATENT OFFICE.

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

GAS-MAIN CONSTRUCTION.

No. 912,147.

Specification of Letters Patent.

Patented Feb. 9, 1909.

Application filed June 25, 1907. Serial No. 380,684.

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-Main Construction; 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 to the construction of gas mains and more especially to such as are used in the distribution of gas to coke ovens.

The object of the invention is to provide a main made up of sections 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 mains to accumulate in the lower portion of the main, still leaving sufficient area above to carry the gas supply. A removable cover is secured by means of bolts and keys to form the top of each section of the main. These sections have at each end a connecting rib provided with elongated slots and with sockets to receive bolt heads which are also elongated. The bolts are let into the slots and then turned a quarter of a revolution so that the heads of the bolts pass under shoulders in the ribs.

Flanges extend outwardly along the upper side edges of the pipe sections and are slotted or notched to register with corresponding slots or notches in the cover-plates. Eye-bolts are hinged to ears, located on the upper side edges of the main, by means of bolts which pass through openings in the ears and the eyes of the bolts. The shanks of the eye-bolts pass up through the slots in the side flanges and the corresponding slots in the cover-plates and a key is then driven into a slot in the top end of the bolt to hold the cover-plate securely in position.

Heretofore when the common round mains of small diameter were used, they soon became filled up with a deposit which could not be steamed or washed out, but must be scraped out from the ends—a difficult operation owing to the length of the mains and the impossibility of reaching all sections of the interior in a short time. With our improved

main the cover-plate can be easily taken off and the deposit removed with but very little delay, so that the gas need not be shut off from the coke ovens for but a comparatively short time. This main can be made of cast iron, which is more durable than wrought iron or one made of steel.

Referring to the accompanying sheet of drawings forming a part of this specification in which similar characters of reference indicate corresponding parts in all the figures:— Figure 1 is a side elevation of our improved gas main. Fig. 2 is a top view of the same with a piece of one of the cover-plates removed to show more clearly our invention. Fig. 3 is a transverse section on the line III—III of Fig. 1 looking in the direction of the arrows. Fig. 4 is an enlarged longitudinal section showing the manner of constructing the ends of the sections of the main.

In the drawings 1 is the gas main which is made up of sections 2 having outwardly extending flanges at their ends for the purpose of bolting the sections together. A cover-plate 3 extends nearly the entire length of the main sections and has eye-bolts 4 secured therein, in order that it may be handled with greater ease. Notches or slots 5 in the cover-plates register with corresponding slots or notches 6 in flanges 7 which extend along the upper outer edges of the body of the gas main.

Extending downward from flanges 7 and outward from the sides of the main and on each side of the notches 6 are ears 8 which have openings through which bolts 9 pass. The bolts 9 also pass through the eyes of the eye-bolts 10 making a hinge for the same at this point. The shanks of the eye-bolts 10 pass upwards through the slots or notches 5 and 6 and have slots in their upper ends through which wedge-shaped keys 11 are driven.

The ends of the cover-plates 3 are secured by means of bolts 12 provided with elongated heads 13 which are inserted in elongated openings 14 in the upper side of the transverse ribs 15. These ribs have sockets 16, so that after the bolts are inserted they can be turned a quarter of a revolution, in which case the heads 13 of the bolts 12 pass under the shoulders of the sockets. The shanks of bolts 12 pass upwards through holes 17 in the ends of the cover-plates 3 and have slots 18 through which keys 19 pass.

The flanges 7 and the ribs 15 are grooved on their upper faces as shown at 20, for holding gaskets, so that the connection between the covers and the body of the main will be more complete. A pipe 22 leading to the burner in the oven is attached to the main by means of the connection 21.

When it is desired to clean the main, the keys 11 and 19 are removed with the aid of a hammer or in any other suitable manner and the cover lifted off. The deposit can then be quickly scraped out, the cover replaced, and the keys driven back in their former places, as will be easily understood by referring to the drawings.

Although we have shown and described our improved gas main construction 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 equivalents 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. A pipe section consisting of a body portion with outwardly extending flanges on its upper edges and inwardly extending transverse ribs at its ends, and a detachable cover adapted to be secured to said flanges and ribs.

2. A pipe section consisting of a U-shaped or trough-like body portion with outwardly extending flanges on its upper edges and inwardly extending transverse ribs at its ends, and a detachable cover adapted to be secured to said flanges and ribs.

3. A pipe section consisting of a U-shaped or trough-like body portion with outwardly extending flanges on its upper edges, inwardly extending transverse ribs at the upper portion of the ends, mortised or slotted bolts pivoted to the said flanges, a plate or cover provided with openings to receive the said bolts and means for securing the ends of the cover to the inwardly projecting ribs.

4. A pipe section consisting of a U-shaped or trough-like body portion with outwardly extending flanges along its upper edges, inwardly extending transverse ribs at the ends of said pipe section in a plane parallel with

the side flanges, the ribs being provided with slots to receive the shank of a bolt and with recesses for receiving the head thereof, a cover for said pipe section and bolts for securing the cover to the transverse ribs and to the flanges.

5. A pipe section consisting of a U-shaped or trough-like body portion, outwardly extending flanges along the upper edges thereof, transverse ribs at the ends of said pipe section, the flanges and ribs being provided with recesses on their upper surfaces, gaskets in said recesses, said gaskets being provided with bolt-holes or slots, a detachable plate or cover and means for securing said plate or cover to the flanges and ribs.

6. A pipe section consisting of a U-shaped or trough-like body portion with outwardly extending flanges along its upper edges, bolts pivoted thereto, outwardly extending flanges at the ends of the pipe section, inwardly extending transverse ribs at the ends located in a plane parallel with the side flanges, the ribs being provided with slots to receive the shanks of bolts and with recesses for receiving the heads thereof, bolts connected with the ribs, a cover for the pipe section and means for securing the pivoted bolts and the bolts in the ribs to the cover.

7. A pipe section consisting of a U-shaped or trough-like body portion, outwardly extending slotted flanges along its upper edges, ears thereon, eye-bolts pivoted to the ears, outwardly extending flanges at the ends of the pipe section, inwardly extending transverse ribs at the ends located in a plane parallel with the side flanges, bolts connected with the ribs, the latter being provided with slots to receive the shanks of the bolts and with recesses for receiving the heads thereof and a cover provided with openings in the ends and with slots in the sides adapted to register with the bolts in the flanges and ribs, and means for securing the cover when placed in position.

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.