

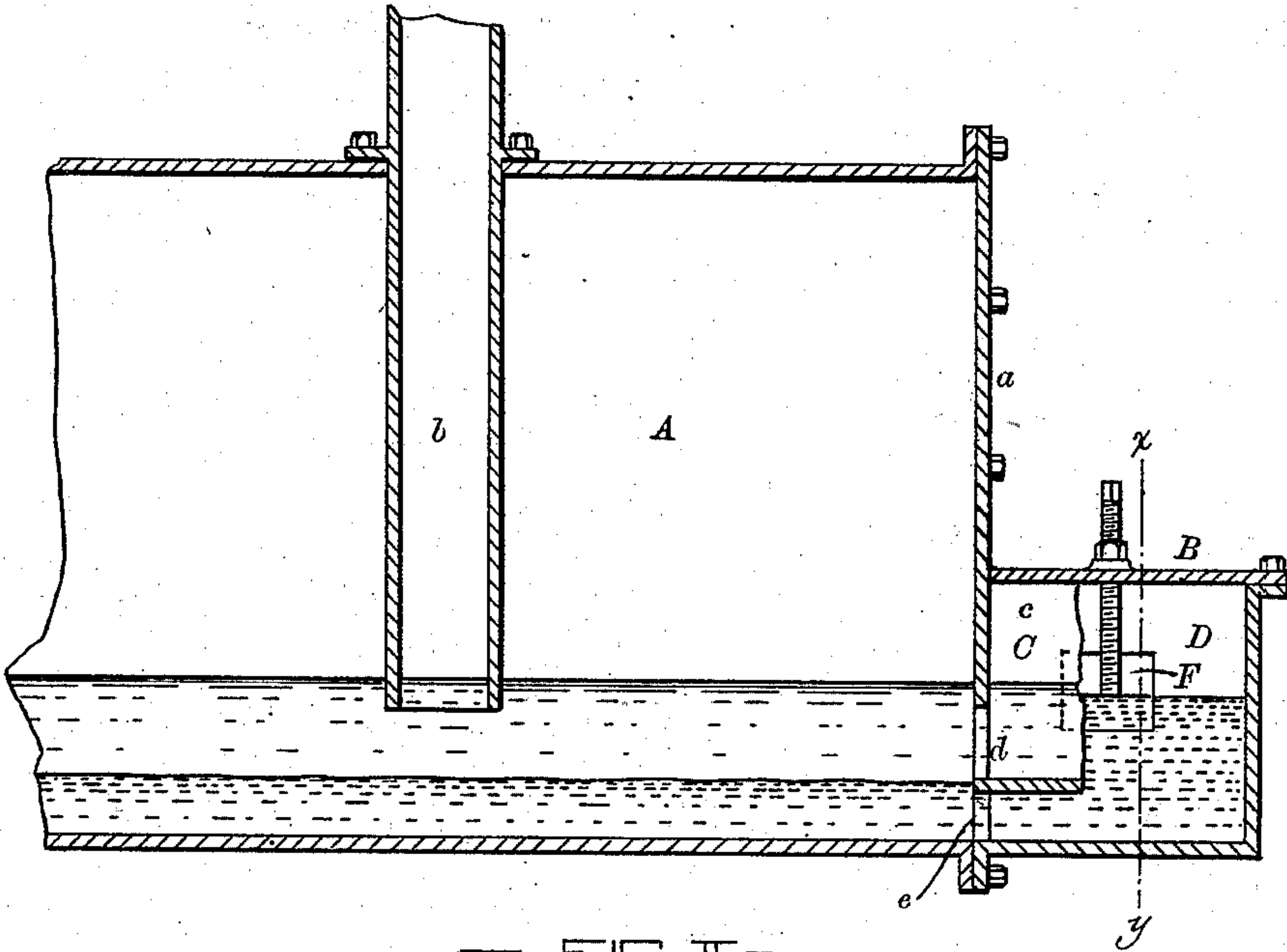
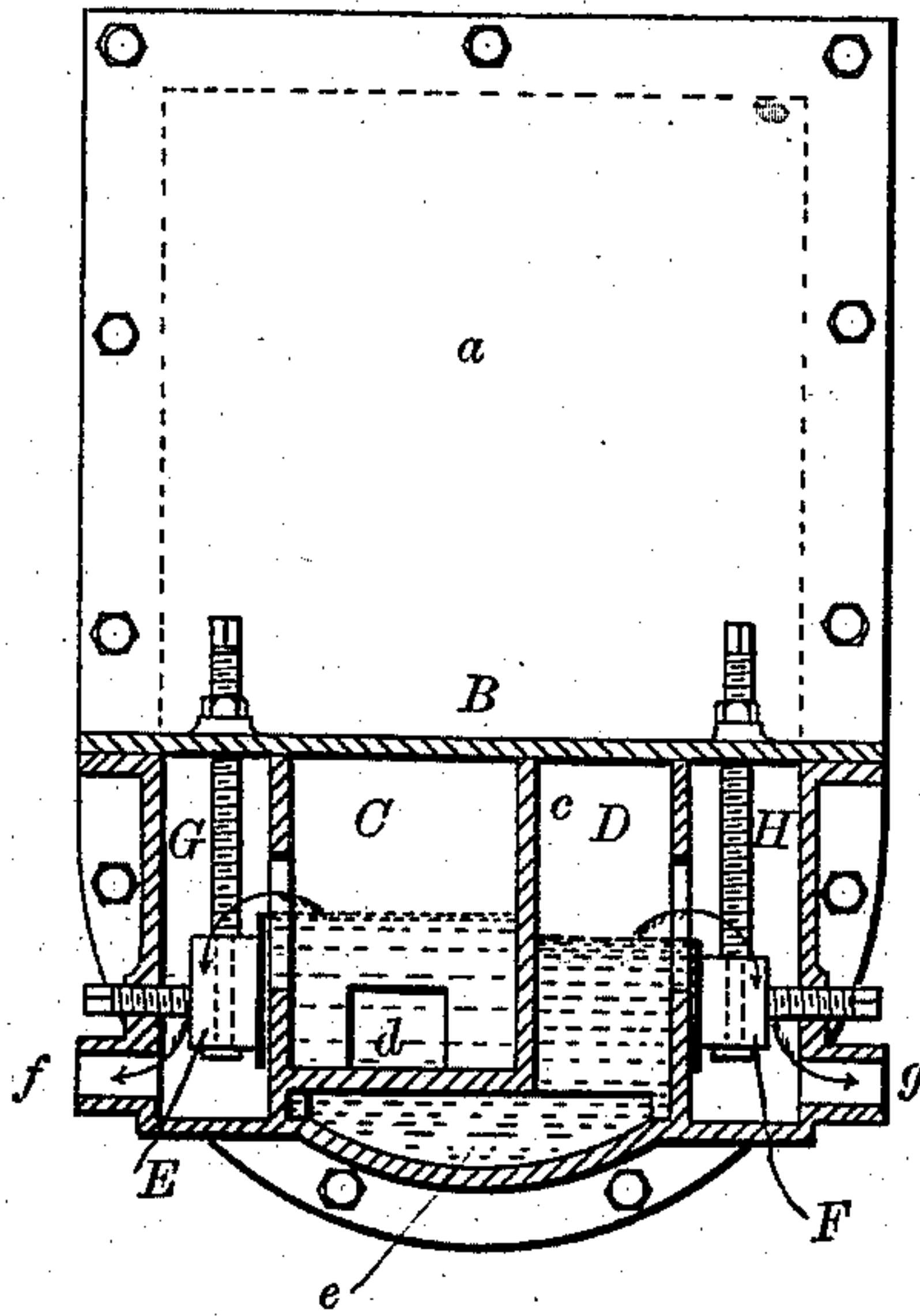
(No Model.)

