

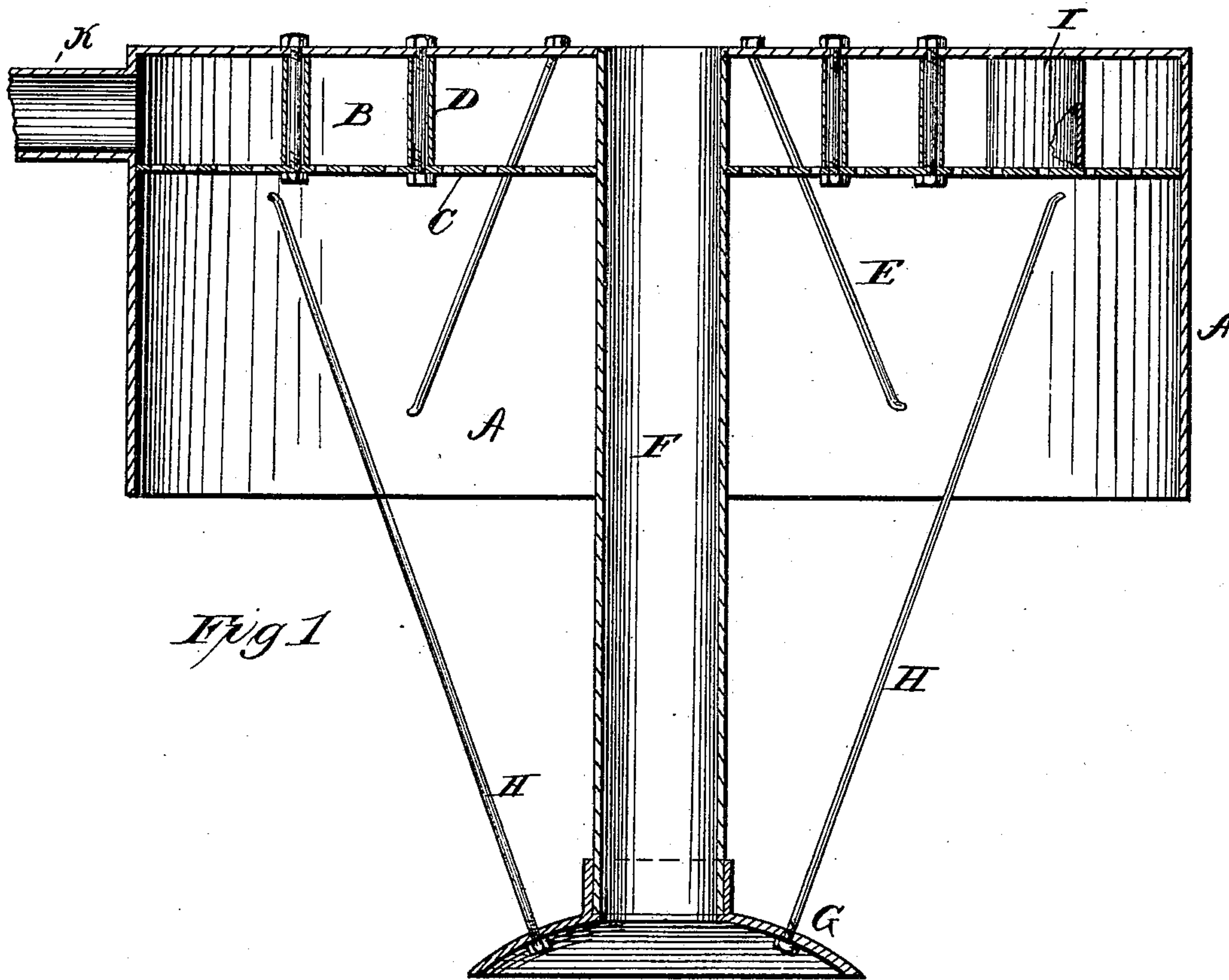
(No Model.)

2 Sheets—Sheet 1.

C. H. ROBERTS.
Water Supply for Cities.

No. 238,439.

Patented March 1, 1881.



Witnesses
F. L. Ouraud
D. O'Donnoghue

Inventor,
Chas. H. Roberts
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att'y.

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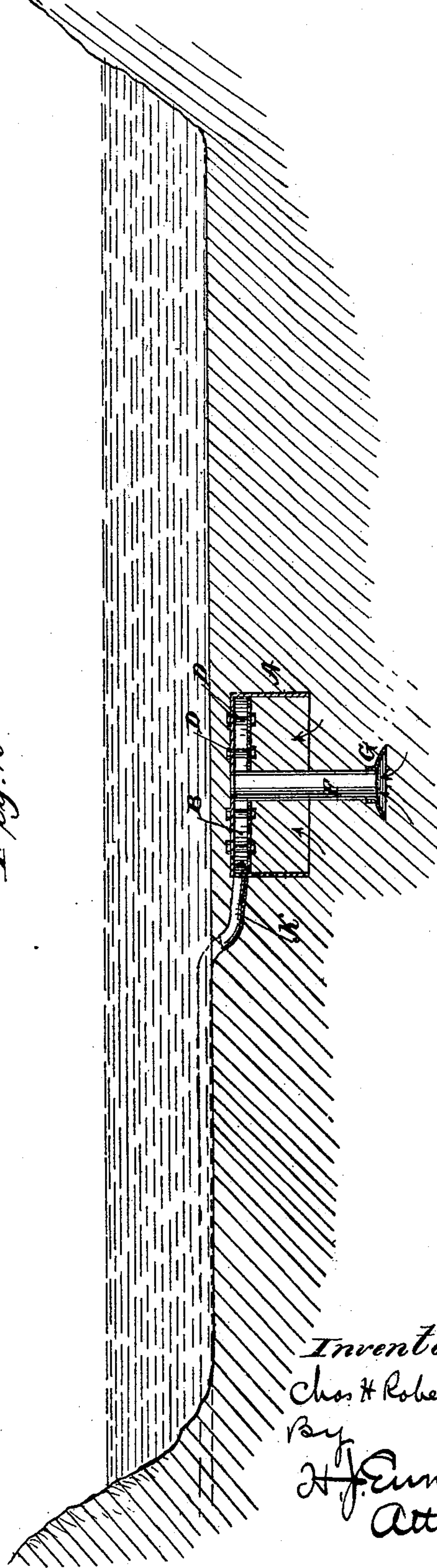
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Fig. 2.