J. W. BOLAND.
Gas Making Apparatus.

No. 238,837.

Patented March 15, 1881.

— FIG. I —



— FIG. II —

— WITNESSES —

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UNITED STATES PATENT OFFICE.

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GAS-MAKING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 238,837, dated March 15, 1881.

Application filed July 28, 1880. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. BOLAND, of the city of Baltimore and State of Maryland, have invented certain Improvements in Gas-Making Apparatus, of which the following is a specification; and I do hereby declare that in the same is contained a full, clear, and exact description of my said invention, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

This invention relates to certain improvements in the hydraulic main, whereby the tar which accumulates in the same is automatically carried off without varying the depth of water in the main, which effects the sealing of the dip-pipes.

In carrying out my invention I provide the head of the hydraulic main with a box divided into two compartments, which are in communication with the interior of the main by means of separate apertures. One of the compartments receives water only from the main, the aperture connecting this compartment with the said main being situated above the maximum height of the tar. The other compartment receives tar from the main, and the vertical position of its communicating aperture fixes the maximum height of tar in the main.

The water and tar chambers are each provided with an overflow-opening, the practical height of which is regulated by an adjustable gate.

The flow of tar independently of the water is effected by depressing the tar-gate to a point slightly below the level of the water in the water-chamber, or to a point which will give to the tar, which is the heavier body, a weight only equal to that of the water. By this means an equilibrium in weight of the two bodies is obtained, notwithstanding the difference in their specific gravity. Consequently, upon the deposit of tar from the dip-pipes, after the tar has risen to the upper edge of the aperture, a corresponding quantity of the same material is discharged over the tar-gate.

In the further description of my said invention which follows reference is made to the accompanying drawings, forming a part hereof, and in which—

Figure I is a longitudinal section of the improved hydraulic main. Fig. II is a cross-section of Fig. I, taken on the dotted line *x y*.

Similar letters of reference indicate similar parts in both the views.

A is the hydraulic main, having the head *a* and the usual dip-pipes, one of which is shown in the drawings and designated by *b*.

B is the overflow-box projecting from the head *a*. The box B is divided by the partition *c* into the water and tar chambers, respectively represented by C and D. The water and tar chambers are in communication with the interior of the main by means of apertures *d* and *e*, relatively arranged as shown. The tar-aperture *e*, which is for the admission of tar from the main to the tar-chamber, commences on a line corresponding with the bottom of the main and extends upward a distance equal to the depth to which the tar is to be maintained. The water-aperture *d* is situated above the tar-line, and may be of any convenient size.

E and F are respectively the water and the tar gates, and they are operated by means of screw-stems, as shown.

Suitable spaces, G and H, are provided in the box B for the gates, and the said spaces have nozzles *f* and *g*, to which pipes may be attached to carry off surplus water and tar.

Supposing the water and tar gates to be set as shown in the drawings and the main to contain water only, tar dripping from the dip-pipes accumulates in the bottom of the main until it rises to the top of the aperture *e*, the water displaced by the tar passing off over the tar-gate. After this the tar rises only in the tar-chamber and until it reaches the upper edge of the tar-gate, when it overflows and passes off through the tar-nozzle *g*.

It will be understood that the overflow of the tar, as described, depends upon the upper edge of the tar-gate being maintained below

the water-line, so as to compensate for the greater specific gravity of the tar and equalize the weight of the respective columns.

I claim as my invention—

- 5 In combination with a hydraulic main, a tar and a water overflow chamber having apertures communicating with the interior of the said main, situated at different heights, as

shown, and provided with suitable overflow-openings and vertically-adjustable gates, substantially as and for the purpose herein specified. 10

JOHN W. BOLAND.

Witnesses:

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