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UNITED STATES PATENT OFFICE.

CHARLES H. ROBERTS, OF EVANSVILLE, INDIANA.

WATER-SUPPLY FOR CITIES.

SPECIFICATION forming part of Letters Patent No. 238,439, dated March 1, 1881.

Application filed December 15, 1880. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. ROBERTS, a citizen of the United States, residing at Evansville, in the county of Vanderburg and State of Indiana, have invented certain new and useful Improvements in Water-Supplies for Cities; and I 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

The object of this invention is to obtain a supply of water directly from a river or other water-course for cities, towns, and other places which will be in a practically pure state without the use of collecting-basins and filter-beds, which are costly in construction and maintenance, the latter especially requiring frequent cleaning to remove the surface-deposits, which retard, and in time entirely stop, the filtration of water.

To this end my invention consists of a suitable receiver sunk at any convenient point in the bed of a river or stream, as will hereinafter be more fully described, and particularly pointed out in the claims.

In the accompanying drawings similar letters indicate like parts.

In the said drawings, Figure 1 represents a vertical sectional view of the strainer or receiver which I employ in carrying my invention into effect, Fig. 2 showing the device in position in the river or stream, the device and bed of the river being represented in section.

The letter A indicates the strainer, which consists of a casing of any suitable size and shape, constructed of metal or other material capable of sustaining the pressure which it will be subjected to in operation. The said casing is provided with a chamber, B, at its top, which is formed by means of a perforated partition, C, which is secured at its edges to the sides of the casing, and is sustained against any possibility of collapse by means of a series of any desired number of stay-bolts D. The sides and top of the casing are mutually strengthened, also, by means of a series of

stays, E, which may be of any desired number, according to the size of the strainer.

The letter F indicates a central tube extending from the top of the casing down below the same to any suitable distance, the said tube being open at both ends and provided at its lower end with a concavo-convex disk, G, having its concave side downward. The said disk is braced to the casing by means of stays H, by which it is rigidly held in place. The lower edge of the casing is open, as indicated in the drawings, for the purpose more fully hereinafter explained, and the top of the casing may, if desired, be provided with tubes I, extending through the chamber B, to facilitate the sinking, as will be presently specified.

The partition C is perforated or foraminous, so as to permit of the ready passage of the filtered water into the chamber B, and the said chamber is provided with a suitable eduction-pipe, K, which connects with a suitable pump or pumping mechanism, located at any convenient point on the banks of the river or stream.

In putting my improved system of water-supply into practice the strainer is sunk to any desirable or convenient depth in the bed of a river or stream at any suitable point, preferably, as before mentioned, where the bed is gravelly, so as to furnish a natural filtering medium.

The operation of sinking the strainer may be effected in any manner that may prove convenient; but in practice I prefer to effect such sinking by placing the disk at the end of the central tube upon the bed, and exhausting the air at the upper end of said tube, which will gradually and effectually accomplish the purpose.

It will be seen that when properly sunk and connected with the pump or pumps by means of the pipe K, and when the pumps are put in operation so as to exhaust the chamber, the water will be caused to percolate through the bed in the vicinity of the casing, becoming thoroughly filtered, and will be drawn up into and through the same in a practically pure condition. It will be obvious that the natural current of the river or stream will carry away the surface obstructions, which prove so objectionable in the ordinary filter-beds, owing

to the expense rendered necessary by their frequent removal by artificial means.

The tubes I serve to assist in exhausting the air in sinking the strainer, and are securely covered by metal plates, or otherwise, after the strainer is sunk.

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

10 1. A filtering apparatus constructed substantially as described, and adapted to be planted in the bed of a river by means of suction or otherwise, in combination with a supply-conduit connected to the receiver and extending
15 along the bottom of the stream to the shore, whereby the water of the stream is filtered by being drawn through the river-bed by suction applied to the conduit into and through said receiver, and thence conveyed to the reservoirs
20 for general distribution, as herein set forth.

2. A filtering-receiver consisting of the case A, divided into two compartments by the foraminous diaphragm C, and having an education-pipe, K, and provided with means whereby the receiver may be planted in the bed of a river by suction, substantially as and for the purpose set forth.

3. In combination with the strainer, the central tube and its concavo-convex disk, whereby the casing may be sunk in the bed of the stream, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES H. ROBERTS.

Witnesses:

CHAS. L. COOMBS,
H. J. ENNIS.